

**Draft**

# **Economic and Financial Assessment**

## **Southwestern Landfill Proposal Environmental Assessment**

Prepared for

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Prepared by

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## 1. Introduction

An Environmental Assessment (“EA”) is being prepared by Walker Environmental Group Inc. (“Walker”) under Ontario’s *Environmental Assessment Act* (“Act”) for the ‘*provision of future landfill capacity at the Carmeuse Lime (Canada) Ltd. (Carmeuse) site in Oxford County for solid, non-hazardous waste generated in the Province of Ontario*’.

This is one in a series of technical studies that have been completed by qualified experts to examine the potential effects of the proposed landfill site on the environment, all in accordance with the requirements set out in the *Approved Amended Terms of Reference* (“ToR”) dated May 10, 2016. This report accompanies and supports the *Environmental Assessment Report* prepared by Walker.

Note that Walker has carried out extensive consultation with government agencies, Aboriginal groups and interested members of the public regarding this study; details are provided separately in the EA report.

## 2. Purpose & Objectives

The **purpose** of this study is to complete an Economic and Financial assessment of the landfill proposed by Walker. Key terms and definitions are noted in Appendix A.

The overall **objectives** of the study are listed below, in general accordance with the requirements for the assessment of an undertaking as set out in Section 6.1(2)(c) of the *Environmental Assessment Act*, and as specifically detailed in Section 8.1 of the ToR:

- a) Describe the **environment potentially affected** by the proposed undertaking, including both the existing environment as well as the environment that would otherwise be likely to exist in the future without the proposed undertaking.
- b) Carry out an evaluation of the **environmental effects** of the proposed undertaking, using the relevant environmental assessment criteria set out in the ToR (see Appendix B).
- c) Carry out an evaluation of any additional impact management actions that may be necessary to **prevent, change or mitigate any (negative) environmental effects**.
- d) Prepare a description and evaluation of the **environmental advantages and disadvantages** of the proposed undertaking, based on the net environmental effects that will result following mitigation.
- e) Prepare monitoring, contingency and impact management plans to **remedy the environmental effects** of the proposed undertaking.

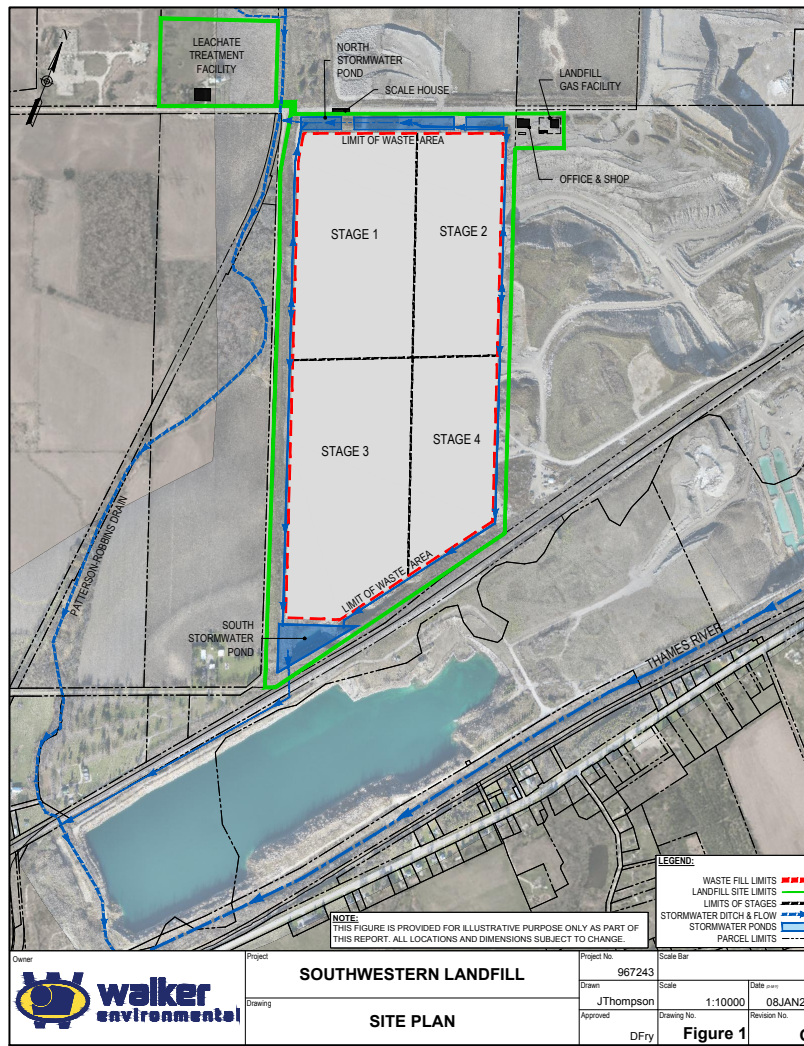


### 3. The Proposed Undertaking

The landfill proposed by Walker is described in detail in the *Environmental Assessment Report*. Following is a brief summary for the benefit of the reader, highlighting aspects of the proposal most relevant to this study.

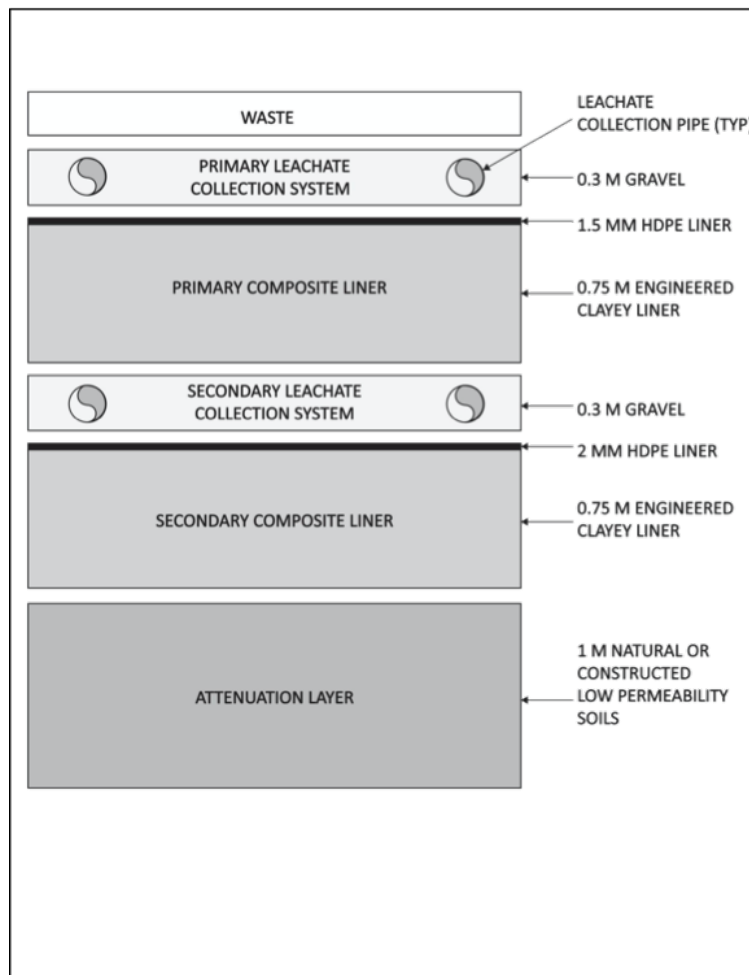
The landfill is to be located on a portion of Carmeuse Lime (Canada) Limited's landholdings at its Beachville Quarry Operations in the Township of Zorra, Oxford County. Approximately 17.4 million m<sup>3</sup> of solid, non-hazardous waste and daily/intermediate cover will be deposited within a footprint of about 59 ha. The balance of the of the 81.6 ha site will be comprised of buffer areas for monitoring, maintenance, environmental controls and other necessary infrastructure.

**Figure 3.1: Site Plan**



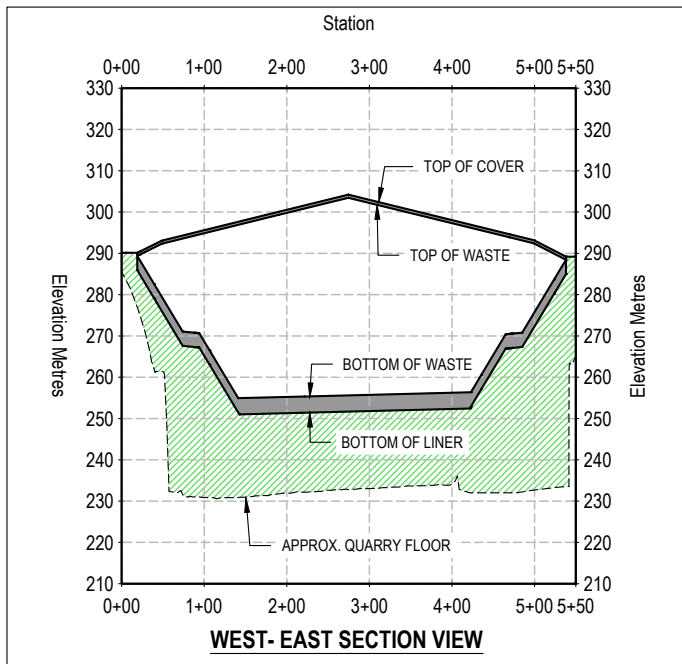
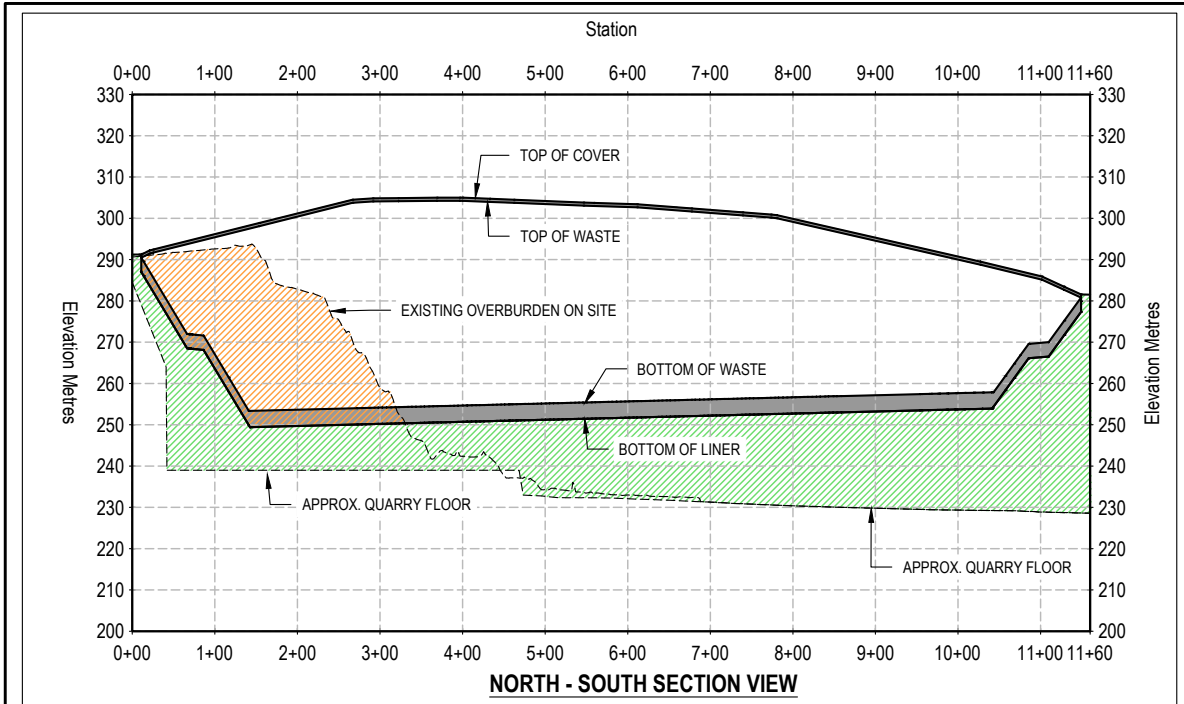
Landfill construction will proceed progressively in a series of cells, generally from north-to-south (Figure 3.1). The former quarry floor will be backfilled to within about 30 to 40 metres below ground surface with engineered fill, and then a *Generic Design Option II – Double Liner* system (as specified by the Ministry of Environment, Conservation & Parks in the *Landfill Standards* under *O. Reg. 232/98*; see (Figure 3.2) will be constructed across the bottom and up the sides of the landfill to contain and collect leachate (Figure 3.3). Up to 850,000 tonnes *per year* of solid, non-hazardous waste, and up to 250,000 tonnes per year of daily/intermediate cover soils<sup>1</sup> will then be placed and compacted above the liner in a series of small working areas approximately 0.2 ha in size at any given time, in order to minimize the exposed waste. Waste will be covered with soil on a daily basis, and a final cover with vegetation will be applied when the landfill reaches its final height, which peaks at about 15 m above ground (Figure 3.4). A landfill gas collection system will also be installed as the landfill/cell development progresses.

**Figure 3.2: Landfill Liner System**




<sup>1</sup> The daily/intermediate cover soil could consist of acceptable and suitable waste soils, and would be reported as waste, so the total reported waste receipts could be up to 1,100,000 tonnes per year.

**Figure 3.3: Section Views**

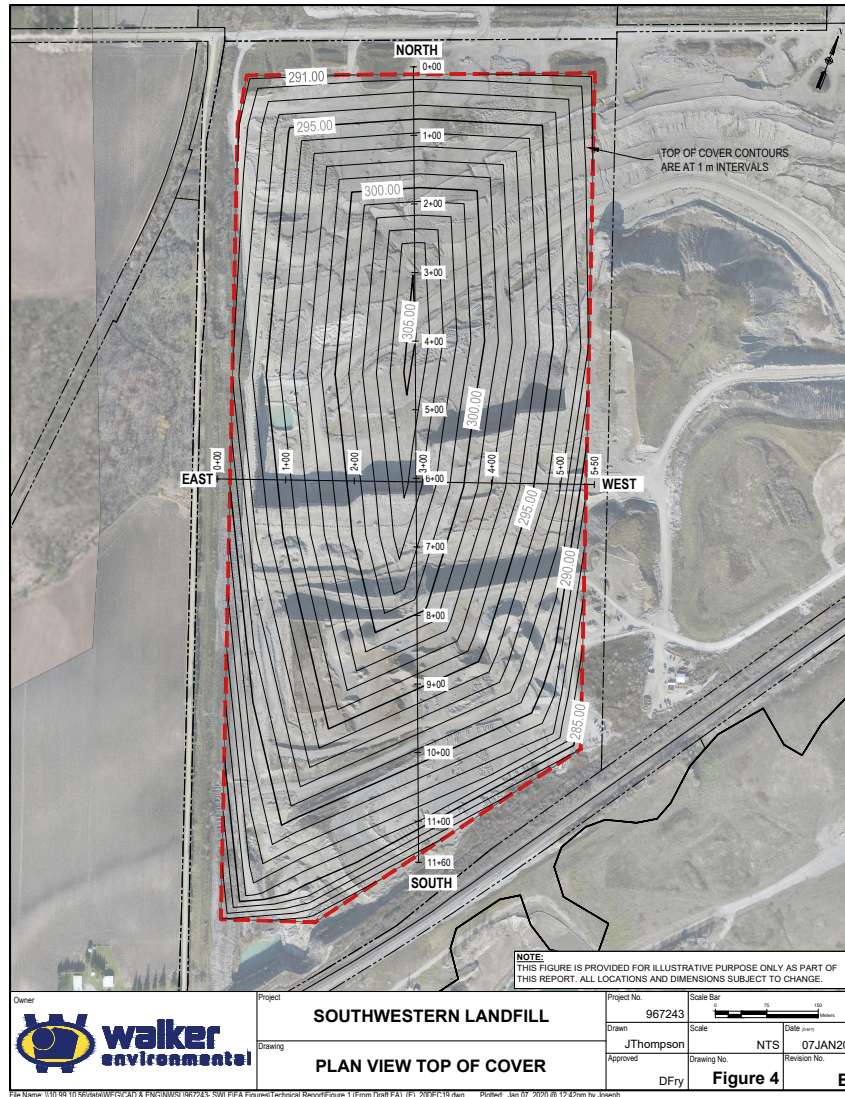


**NOTE:**  
THIS FIGURE IS PROVIDED FOR ILLUSTRATIVE PURPOSE ONLY AS PART OF THIS REPORT. ALL LOCATIONS AND DIMENSIONS SUBJECT TO CHANGE.

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				Approved	DFry	Drawing No.	<b>Figure 3</b>	Revision No.	<b>E</b>

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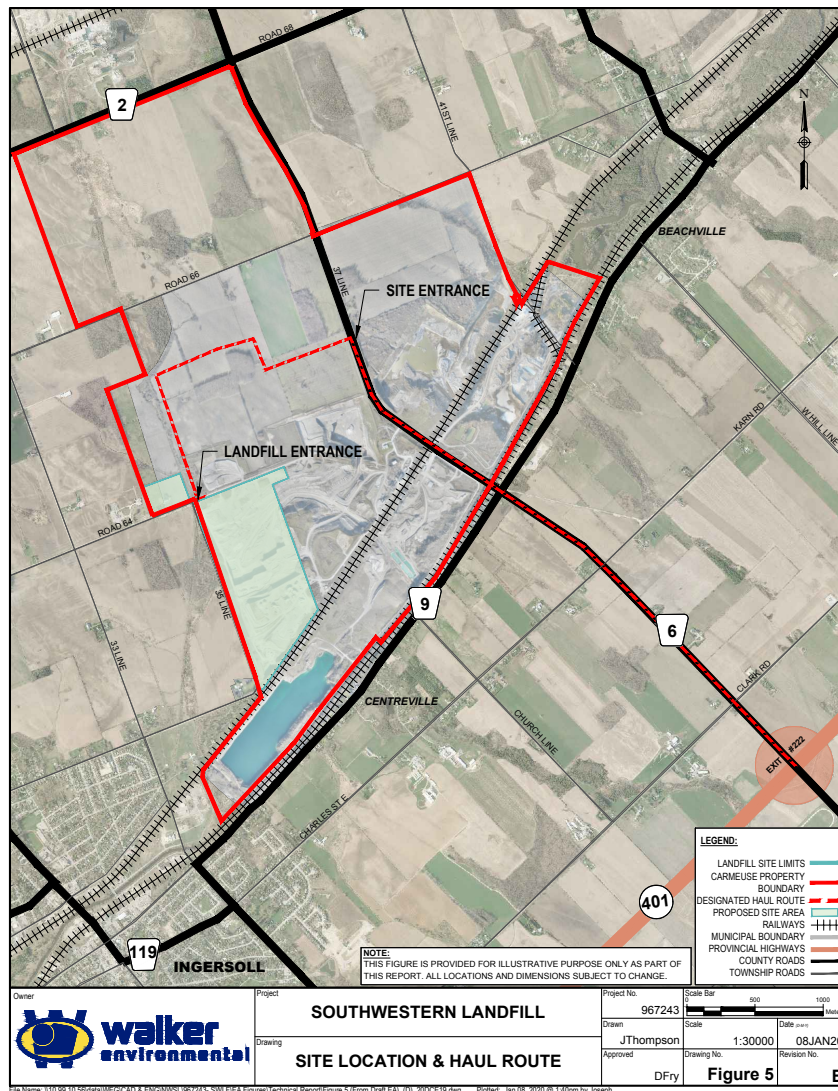
**Figure 3.4: Plan View Top of Cover**



Most of the supporting infrastructure for the landfill will be located in the buffer area along the northwest site perimeter, including the leachate and gas treatment plants. Leachate collected from the liner system will be treated on-site and the clean effluent from the treatment plant will be discharged into the Patterson-Robbins Drain next to the treatment plant. Clean precipitation and groundwater that has not come into contact with waste will be segregated and treated in a stormwater management pond before being discharged from the site (Figure 3.1). Landfill gas will be collected in a network of extraction wells and pipes. Initially the landfill gas will be flared (combusted), but when the quantities permit the gas will be beneficially utilized as a renewable fuel.

The site will be open for waste deliveries from 7:00 a.m. to 5:00 p.m. on weekdays and from 7:00 a.m. to 1:00 p.m. on Saturdays, but closed on Sundays and statutory holidays. On-site construction activities may start up to one hour before opening and continue up to two hours after closure. The primary designated haul route (i.e., for all waste trucks except deliveries from the local area, if any) is from Highway 401 north along County Road #6, then west into the quarry property; trucks will then follow a newly constructed haul route across the quarry site to a landfill site entrance at the northwestern corner of the site (Figure 3.5). Vehicle traffic, including waste trucks as well as construction vehicles and staff, is expected to average approximately 210 trips per day.

**Figure 3.5: Haul Route and Site Entrance**



Nuisance controls will include speed enforcement, regular haul road cleaning (on- and off-site), litter fencing and pick-up, and bird/pest management, with a public complaints reporting and response system.

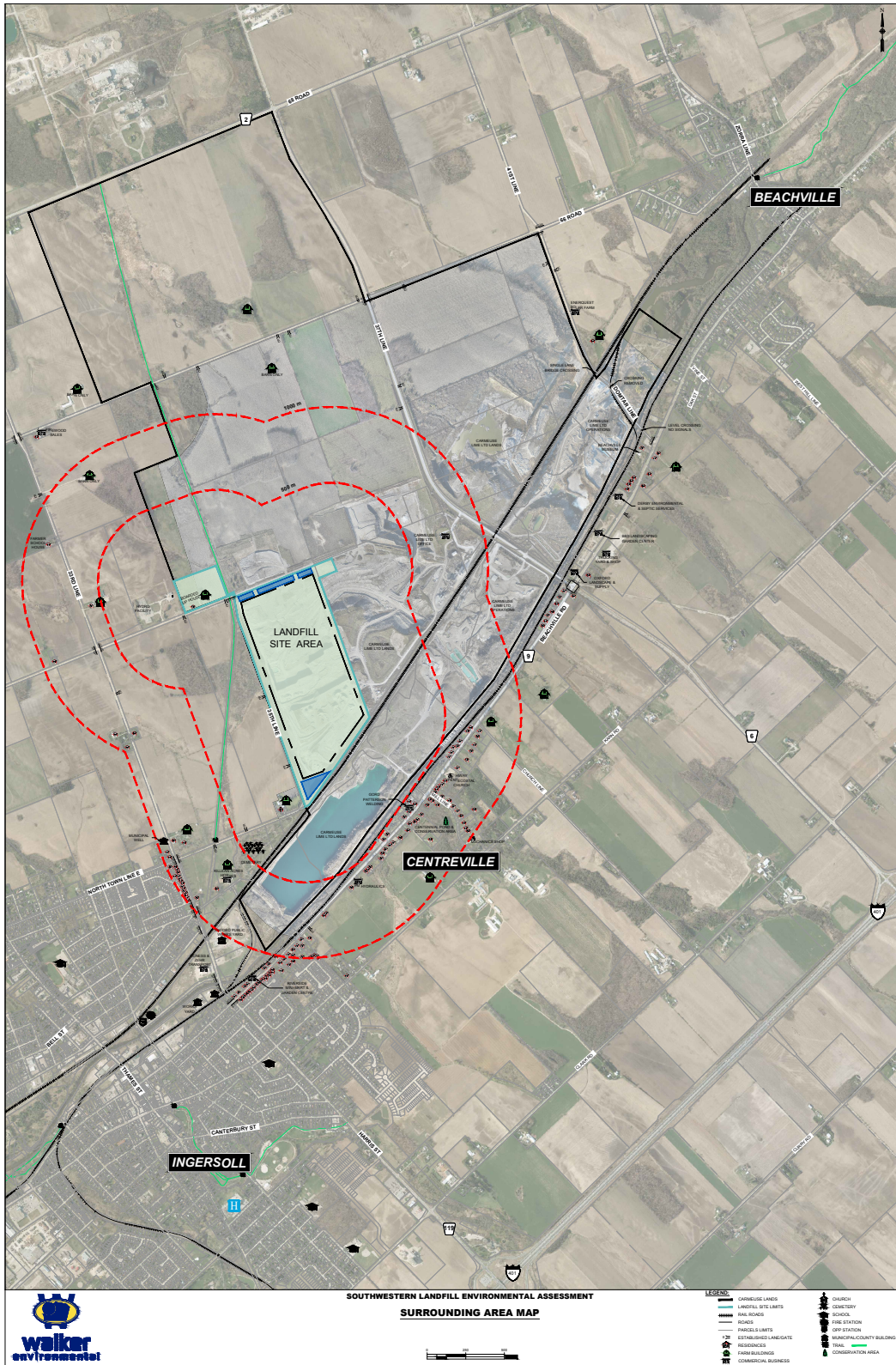
There will be monitoring programs for equipment operations, leachate, groundwater, surface water, air emissions, gas, noise, and particulates (dust).

The landfill is anticipated to receive waste for approximately 20 years commencing in about 2023. After closure, maintenance and operation of the relevant environmental controls and monitoring will carry on during the post-closure period, until there is no further risk of environmental contamination. The end-use is assumed to be passive green space and agriculture, but the design is flexible to accommodate other potential end-uses.

The projected capital cost of the landfill is estimated at \$218 million. With the exception of some initial one-time construction activities, capital expenditures will be incurred over a 22 – year period (2021 to 2042). Operating costs over the same period are projected to be in the order of \$277 million.

Figure 3.6 on the following page shows the landfill in relation to the surrounding area.

Figure 3.6: Surrounding Area



## 4. Environmental Assessment Criteria & Indicators

The **environmental assessment criteria**, as approved in the ToR, are tabulated in Appendix B, Appendix Table B-1. In the table, check marks indicate which technical studies are assigned primary (“lead”) responsibility for assessing each of the criteria. Following are the EA criteria which are assigned to this study:

**Table 4.1: Economic and Financial Environmental Assessment Criteria**

<b>EA Criteria</b>	<b>Definition/Rationale</b>
<b>Level of public service provided by the waste disposal facility.</b>	The presence of a waste disposal operation within a municipality can provide an increased level of public service (e.g., convenient access to waste disposal services) to local residents and businesses, as well as those in the broader community(ies).
<b>Effects on other public services.</b>	The presence of a waste disposal facility may have positive or negative spin-off effects on other public services in the community (e.g., leachate trucking, waste water treatment capacity, if there is discharge to the sewer system).
<b>Displacement/disruption of businesses or farms</b>	On-site businesses or farms could be displaced by a waste disposal facility, and there could be financial losses as a result of relocation. Some types of businesses located in the site vicinity or along the haul routes may suffer financial losses due to the potential nuisance effects or perceived effects associated with the operation of a waste disposal facility such as noise, litter, dust, odour, visibility, birds, vermin and traffic congestion.
<b>Property value impacts</b>	The establishment and operation of a waste disposal facility may adversely affect property values in the site vicinity or along the haul routes.
<b>Direct employment in waste disposal facility construction and operation</b>	A waste disposal facility may create new employment opportunities both in the construction and day-to-day operation.
<b>Indirect employment in related industries and services</b>	A waste disposal facility has the potential to have impacts on employment opportunities in local firms supplying products or services directly, or as secondary suppliers.
<b>New business opportunities related directly to waste disposal facility construction and operation</b>	A large capital project, such as the construction and operation of a waste disposal facility, can create new opportunities for local businesses supplying products or services.
<b>New business opportunities in related industries and services</b>	New opportunities may be created for local businesses, or as secondary suppliers to industries working for the waste disposal facility (e.g., restaurants, gas stations, machine shops, repair shops, welding shops, equipment rentals, etc.).
<b>Public costs for indirect liabilities</b>	Some public services may have to be upgraded to accommodate the establishment and operation of a waste disposal facility (e.g., snow removal, sewer and water connections, etc.).
<b>Effects on the municipal tax base</b>	A waste disposal facility has the potential to affect municipal tax revenues from the site it occupies.
<b>Effect on the cost of service to customers</b>	The costs of constructing a waste disposal facility will effect the price of tipping fees to the site. This affects the cost of service to customers in Oxford County and the province.
<b>Effects on the provincial/ federal tax base</b>	A waste disposal facility has the potential to affect provincial/federal tax revenues.



Furthermore, the criteria for this EA were designed to be cross-disciplinary to permit an assessment of cumulative effects. Appendix B, Appendix Table B-2 from the ToR, illustrates some (though not necessarily all) of the key interconnectivities between the studies. As a result, this study provides input/data to additional environmental criteria that will be addressed through studies conducted by other experts including (but not limited to):

- Agriculture;
- Air Quality;
- Archaeology;
- Cultural Heritage;
- Ecology;
- Ground Water / Surface Water;
- Human Health;
- Land Use;
- Noise / Vibration;
- Social;
- Traffic; and
- Visual Landscape.

**Indicators** identify how the potential environmental effects will be measured for each criterion. Following are the indicators that were applied to each of the primary EA criteria addressed in this assessment:

**Table 4.2: Proposed Indicators and Measures for Economic and Financial Environmental Assessment Criteria**

EA Criteria	Proposed Indicators/Measures
<b>Level of public service provided by the waste disposal facility.</b>	Number of area residents and businesses that might use the proposed landfill. Number of regional waste disposal companies and waste haulage companies that could use the landfill. Costs of service provision afforded by the proposed landfill.
<b>Effects on other public services.</b>	Identification of other public services that could be required for operation of the proposed landfill Estimated scope, scale and cost of these public service requirements Effects on public service capacities
<b>Displacement/Disruption of Businesses (including farms and tourism related businesses)</b>	Number of businesses physically displaced by proposed landfill. • Number of businesses that would be disturbed by landfill operation. • Number of businesses whose product could be affected by proposed landfill operation. • Number of businesses who perceive their brand would be stigmatized by the proposed landfill operation.
<b>Property Value Impacts</b>	Number of properties that are likely to be directly affected by the proposed landfill operation. • Estimated loss of property value in site vicinity. • Number of property owners who perceive their property values could be affected

<b>Direct Economic Outputs Associated with Construction and Operation of the Landfill and Associated Facilities</b>	Number of direct full-time equivalent (FTE) jobs and levels of income, gross domestic product and gross output associated with the construction, operation and closure of the proposed landfill.
<b>Indirect and Induced Outputs Associated with Construction and Operation of the Landfill and Associated Facilities</b>	Number of indirect and induced FTE jobs and levels of income, gross domestic product and gross output associated with the construction, operation and closure of the proposed landfill.
<b>New Business Opportunities in Related Industries and Services</b>	Potential for new business opportunities to be spawned through construction, operation and closure of the proposed landfill.
<b>Public Costs for Indirect Liabilities</b>	Municipal costs imposed as a result of public infrastructure and services required to enable development and operation of the landfill.
<b>Effects on Municipal Tax Base/Finance</b>	Municipal revenues directly created via taxes, charges, permits and revenues as a result of construction and operation of the landfill. • Potential for municipal revenues to be indirectly created through the creation of ancillary businesses. • Potential for municipal tax losses as a result of business displacement and property value diminishment.
<b>Effects on Cost of Service to Customers</b>	Cost savings/increases incurred by local customers as a result of landfill operation. • Cost savings/increases incurred by regional customers as a result of landfill operations
<b>Effects on Provincial Federal/Tax Base</b>	Federal and provincial taxes created by construction and operation of the proposed landfill.

## 5. Study Durations

Two main **study durations** (or time frames) for this proposed landfill have been identified in the ToR:

*Operational Period*                      The time during which the waste disposal facility is constructed, filled with waste, and capped. These activities are combined since they occur progressively (i.e., overlap) on a cell-by-cell basis, and they have a similar range of potential effects (e.g., there is heavy equipment active on the site).

*Post-Closure Period*                      The time after the site is closed to waste receipt. Activities are normally limited to operation of control systems, routine property maintenance and monitoring, and thus have a significantly reduced range of potential effects.

The approved EA Criteria in Appendix B Appendix Table B-1, indicate the relevant study duration(s) associated with each of the criteria used in this assessment.

In addition, **common reference periods** or milestone dates were also defined for the operational period of the landfill:

<i>Start of Construction</i>	Est. 2021	Just prior to the start of landfill construction and operation, representing the existing baseline conditions.
<i>Mid-Point</i>	Est. 2033	Approximately midway through the landfill construction and operation.
<i>Closure</i>	Est. 2043	At the completion of the landfill construction and operation, representing the full operating size of the proposed landfill.

## 6. Study Areas

For the purposes of this EA, three general **study areas** were established in the ToR:

*On-Site and in the Site Vicinity:* *On-site includes the proposed waste disposal facility plus the associated buffer zones. Site vicinity is the area immediately adjacent to the waste disposal facility property that is directly affected by the on-site activities. Its size is variable depending on the particular criteria being addressed.*

*Along the Haul Routes:* *The primary route along which the waste disposal facility truck traffic would move between a major provincial highway and the proposed waste disposal facility site entrance, plus the properties directly adjacent to these roads.*

*Wider Area:* *The broader community, generally beyond the immediate site vicinity. Depending on the particular criteria this may include neighbourhoods, local municipalities, Oxford County, or the Province of Ontario.*

The tables of approved EA Criteria in Appendix B indicate the relevant study duration(s) associated with each of the criteria in this assessment.

Although these three general study areas were common across all of the studies, their actual physical boundaries were not necessarily identical for every study or criterion; a flexible approach was used and the study area boundaries were adjusted as the work progressed to ensure that they adequately encompassed the potential significant effects of the proposed landfill.

For this assessment, the final study areas are as follows:

*On-Site and in the Site Vicinity:* On-site includes the proposed waste disposal facility plus the associated buffer zones. The Site vicinity includes all properties within or bisected by two a (2) kilometer radius line from the proposed landfill's "On-site" study area boundary. This is the area within which there is the greatest potential for nuisance effects such as dust, odour and noise. Finally, the Site Vicinity study area will also extend to include the community of Beachville, towards the western boundary of the City of Woodstock. This area was included in order to address the potential nuisance effects of the proposed landfill site in combination with those of existing operations at the Carameuse Site. The potential for cumulative effects was identified as a concern to members of the Community Liasion Committee (CLC).

*Along the Haul Routes:* The haul route study area includes all properties within approximately 500 m on either side of the Highway 6 running north from the interchange at Highway 401 to the proposed landfill site entrance.

*Wider Area:* The broader community, generally beyond local study area. Depending on the particular criteria this may include other nearby municipalities such as the Municipality of Woodstock, Oxford County, Southwestern Ontario or the Province of Ontario. For some criteria, this study area includes communities nearest to the site that may be most immediately affected by the landfill. This includes the Townships of Zorra, Southwest Oxford and the Town of Ingersoll. The local study area includes the on-site and in the site vicinity as well as along the haul route.

Where appropriate and relevant, **common receptor points** were also selected collaboratively by the technical experts so that the potential overlapping or cumulative effects of the proposed landfill could be assessed at these common receptor points. The common receptor points used in this study are identified and described in the tables that follow. Appendix C provides a map with their locations.

**Table 6.1: Township of Zorra Common Receptor Points**

ID	Description	<500 m	500 – 1000 m	>1000 m
ZOR-1	Represents multiple residences and agricultural operations in the north-west portion of the site vicinity study area			✓
ZOR-2	Represents multiple residences and agricultural operations north of the project site along a potential haul route			✓
ZOR-3	Represents one (1) residence and agricultural operation immediately north of the project site and along a potential haul route			✓
ZOR-4	Represents agricultural area along a potential haul route			✓
ZOR-5	Represent one (1) residence and agricultural within 1000m of project site, along a potential haul route		✓	
ZOR-6	Represents one (1) residence and agricultural operation within 1000m of the project site, along a potential haul route		✓	
ZOR-7	Represents a mixed use area (no residence) east of the project site (near solar farm) in the vicinity of Oxford Thames River Trail parking			✓
ZOR-8	Represents agricultural area within 1000m immediately west of the project site		✓	
ZOR-9	Represents multiple residences and agricultural operations within 1000m immediately west of the project site		✓	
ZOR-10	Represents location of municipal groundwater well and agricultural operations within 1000m of the project site and along a potential haul route		✓	
ZOR-11	Location of the nearest residence and agricultural operation to the project site, within 500m Also represents ecological receptor (cliff swallow colony and possible significant wildlife habitat).	✓		
ZOR-12	Location of the Ingersoll Rural Cemetery within 500m to 1000m of the project site and ecological receptors in the Quarry Lake.		✓	
ZOR-13	Represents residential receptors and agricultural receptors.		✓	
ZOR-14	Represents ecological receptor (grassland habitat, habitat for endangered and threatened species).			✓
ZOR-15	Represents ecological receptor (barn swallow colony, possible habitat for endangered species and colonial species)			✓
ZOR-16	Represents ecological receptor (woodland community where eastern woodpeckers breed).			✓
ZOR-17	Rpresents ecological receptor (old watercourse channel, possible habitat for endangered and threatened species and a tributary of the Thames River).			✓
ZOR-18	Represents ecological receptor (MAM/SA community with breeding amphibians and potential significant wildlife habitat)			✓

**Table 6.2: Town of Ingersoll Common Receptor Points**

ID	Description	<500 m	500 – 1000 m	>1000 m
ING-1	Represents residential neighbourhood in the north east portion of the Town of Ingersoll			✓
ING-2	Represents multiple residences, community features and businesses in north west Ingersoll in the vicinity of Laurie Hawkins P.S.			✓
ING-3	Represents multiple residences, community features and businesses in the vicinity of Ingersoll District Collegiate Institute			✓
ING-4	Represents Thames River at the surface water discharge location and multiple residences and businesses in the eastern most portions of Ingersoll			✓
ING-5	Represents multiple residences, community features and businesses in downtown Ingersoll and in the vicinity of Canterbury Folk Festival site			✓
ING-6	Represents multiple residences and community features in the vicinity of Royal Roads Public School (closest school to the project site)			✓
ING-7	Represents multiple residences and community features in the vicinity of Ingersoll Golf and Country Club in the south west portion of Ingersoll			✓
ING-8	Represents multiple residences and community features in the vicinity of Alexandra Hospital in south central Ingersoll			✓
ING-9	Represents multiple residences, community features, agricultural operations in the vicinity of Lorne Moon Park and on area of future residential development along Ingersoll town boundary			✓
ING-10	Represents location of municipal groundwater well and agricultural operations within 1000m of the project site and along a potential haul route			✓
ING-11	Represents area of multiple residences and agricultural operations in the vicinity of the Ingersoll Cheese and Agricultural Museum and Elm Hurst Inn and Spa in south east Ingersoll			✓

**Table 6.3: Township of South-west Oxford Common Receptor Points**

ID	Description	<500 m	500 – 1000 m	>1000 m
SWO-1	Represents multiple residences along Beachville Road within 1000m of the project site (closest residences south of the project site), and ecological receptors (great blue heron rookery, potential significant wildlife habitat).			✓
SWO-2	Represents multiple residences along Beachville Road within 1000m of the project site within the vicinity of Hi-Way Pentecostal Church			✓
SWO-3	Represents multiple residences and agricultural operations along Beachville Road within 1000m south east of the project site as well as ecological receptors along the Thames River (potential endangered and threatened species).			✓
SWO-4	Represents multiple residential locations and businesses at the intersection of beachville road along a potential haul road (County Road 6)			✓
SWO-5	Represents multiple residences and agricultural operations, east of the project site in vicinity of the Beachville District Museum and Oxford Thames River Trail parking			✓
SWO-6	Represents multiple residences and community features in the vicinity of Colombo Club of Oxford			✓
SWO-7	Represents multiple residences, businesses and community features in the community of Beachville and the Living Way Pentecostal Church			✓
SWO-8	Represents multiple residences, agricultural operations, businesses and community features in the vicinity of St. Mary's Cemetery			✓
SWO-9	Represents multiple residences and businesses at the eastern most portion of the site vicinity study area in the vicinity of the Westmount Motel			✓
SWO-10	Represents multiple residences and agricultural operations along Karn Road			✓
SWO-11	Represents multiple residences and agricultural operations along Karn Road			✓
SWO-12	Represents multiple residences and agricultural operations along Karn Road			✓
SWO-13	Represents multiple residences within 1000m of the project site, in the vicinity of the Centreville Pond and Conservation Area, and ecological receptors (basking area for snapping and painted turtle)		✓	
SWO-14	Represents multiple residences and agricultural operations along Karn Road			✓
SWO-15	Represents multiple residences and agricultural operations along Karn Road			✓
SWO-16	Represents multiple residences and agricultural operations along Karn Road			✓



ID	Description	<500 m	500 – 1000 m	>1000 m
<b>SWO-17</b>	Represents multiple residences and agricultural operations along Karn Road			✓
<b>SWO-18</b>	Represents multiple residence and agricultural operations in the vicinity of the intersection of Karn Road and County Road 6 along a potential haul route			✓
<b>SWO-19</b>	Represents multiple residences, agricultural operations and businesses in the vicinity of the intersection of Clarke Road and County Road 6, along a potential haul route			✓
<b>SWO-20</b>	Represents multiple residences, agricultural operations and businesses in the vicinity of the intersection of Clarke Road and County Road 6, along a potential haul route			✓
<b>SWO-21</b>	West Hill Line and Clarke Road			✓
<b>SWO-22</b>	Church Line and Clarke Road			✓

**Table 6.4: Township of East Zorra Tavistock Common Receptor Points**

ID	Description	<500 m	500 – 1000 m	>1000 m
<b>EZT-1</b>	Represents multiple residences and agricultural operations in the vicinity of the intersection at Hwy 2 (Dundas Street) and 10 Line in the Township of East Zorra-Taverstock			✓

## **7. Methodologies**

The economic and financial impact assessment consists of four broad areas of investigation:

- a) Potential impact on the local business community, taking into consideration the physical, direct effects on businesses in the vicinity of the proposed landfill and along the haul route;
- b) Potential impact on the local, regional and Ontario economies associated with the creation of direct, indirect and induced economic activity as well as the potential interrelationships between the proposed undertaking and other business interests;
- c) Potential direct and indirect impacts on municipal finance; and
- d) Potential implications for surrounding property values.

### **7.1 Business Impacts**

Potential business impacts were determined through a broad collection of secondary data that provided insights into economic conditions and trends in the study areas. Information from Statistics Canada and EMSI<sup>2</sup> were used to further assist with the creation of economic profiles. This information was subsequently bolstered, to the degree possible, with interviews of local business owners and operators and a drop-off mail/email survey distributed to local businesses. Oxford County Community Employment Services was interviewed as well as the Rural Oxford Economic Development Corporation.

### **7.2 Economy Impacts**

The potential impact on local, regional and Ontario economies was accomplished through use of Statistics Canada's Inter-provincial Input/Output (Stats Can IO) model. Budget information, detailing projected capital and operating expenditures over the life of the project, was obtained from Walker. Working with Statistics Canada, the budget information was used to build production functions and these in-turn were used to calibrate and undertake commissioned runs of the Stats Can IO model.

### **7.3 Property Value Impacts**

Property value information was derived from an extensive review of published documentation including Ontario reports dealing with existing and proposed landfills in Ontario. Real estate sales data specific to the Woodstock and Ingersoll areas were collected from the Canadian Real Estate Association (CREA). Interviews were conducted with local real estate professionals to identify trends and obtain opinions on the potential implications of the proposed landfill. Property assessment data were derived from Ontario's Municipal Property Assessment Corporation

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<sup>2</sup> EMSI is a commercial online provider of current labour market data and analytics

(MPAC). The Oxford County Geographic Land Information and Mapping Resource (GLIMR) was also used online to identify specific information on properties and their characteristics.

Lastly, residential property sales were recorded throughout 2018 in the local study area and in the community of Woodstock using Teranet's Geowarehouse, a web-based centralized property information source. The 2018 sales data collected includes public and private sales, including For Sale By Owner (FSBO). Historic sales of properties were recorded to enable trend analysis and area comparisons.

#### **7.4 Municipal Finance Impacts**

Municipal financial impacts were considered by examining financial information returns for the Townships of Zorra and South-west Oxford, the Town of Ingersoll and Oxford County. This information was further supplemented with questions submitted to the aforementioned municipalities asking them about their financial circumstances and whether they had concerns about the project with respect to municipal finance.

Municipal Tax information was obtained from Walker for their South Landfill in Niagara and given the similar nature of this landfill with the one proposed, the Niagara information was used as a proxy to calculate area municipal taxes that might be generated by the proposed facility.

Finally, Walker was questioned about the municipal services they might require for building and operating the subject landfill.

## **8. Data Collection**

### **8.1 Background Data**

A wide variety of documents pertinent to understanding area conditions, trends and potential project impacts were obtained and studied. Topics covered included:

#### **Businesses and Economy**

- Area Business directories
- Cap-and-Trade research for Ontario's waste management sector
- Documentation on Walker's Landfill in Niagara
- Demographic trends in Oxford County and constituent municipalities
- Economic development trends in Oxford County and area municipalities
- Economy Artificial Intelligence (AI) trend projections for Canada, Ontario and Oxford County
- EMSI Analyst – labour market analytics
- Land use trends in the Oxford County and area municipalities
- Ontario's strategy for a circular economy in the waste management sector OWMA documentation on the state of Ontario landfills
- Oxford County retail analysis
- Oxford County development charge background study
- Statistics Canada – CANSIM Tables – economic and demographic information

#### **Municipal Finance**

- Current budget information for Oxford County, the Town of Ingersoll and the Townships of Zorra and South-west Oxford
- Municipal financial information returns for Oxford County, the Town of Ingersoll and the Townships of Zorra and South-west Oxford
- Landfill taxation

#### **Property Values**

- MPAC – Automated Valuation Model and Current Value Assessment
- MPAC – Market Trends – information for communities and neighbourhoods
- MPAC – propertyline – property specific information on assessment and property characteristics
- Ontario agricultural land values
- Oxford County Geographic Land Information and Mapping Resource – property mapping and associated information IMR

- Property value impact reports for landfills, quarries and wind turbines.
- Property value impact studies for Ontario landfills
- Teranet – GeoWarehouse – property sales data

## **8.2 Field Data**

### **8.2.1 Study Area Reconnaissance**

At the outset of the study program a site tour was arranged by Walker to examine the proposed site and immediate surrounds. This tour also included members of the Community Liaison Committee (CLC) and enabled dialogue with the CLC on their observations at a follow-up CLC meeting. Subsequent to this tour numerous study area drive throughs were undertaken to facilitate familiarization with study area characteristics.

### **8.2.2 Field Survey to Locate Businesses in the Study Area**

Information on business locations was collected by several means. One involved driving through the site vicinity with air photos and maps and making notes of the businesses present. Additional information was collected through reviews of local business directories. The local business directories were used to gather mailing addresses and contact information. Collected information was entered into a business data base (refer to Appendix D).

### **8.2.3 Business Interviews**

Approximately 50 businesses were contacted for personal interviews. There were 20 acceptances. Interviews were structured to obtain information on the nature of the business, its market, the length of time the business had been in operation, likes and dislikes about operating at the current location, reaction to the proposed landfill, key concerns, and suggestions for mitigation.

### **8.2.4 Business Survey**

A business survey was designed and hand delivered to 288 local businesses and mailed to an additional 33. The survey could be completed by hand and returned via self-addressed stamped envelope or it could be completed electronically and returned on-line. The survey was designed to obtain information on: the nature of the business; likes and dislikes about the current business location; knowledge of the landfill proposal; opinions on how the proposed landfill might affect the subject business; potential for moving because of the proposed landfill; and possible means for mitigating negative effects that might be caused by the proposed landfill. Of the 321 delivered surveys twenty-two were returned.

Appendix E sets out the survey and the analysis of results for those returned.

### **8.2.5 Real Estate Interviews**

A number of local real estate brokers were contacted for interviews. However, most invitations were declined. Three individuals did agree to be interviewed and general discussions with them touched on: the location of their markets and the types of property handled; conditions and activity in their markets; the key influencers of market performance; and the character of supply and demand issues and market trends.

Project specific discussions focused on whether the proposed landfill was affecting local real estate activity and if so, the nature of effects. Personal views were sought as to whether the interviewees had concerns about the proposed landfill, their expectations if the project moved to construction and operation and what might be done to alleviate their concerns. Insight was also sought on the general concerns of area property owners and prospective in-movers.

### **8.2.6 Municipal Interviews**

Interviews were sought with senior staff and politicians in the three local area municipalities (i.e. Town of Ingersoll and Townships of Zorra and South-west Oxford) and Oxford County. All of the municipalities and County declined the overture for interviews, instead they requested questions be submitted in writing and that they would co-ordinate responses with the appropriate staff and political representatives. On receipt of the questions the Town of Ingersoll, two Townships and County agreed to proceed.

Appendix F sets out the covering letter and accompanying questions sent to the above municipalities and County.

### **8.2.7 Agency Interviews**

Local business organizations were contacted for interviews. Two organizations agreed to participate (i.e. The Rural Oxford Development Corporation and Community Employment Services Oxford County). Information sought included the scope and purpose of services offered by the organization, the state of the area economy, key issues and concerns with current economic conditions and perspectives on short and long-term trends in the area economy. Comment was also solicited as to how the proposed landfill might affect the area economy and what might be done to mitigate any potential negative effects.

## **9. Environment Potentially Affected by the Undertaking**

Section 6.1(2)(c)(i) of Ontario’s Environmental Assessment Act requires a “*description of the environment that will be affected or might reasonably be expected to be affected, directly or indirectly*”. Section 8.2 of the ToR describes the methodology by which the environment potentially affected by the proposed landfill is to be developed, notably including both the existing environment as well as the environment that would be expected to exist in the future without the proposed undertaking (i.e., the environmental baseline conditions, or the “*do nothing*” alternative).

### **9.1 Baseline Assumptions**

#### **9.1.1 Land Use Forecast**

##### **9.1.1.1 Land Use Overview**

A common set of assumptions were provided by MHBC Planning on behalf of Walker regarding the forecast land uses in the area, so that this study could reflect any reasonably foreseeable changes in the uses of the land on and around the proposed landfill site (including the expected ongoing operation of the quarries and lime plants in the vicinity of the site). These assumptions are detailed in Walker’s *Environmental Assessment Report*, while a brief summary of the aspects relevant to this study follows.

Oxford County covers 2,028 square kilometers with 89% of this landbase devoted to agricultural production. Three urban centres account for most of the remaining area. The City of Woodstock is a focal point for employment, commerce and recreation in the County while the Town of Tillsonburg fulfills similar roles for southern Oxford and portions of Elgin and Norfolk Counties. The Town of Ingersoll is a significant centre of employment and commerce.

In addition to agriculture, automotive manufacture and urban settlement, Oxford County is notable for its significant reserves of mineral aggregates. Their presence fostered the establishment of large quarrying and sand and gravel extraction industries that serve the Windsor-Woodstock market corridor. The Township of Zorra is particularly noted for its extensive deposits of high calcium limestone which are recognized as the thickest, most uniform and pure deposits in Ontario. “This resource contributes 40% of the total Ontario production of lime and 10% of the total Ontario production of cement.”<sup>3</sup>

##### **9.1.1.2 Land Use Projections**

Out to 2043, the County of Oxford will experience modest residential and employment growth. Population growth is forecast to be strongest in the near term (i.e. out to 2023) as a result of

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<sup>3</sup> MHBC, “*Land Use Planning Forecast, Draft Report Proposed Southwestern Landfill Township of Zorra, Oxford County*”, (2017)

strong levels of in-migration. Post 2021, population growth is projected to gradually slow down as a result of an aging population.

Major employment sectors (i.e. automotive manufacturing, warehousing, transportation and agribusiness) are projected to grow. On the other hand, employment growth in resource based industries (i.e. agriculture and aggregate extraction) will be limited.

Going forward, the City of Woodstock will be the major focal point for population and employment growth in the County. The Town of Ingersoll will see infill growth predominately in the south, near Highway 401. For the Town to accommodate future employment land needs, “growth will likely occur in designated Future Urban Growth Areas, with the urban boundary expanding into South-west Oxford if needed.”<sup>4</sup>

The surrounding Townships of South-west Oxford and Zora, including the Village of Beachville and the Rural cluster of Centreville will see growth limited to modest infill. “These areas will remain relatively similar to current built conditions with agriculture and existing quarries being the dominant land uses.”

Within a 1 km radius of the site no new residential or employment development is foreseen.

### **9.1.2 Climate Change Forecast**

Another set of common assumptions that were established for the purpose of this EA is the potential for climate change, so that these could be considered in the individual studies of the potential effects of the proposed landfill. These assumptions are detailed in Walker’s *Environmental Assessment Report* and basically adopt the guidance in the Ontario Ministry of Natural Resources and Forestry’s *Climate change projections for Ontario: An updated synthesis for policymakers and planners*.

## **9.2 Existing Environmental Baseline Conditions**

This section contains a baseline description of economic conditions within the study areas identified in the Economic and Financial Assessment Workplan (August 2017) for the Southwestern Landfill Proposal. The information presented provides a basis for the assessment of economic impacts potentially associated with the operation and closure of the landfill.

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<sup>4</sup> MHBC, (2017)



## **9.2.1 Businesses and Economy**

### **9.2.1.1 Local and Wider Area Businesses**

#### **On Site**

The proposed landfill is situated on lands owned and used by the Carmeuse Lime Quarry operations. Carmeuse occupies approximately 687 ha of land located on both sides of Highway 6 and it has extraction licenses for roughly 614 ha. At present the Quarry has several areas at various stages of development along with an existing lime processing plant.

Carmeuse has made application to permit annual extraction of 6 million tonnes. Over the next 30 years it is expected that quarrying activity will be confined to the west side of County Road 6. In the immediate future mining on these lands will continue in a southerly direction and then subsequently at a later date shift to the north.

The existing quarry operations will remain active throughout the life of the landfill; however quarrying will occur on other areas of the quarry property once the quarrying within the landfill footprint area is complete.

#### **Within the Site Vicinity**

Within 1 km of the proposed site four businesses were identified (excluding Carmeuse). One of these, Killean Acres is a horse farm, two others are involved in machinery fabrication and parts provision and one is a construction firm.

Between 1 and 2 km of the proposed site 45 businesses were identified. A large number of these businesses are located in Ingersoll. They encompass a broad spectrum of business types including but not restricted to automotive services, retail food and goods provision as well as personal and health services. Four of the businesses identified are home businesses. Five of the businesses identified are also located within 500 meters of the haul route.

#### **Beyond 2 Kilometres**

Out beyond the 2 km radius another 277 businesses were identified with the greatest concentration of these being located in Ingersoll. Again, the range of businesses involved spans a broad spectrum covering both goods<sup>5</sup> and service<sup>6</sup> production and they range in size from single person enterprises on up through companies and organizations with many staff to the area's top

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<sup>5</sup> Goods producing businesses: agriculture, quarrying, utilities, construction and manufacturing.

<sup>6</sup> Service producing businesses: wholesale trade, retail trade, transportation and warehousing, information and cultural industries, finance and insurance, real estate, professional scientific and technical services, management services, waste management and remediation services, education, healthcare, arts, entertainment and recreation services, accommodation and food services and public administration.

employer, the GM Cami Plant, with thousands of employees. One of the businesses identified is also located within 500 meters of the haul route.

### **Along the Haul Route**

Within 500 meters along the haul route, 6 businesses were identified. At the northwest corner of Hwy 6 and Hwy 401 is the Leaping Deer Adventure Farm and Market which predominately caters to tourists but also hosts local events. At the intersection of Hwy 6 and Beachville Road there are two landscape and garden businesses, a commercial property maintenance and waste collection bin rental business which currently uses the site as a works and storage yard, as well as a transportation trucking firm which is currently involved with the waste management sector. West of the intersection along Beachville Road there is a residence with a business sign indicating electrician services. Five of the six business identified are also within 1 and 2 km of the landfill site and one of the businesses (Leaping Deer Adventure Farm and Market) is located beyond 2 km of the landfill site.

Appendix D provides a list of the business identified for the subject study areas.

### **The Wider Study Area**

There are a number of data sources for the wider study area that provide context for the businesses and economy structures found within local study area municipalities of Zorra, South-west Oxford and Ingersoll.

#### **9.2.1.2 Labour Force and Employment**

Table 9.1 presents a comparative overview of 2016 labour force employment statistics for the Province of Ontario, Oxford County, Woodstock and the three municipalities that are part of the local study area. In 2016 the labour force in Oxford County was approximately 85,500. Woodstock accounted for 37.1% of this total and Ingersoll, Zorra and South-west Oxford respectively accounted for 11.5%, 7.4% and 6.7%.

In 2016 the employment participation rate (i.e. persons in the labour force / eligible labour force ) in Oxford County was 66.7% versus a rate of 64.7% for the Province. Woodstock was just slightly higher than the Province at 65% but Ingersoll, Zorra and South-west Oxford were significantly higher at 68.4%, 72.5% and 71.6% respectively. In terms of unemployment Oxford County and its constituent municipalities all had lower unemployment rates than the Province. The two urban municipalities were in the order of 2% lower while the two rural municipalities were in the order of 4% lower.

**Table 9.1: Labour Force and Employment Overview (2016)**

	Ingersoll	Zorra	South-west Oxford	Woodstock	Oxford County	Ontario
Population	12,757	8,138	7,664	40,902	110,862	13,448,494
Eligible Labour Force	10,245	6,625	6,010	33,145	89,455	11,038,440
In Labour Force	7,010	4,805	4,305	21,530	59,690	7,146,750
Employed	6,610	4,655	4,170	20,380	56,840	6,612,150
Participation Rate	68.42%	72.53%	71.63%	64.96%	66.73%	64.74%
Unemployment Rate	5.71%	3.12%	3.14%	5.34%	4.77%	7.48%

Source: Statistics Canada 2016

Between 2011 and 2016 the eligible labour force grew in Oxford County, Woodstock and each of the study area municipalities. Growth in employment also occurred in the County and the cited municipalities with the exception of Zorra which experienced a decline of about 1%. Table 9.2 sets out the statistics.

**Table 9.2: Employed Labour Force (2011 – 2016)**

	2011	2016	% Change
Ingersoll	6,220	6,610	6.3%
Zorra	4,695	4,655	-0.9%
South-west Oxford	4,070	4,170	2.5%
Woodstock	18,140	20,380	12.3%
Oxford County	53,425	56,840	6.39%

Source: Statistics Canada 2011, 2016

### Labour Force Occupational Employment

The 2016 occupational distributions of the employed labour force in Ingersoll, Zorra and South-west Oxford are shown in Table 9.3. The three dominant occupational groups for Ingersoll are sales and service; trades, transport, equipment operators and related; and manufacturing and utilities. The corresponding top three occupational groups for Zorra and South-west Oxford are trades, transport, equipment operators and related; management; and sales and service.

**Table 9.3: Labour Force Distribution by Occupational Group**

	Ingersoll	Zorra	South-west Oxford	Woodstock	Oxford County
Management	595	855	660	1,845	6,695
Business; finance and administration	855	615	515	2,650	7,275
Natural and Applied Sciences and related	275	190	115	820	2,220
Health	435	285	225	1,295	3,460
Education, law and social; community and government services	550	405	255	1,945	4,795
Art; culture;recreation and sport	140	65	75	360	1,010
Sales and service	1,535	745	725	4,860	12,225
Trades; transport and equipment operators and related	1,275	995	945	3,815	11,525
Natural resources; agriculture; and related production	160	300	280	335	2,090
Manufacturing and utilities	1,060	340	495	3,270	7,645

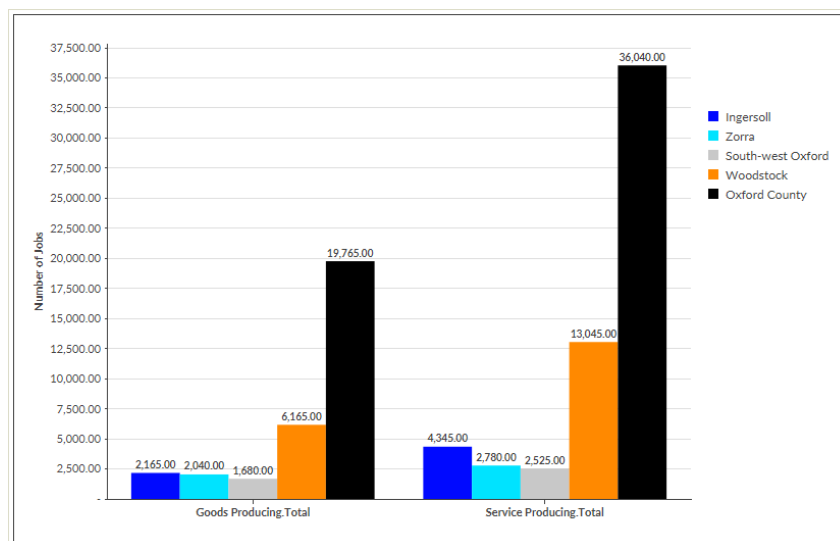
Source: EMSI 2018

For comparative purposes Table 9.3 also presents parallel statistics for Woodstock and Oxford County. In both cases, the dominant occupational groups are sales and service; trades, transport, and equipment operators and related; and manufacturing and utilities. These distributions coincide with the sector distributions found in Ingersoll but as might be expected Zorra and South-west Oxford, because of their rural nature, have economies with much lower labour force representation in the sales and service occupations.

### Labour Force Industry Sector Employment

The 2018 labour force distribution by industry sector for the three local area municipalities, the City of Woodstock and Oxford County are set out in Figure 9.1. In all cases the service producing sector is dominant.

**Figure 9.1: Labour Force Distribution by Industry Sector Group**



Source: EMSI 2018

A more granular view of the labour force distributions by industry sector is enabled by the use of location quotients. A value of 1.0 reflects a sector employment concentration that would be in line with sector employment concentrations for the Province as a whole. A value greater than 1.0 shows an area employment concentration that exceeds that for the Province while a value less than 1.0 reflects an area concentration below that of the Province.

Table 9.4 addresses the goods producing sector. It clearly shows that Zorra, South-west Oxford and the County as a whole have labour force employment concentrations in the resource-based industry sector (i.e. agriculture, pits and quarries). Conversely, manufacturing is the primary employment concentration in the Town of Ingersoll and City of Woodstock. Both communities are heavily vested in the automotive industry with a Toyota plant (approx. 3,000 employees) located in Woodstock and the General Motors CAMI Plant (approx. 2,500 employees) located in Ingersoll. There are also many small manufacturers and service firms throughout the County that support these two facilities.

Additionally, in the rural areas a number of businesses are present that cater to the agricultural sector with the manufacture of equipment and the supply of a broad range of commodities and agri-products.

**Table 9.4: Industry Sector Location Quotients (Goods Producing Sectors)**

		Ingersoll	Zorra	South-west Oxford	Woodstock	Oxford County	Ontario
Goods Producing	Agriculture forestry fishing and hunting	1.27	14.44	9.33	0.67	4.82	1.00
	Mining quarrying and oil and gas extraction	-	-	1.32	0.23	0.48	1.00
	Utilities	1.08	0.97	-	0.67	0.62	1.00
	Construction	0.99	0.78	1.12	0.84	1.01	1.00
	Manufacturing	2.32	1.41	1.74	2.41	2.02	1.00

*Source: Keir Corp 2019 and EMSI 2018*

Table 9.5 shows the labour force industry concentrations in the service sector. The stand-out concentration in Ingersoll and Woodstock are accommodation and food services. All three local area municipalities and the County show a strong concentration in transportation and warehousing.

**Table 9.5: Sector Location Quotients (Service Producing Sectors)**

		Ingersoll	Zorra	South-west Oxford	Woodstock	Oxford County	Ontario
Service Producing	Wholesale Trade	0.77	0.91	0.99	0.86	0.88	1.00
	Retail Trade	0.86	0.60	1.04	0.93	0.89	1.00
	Transportation and warehousing	1.22	1.10	1.50	0.98	1.20	1.00
	Information and cultural industries	0.57	0.23	-	0.50	0.37	1.00
	Finance and insurance	0.52	0.46	0.52	0.59	0.61	1.00
	Real estate rental and leasing	0.15	0.72	0.59	0.70	0.62	1.00
	Professional scientific and technical services	0.40	0.47	0.61	0.40	0.44	1.00
	Management of companies and enterprises	-	-	-	-	0.46	1.00
	Administrative and support waste management and remediation services	1.01	0.63	0.82	1.02	0.96	1.00
	Educational services	0.83	0.72	0.54	0.86	0.74	1.00
	Health care and social assistance	1.16	0.99	0.86	0.95	0.93	1.00
	Arts entertainment and recreation	0.85	1.11	0.50	0.94	0.87	1.00
	Accommodation and food services	1.41	0.91	0.78	1.23	1.02	1.00
	Other services	0.74	0.70	0.75	1.14	1.01	1.00
	Public Administration	0.48	0.54	0.33	0.60	0.54	1.00

Source: Keir Corp 2019 and EMSI 2018

### 9.2.1.3 Industry Sector Growth Trends

The 10 fastest growing industry sectors in the Town of Ingersoll and Townships of Zorra and South-west Oxford combined over the 2010 to 2018 timeframe are presented in Table 9.6. Manufacturing is the leading sector with a numerical job increase of approximately 1,300. Waste management and remediation services is second followed by accommodation and food services. Their respective job growth numbers of are both close to 500.

**Table 9.6: Top 10 Industry Sector Job Growth Trends for Ingersoll, Zorra and South-west Oxford Combined (2010 – 2018)**

	2010	2018	# Change	% Change
Manufacturing	4,249	5,557	1,308	31%
Retail trade	1,024	1,166	142	14%
Administration and support, waste management and remediation services	839	1,347	508	61%
Transportation and warehousing	791	924	133	17%
Accommodation and food services	735	1,217	482	66%
Agriculture, forestry, fishing and hunting	686	742	56	8%
Health care and social assistance	659	737	78	12%
Wholesale trade	512	482	-30	-6%
Educational services	479	529	50	10%
Construction	369	466	97	26%

Source: EMSI 2018

### 9.2.1.4 Incomes and Wages

Using 2016 Statistics Canada data and applying consumer price index (CPI) inflation, the average income for a full-time job in Oxford County in 2018 dollars was approximately \$61,000. In Woodstock the average income number was \$63,000 and for the study area municipalities the income range was roughly between \$59,000 and \$64,000.

Applying the same CPI inflation rate to Statistics Canada 2015 household income data yields 2018 average income levels of \$90,000 for Oxford County and \$87,000 for the City of Woodstock. The average household income range in the local area municipalities is roughly \$90,000 to \$104,000. Table 9.7 provides the income profiles.

**Table 9.7: Average FTE Job and Household Incomes (in 2018 dollars)**

	FTE Job	Household
Ingersoll	\$ 64,009	\$ 90,000
Zorra	\$ 62,420	\$ 104,441
South-west Oxford	\$ 58,424	\$ 104,125
Woodstock	\$ 62,756	\$ 86,534
Oxford	\$ 60,664	\$ 90,239

Source: Statistics Canada 2016

Table 9.8 provides an account in 2018 dollars of the average wage per job in the 10 largest industry sectors found in the three municipalities of Ingersoll, Zorra and South-west Oxford combined. Manufacturing jobs have the highest wage rate followed by educational services and wholesale trade. The accommodation and food service sector has the lowest per job wage rate. This is likely attributable to the fact that many jobs in this sector are part time.

**Table 9.8: Average Wages in the 10 Major Industry Sectors in Ingersoll, Zorra and South-west Oxford Combined (2018 dollars)**

	2018 Wages per Job
Manufacturing	\$ 65,163
Retail trade	\$ 30,468
Administration and support, waste management and remediation services	\$ 30,166
Transportation and warehousing	\$ 46,693
Accommodation and food services	\$ 14,632
Agriculture, forestry, fishing and hunting	\$ 38,651
Health care and social assistance	\$ 38,651
Wholesale trade	\$ 58,536
Educational services	\$ 61,412
Construction	\$ 51,513

Source: EMSI 2018

#### 9.2.1.5 Labour Flows

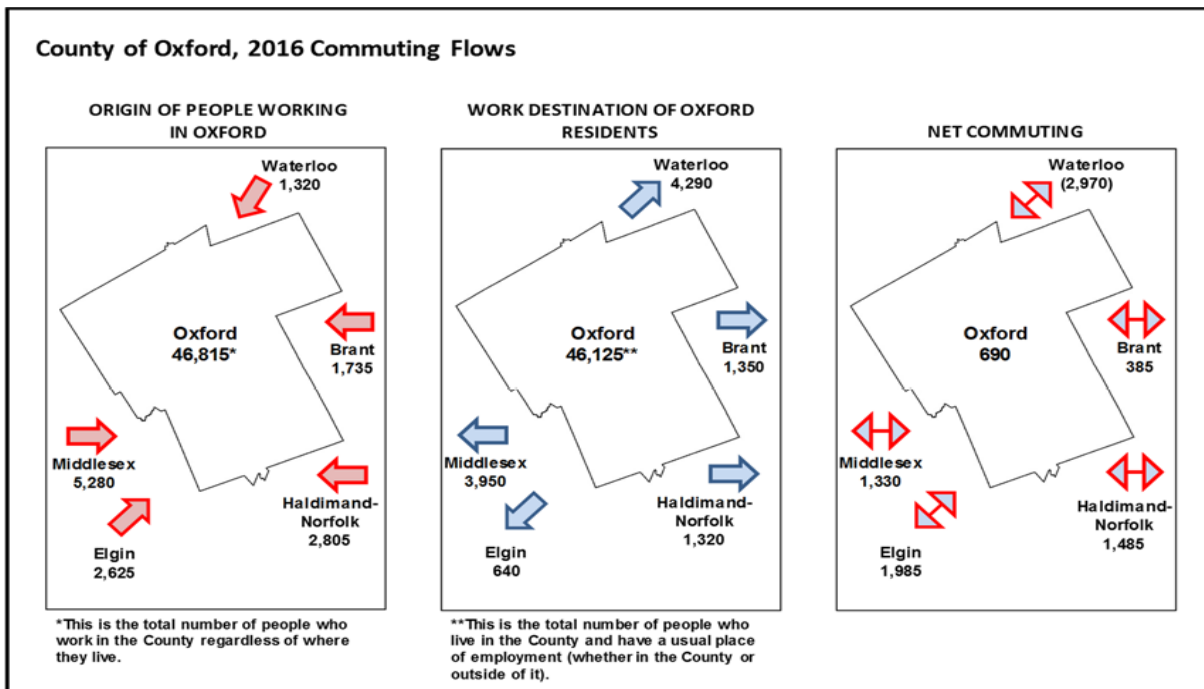
Hemson (2019) commented in their report, “Oxford County, Phase 1 Comprehensive Review” that the role of Oxford County within the broader economic region is a key consideration in

assessing the future growth outlook for the County. This is also true for understanding employment growth trends of the recent past.

Oxford County provides employment opportunities to its own residents as well as persons living beyond its borders. In 2016 approximately 70% of the County’s employed residents worked in the County, with the largest internal commuting flows being to Woodstock and Ingersoll principally because of the Toyota and GM Cami plants. The largest flows into and out of the County were to Middlesex County and there was a net out commuting to the Region of Waterloo.

The following figure (Figure 9.2) extracted from the Hemson Report provides a picture of commuting flows for the County. Table 9.9 that follows sets out some statistics on commuting flows for the local area municipalities.

**Figure 9.2: Oxford County Commuting Flows**



Source: Hemson 2019

**Table 9.9: Study Area Commuting Statistics**

	Ingersoll		Zorra		South-west Oxford		Woodstock		Oxford County	
	#	%	#	%	#	%	#	%	#	%
Within Census Sub-division	2,260	39.8%	485	14.5%	360	12.0%	11,170	63.1%	19,790	42.9%
To Different Census Sub-division	1,810	31.8%	1,030	30.8%	1,900	63.4%	2,100	11.9%	11,345	24.6%
To Different Census Division	1,605	28.2%	1,830	54.7%	735	24.5%	4,400	24.9%	14,910	32.3%
Beyond Province	10	0.2%	-	0.0%	-	0.0%	30	0.2%	75	0.2%
Sum of Destination	5,685	100.0%	3,345	100.0%	2,995	100.0%	17,700	100.0%	46,120	100.0%

Source: Statistics Canada 2016



During interviews with the local business community several persons commented that Ingersoll was becoming a dormitory community with many persons out commuting to jobs within the other parts of the County or to jobs located outside the County. The statistics in the preceding Table 9.9 confirm this observation.

#### **9.2.1.6 The Commercial Fabric**

A look at the commercial fabric in Ingersoll provides some insight into the concentrations of local retail activity. Knowing where these areas are and their scope and scale relative to the landfill site provides some context for future discussions of potential impacts.

In 2009, Sorensen Gravely Lowes Associates and Robin Lee Associates conducted a retail analysis of Oxford County. Woodstock was the dominant retail service centre in the County and at the time its trade area covered most of the County including Ingersoll. Ingersoll on the other hand had a much smaller trade area basically confined to the Town and the portions of the adjoining Townships of Zorra and South-west Oxford.

Although 10 years have passed since the retail study was published, any changes that have occurred have not altered the fact that Woodstock remains the overwhelming centre of gravity for retail/service activity in the County. Residents outside Woodstock (including the local study area municipalities) gravitate to it for many goods and service needs.

Ingersoll has a retail/service fabric that caters to some local needs of study area residents but, it is overshadowed by the scale and diversity of goods and services available in Woodstock. At the time of the of the Sorenson study, Woodstock had a commercial space inventory almost 4 times that of Ingersoll (i.e. approximately 252,000 m<sup>2</sup> versus 69,000 m<sup>2</sup>).

Focusing on Ingersoll there are 5 principal commercial clusters: Central Area; Bell Street; King Street; Harris Street; and Culloden Road. Figure 9.3 shows their location and Table 9.10 provides statistics (2008) on their spatial make-up.

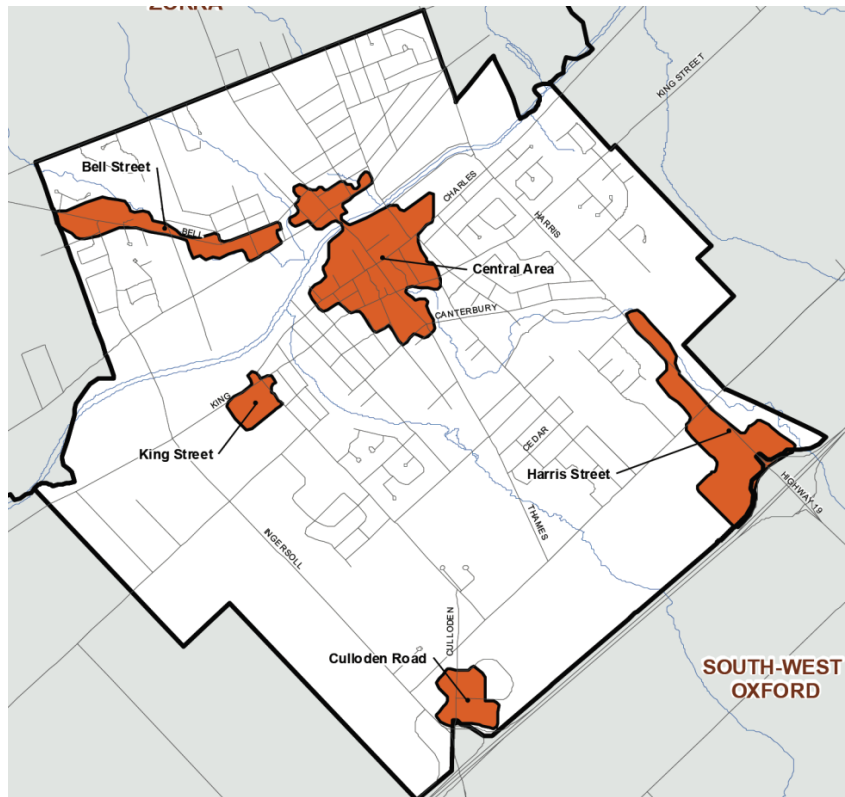
The central area is the major node accounting for roughly 80% of the commercial floor space in the community. It leads in non-food retail and services. King Street is the major node for food shopping. The remaining nodes are relatively minor and focus on convenience shopping.

**Table 9.10: Ingersoll Commercial Node Floor Space Profiles (m2)**

	Central Area	Bell Street	King Street	Harris Street	Culloden Road	Other	Sum of Nodes
Food Retail	1,802	390	7,404	-	-	372	9,968
Non Food Retail	20,801	2,127	-	-	-	622	23,551
Services	21,312	548	223	576	307	-	22,966
Vacant	7,079	139	-	-	-	-	7,219
Sum of Area	50,994	3,205	7,627	576	307	994	63,704

Source: Sorenson Gravely Lowes 2008

**Figure 9.3: Ingersoll Commercial Centres**



Source: Sorenson Gravely Lowes 2008

### 9.2.1.7 Agency Insights

Two agencies agreed to interviews during the course of the economics study. These were the Rural Oxford Development Corporation and Oxford County Community Employment Services.

The two agencies agree that the Oxford economy is strong and growing in both its urban and rural areas. The Toyota and GM Cami plants are cornerstones of the area economy and both generate economic activity across all parts of the County.

The area job market is extremely tight at the moment with employers having real difficulty finding employees. Jobs paying \$25 per hour are the bottom of the wage scale and there are few takers. Many employers have to look at labour markets in other areas to try and recruit workers, particularly those with skilled trades.

Young people starting out in their careers are finding it difficult to crack the local job market for better paying jobs as they have not had time to develop the skills and experience required. As a consequence, they are moving out and this trend along with retirees moving in is significantly aging the communities.

The availability of high wage jobs promotes “job jumping” with people leaving lower paid jobs to new jobs with higher wages. This phenomenon makes employee retention very difficult and costly for smaller businesses.

On the agricultural front, farm consolidation continues at an aggressive pace. This tends to promote economic growth but not job growth. Big agriculture is very capital intensive as opposed to labour intensive.

In the rural areas a key economic development focus is to create diversification. This builds resiliency by ensuring that the economy of the rural area is spread across numerous business sectors rather than all concentrated around one or two sectors. When there is a down turn in the economy the welfare of the area is not all hinged to one particular sector.

#### **9.2.1.8 Conclusions and Observations**

##### ***Site Vicinity and Haul Route***

1. The proposed landfill site is located on lands owned by Carmeuse. Quarrying and landfilling will coincide on the site for several years with landfilling occurring after portions of the site have been quarried out. Carmeuse owns a considerable amount of land and their quarrying operations beyond the landfill site are expected to continue for many decades into the future.
2. Including Carmeuse there are 5 businesses located within 1 kilometer of the proposed landfill and another 6 businesses located within 500 meters of the haul route.
3. Between 1 km and 2 km 45 businesses were identified with most of these being located in Ingersoll. They encompass a broad range of business types. Five of the business identified are also located within 500 meters of the haul route.

4. Out beyond 2 km the business community of Ingersoll is enveloped. Approximately 277 businesses were identified, and they cover a broad range of goods producing and service producing enterprises. One of the businesses identified is also located within 500 meters of the haul route.

### **Wider Study Area**

1. In 2016 Oxford county had a labour force of approximately 85,500. Woodstock accounted for 37.1% of this total and Ingersoll, Zorra and South-west Oxford respectively accounted for 11.5%, 7.4% and 6.7%.
2. In terms of unemployment in 2016, Oxford County and its constituent municipalities all had lower unemployment rates than the Province. The two urban municipalities (Woodstock and Ingersoll) were in the order of two percent lower while the two rural municipalities (Zorra and South-west Oxford) were in the order of 4% lower.
3. Between 2011 and 2016 the employed labour force in Oxford County grew approximately 6% to roughly 57,000. Growth was pronounced in Woodstock and Ingersoll, and marginal in Zorra and South-west Oxford.
4. Sales and service, transportation and equipment operations and manufacturing are the dominate occupational sectors.
5. The service producing industry sector is the large employment component.
6. Looking at goods producing employment concentrations in particular industry sectors relative to the Province as a whole, reveals resource-based industry concentration in Zorra and South-west Oxford and manufacturing concentration in Ingersoll and Woodstock.
7. For the service producing sectors the concentrations are in accommodation and food services and transportation and warehousing.
8. The industry sectors experiencing significant job growth since 2010 are manufacturing, waste management and remediation services and food services.
9. In 2018 \$ average household incomes in the wider area are in the range of \$87,000 to \$104,000.
10. The average wage rates by industry sector fall between \$65,000 for manufacturing and \$15,000 for accommodation and food services.
11. There is considerable job commuting from one location to another within the County and from the County to other outside areas and vice versa. The economy of Oxford County is very intertwined with its neighbours, particularly Middlesex County and the Region of Kitchener Waterloo.
12. The commercial fabric of Oxford County is dominated by Woodstock. Within Ingersoll there are five commercial nodes with the largest of these and the one closest to the landfill being the central area.

13. Economic development and employment agencies note that the economy of Oxford County is booming. The two big pillars of the economy are the Toyota and GM Cami plants. Labour availability currently is very tight across all sectors and employers are having to recruit outside. The labour shortage and associated wage competition is putting a heavy strain on smaller businesses in terms of employee retention.
14. Agriculture is flourishing in Oxford County. Farm consolidations continue and agriculture is now very capital intensive as opposed to labour intensive.

## **9.2.2 Real Estate and Property Values**

### **9.2.2.1 On Site**

As previously noted, the proposed landfill site is located on lands owned by Carmeuse. Quarrying and landfilling will coincide on the site for several years with landfilling occurring after portions of the site have been quarried out. Carmeuse owns a considerable amount of land and their quarrying operations beyond the landfill site are expected to continue for many decades into the future.

### **9.2.2.2 Within the Vicinity**

Within 500 m of the landfill boundary there are four properties with existing homes. One residence is within 500m and three residences are located on properties bisected by the 500m isoline. Three residences are associated with farmland located to the west of the site, one to the north end and the other two to the south end. One residence is located south of the site on the north side along Beachville Road.

The 1000m isoline line encompasses or bisects 109 properties with residences. Ninety-seven residences lie within or are bisected by the 1000m isoline line and 12 of the residences are on properties bisected by the 1000m isoline. The 1 km isoline nicks the northeast residential quadrant of Ingersoll and does the same to the south east residential quadrant. It then traverses lands between Karn Road and Beachville Road capturing almost all the housing along the later including the settlement area of Centerville.

Between the 1 km and 2 km isolines there are approximately 1,296 single family homes and 14 multi residential units. The vast majority of these are in the northeast and south east quadrants of Ingersoll. This zone also captures almost all the homes along Karn Road and 12 rural residence to the north and west of the site. Additionally, it picks up a, few residences to the east of the site alone Beachville Road east of County Road 6.

Out beyond the 2 km isoline to the perimeter of the Socio-economic study area there are approximately 3,200 additional single-family residences and 30 more multi family buildings. The

majority of this home count is within the Town of Ingersoll but there are also a substantial number of homes picked up in Beachville and along the Beachville Road to the western border of Woodstock. Additionally, rural homes east of County Road 6, North of the Highway 401 to Road 68 and Hwy 2 are also included.

There are 27 properties with residences that lie within or are bisected by the 500m isoline along the haul route. Two residences are on properties within 500m of the haul route. One of the two properties is also within 1000m of the landfill site.

### **9.2.2.3 Wider Study Area**

Real estate trends in Woodstock and Oxford County provide a barometer and give context to the trends being experienced in the more immediate study area. This section presents information from The Municipal Property Assessment Corporation (MPAC), the Canadian Real Estate Association, current sales tracking efforts and agricultural real estate trends.

### **9.2.2.4 MPAC – Residential Assessment Values**

MPAC is responsible for assessing and classifying properties in Ontario in compliance with Ontario's Assessment Act and regulations set by the Province of Ontario. Municipalities rely on MPAC to establish property assessment values to enable them to levy the taxes they need to pay for municipal services. Additionally, education rates, set by the Province can also be applied using assessed property values.

MPAC indicates on their website that they use one of the three established approaches to establish an assessed value for properties:

1. The direct comparison approach – applies to non-commercial properties
2. The income approach – applies to income producing properties
3. The cost approach – applies to unique special case properties

Of the three, the direct comparison approach is the most common. This method looks at the recent sales of comparable properties and analyzes these sales to provide an indication of value for the properties being assessed. In considering sales evidence it is key that the property sold has a similar or identical use to the property being valued. The examples of property types commonly handled by this method are single family residences, condominiums and vacant land.

MPAC market trend reports for the Town of Ingersoll, and Townships of Zorra and Southwest Oxford and City of Woodstock indicate that with few exceptions assessed home values in all parts of these municipalities are on the rise. Assessment growth was expected for all areas in proximity to the proposed landfill (refer to Appendix G).

**Table 9.11: MPAC Assessment Increase and Average Housing Value (2016 – 2017)**

	% Increase in Assessed Value	Average Home Price
Zorra	2.1%	\$ 281,000
South-west Oxford	2.2%	\$ 270,000
Ingersoll	1.3%	\$ 220,000
Woodstock	1.8%	\$ 233,000

*Source: MPAC Market Trend Reports, 2018*

### **9.2.2.5 Canadian Real Estate Association**

While positive trends in assessment value give one measure of rising real estate values, a more easily appreciated measure is actual sales data. To this end the description that follows sets out real estate information from the Canadian Real Estate Association.

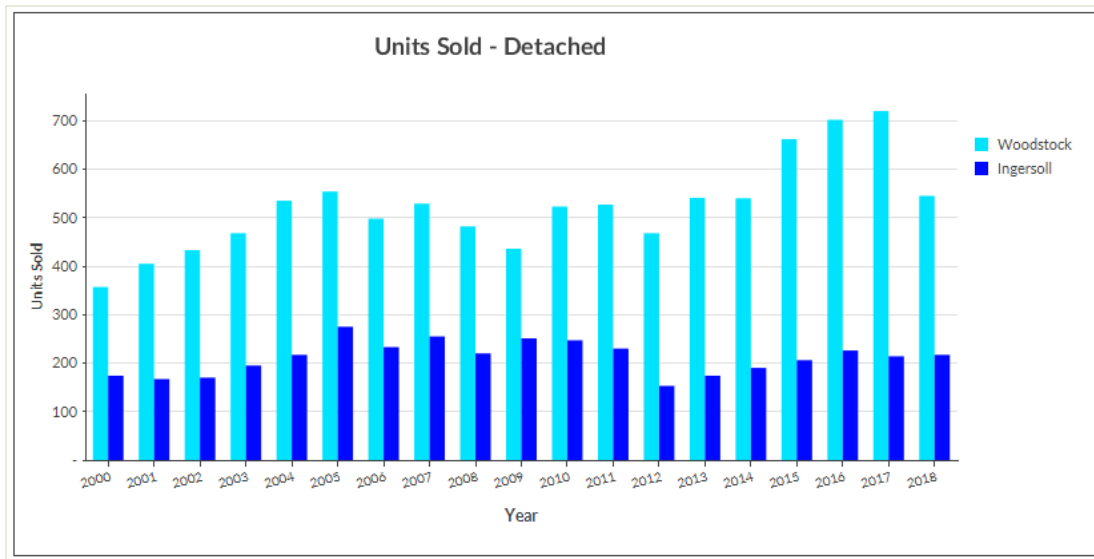
Statistical data was obtained for the Woodstock/Ingersoll market area. The series of comparative graphs that follow respectively show real estate trends for detached homes in the two market areas over the time frame 2000 to 2018.

The first graph (Figure 9.4) shows units sold. Detached home sales in Ingersoll generally fluctuate either side of the 200 per year mark. There have been a few ups and downs over the time period but no dramatic downturns or upturns.

In the case of Woodstock, the same pattern prevails but at a heightened sales level. Up until 2011 annual units sold in the City were in a general band between 400 and 550.

After 2011 however, units sold climbed to a peak of just over 700 in 2017 and then fell back to 550 in 2018. The upturn in part coincides with the release of newly developed homes on the market. The downturn in part reflects the fact that most of the newly released homes have been absorbed.

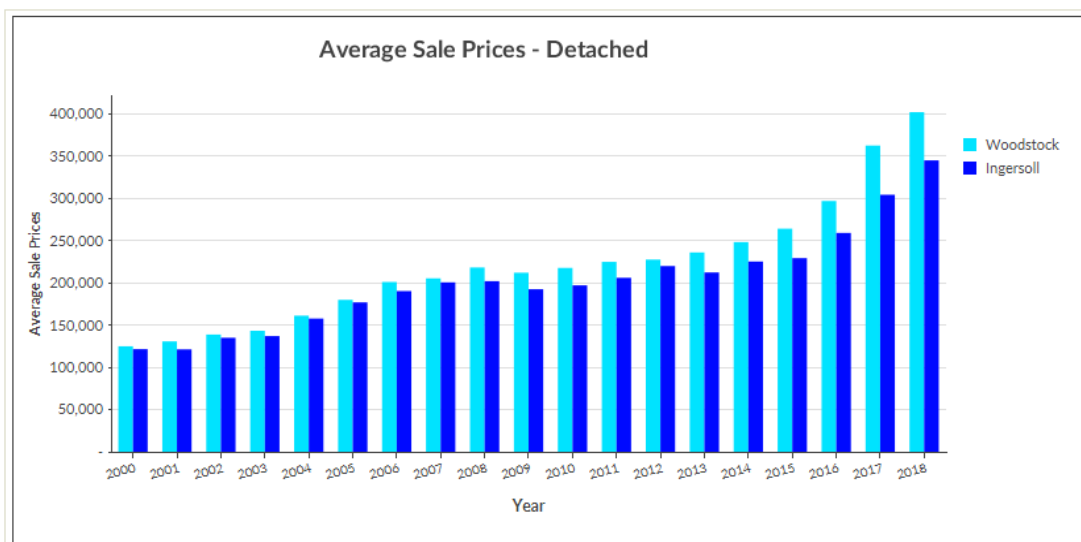
**Figure 9.4: Detached Home Sales in Ingersoll and Woodstock (2000 – 2018)**



Source: Canadian Real Estate Association, 2018

Average sale prices for detached homes in both municipalities show a climb to 2006, a plateau from 2007 to 2012 and then a steepening climb from there to 2018. Sale prices in both municipalities were relatively close over the 2000 to 2012 period with prices being only slightly higher in Woodstock. However, post 2012 the rise in average price has been steeper in Woodstock than in Ingersoll. As of 2018 the average price for a detached home in Woodstock was approximately \$400,000 versus \$345,000 in Ingersoll. This is illustrated in Figure 9.5.

**Figure 9.5: Average Sale Price of Detached Homes (2000 – 2018)**

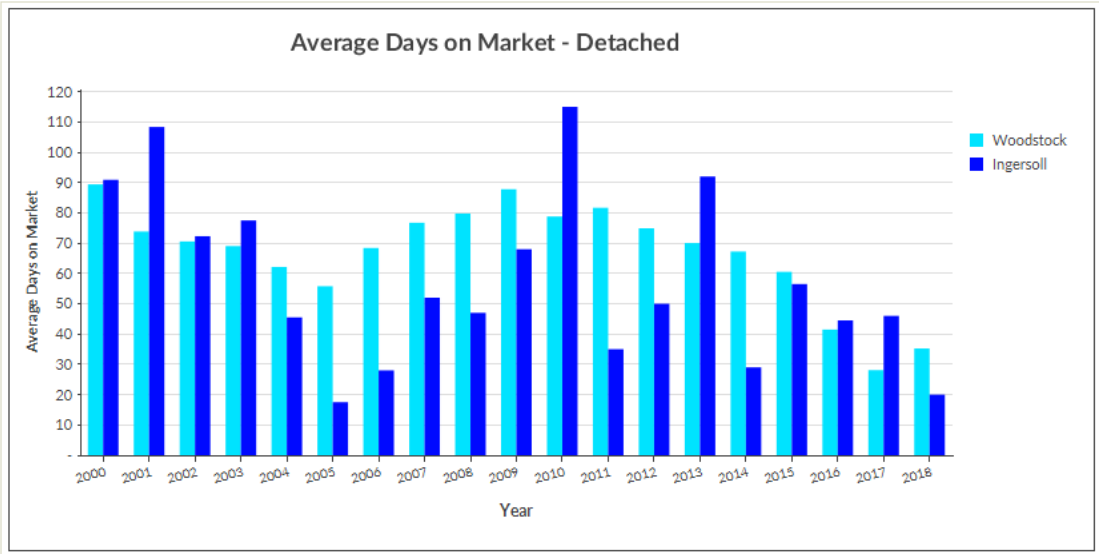


Source: Canadian Real Estate Association, 2018



The days on market graph (Figure 9.6) has some pronounced waves. Starting at over 90 days in both municipalities in 2000, it oscillates forward with a falling trend ending in 2018 at 35 average days on market in Woodstock and 20 days on average in Ingersoll. These statistics are indicative of very strong demand and an increasingly tight supply of listed homes in both communities.

**Figure 9.6: Average Sale Day on Markets for Detached Homes (2000 – 2018)**



Source: Canadian Real Estate Association, 2018

**9.2.2.6 Current Sales Tracking**

In addition to MPAC and Canadian Real Estate Association data, Keir Corp tracked home sales for one year in the socio-economic Study Area and the City of Woodstock. The latter was included as a reference community for comparative purposes.

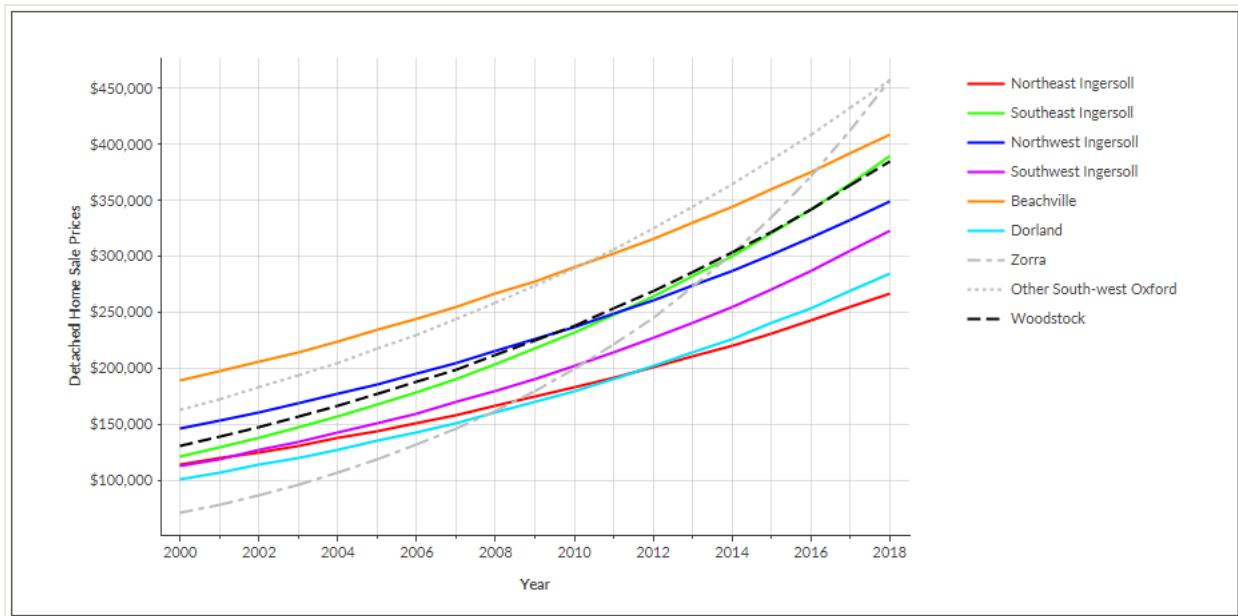
The sales tracking provided two perspectives. One it provided information on current home sale prices in different geographies. Two, it generated historic sale price records for those same properties going back to 2000. This information in combination yielded a detailed picture of how specific area real estate prices have tracked over time. Real estate sales during the year 2018 and all historical sales of these same properties were identified using Teranet’s Geowarehouse.

Within the study area, Ingersoll was divided into four quadrants: northeast, southeast, southwest and northwest. To denote these quadrants the Thames River was used to divide the area into north and south and Thames Street was used to divide the areas into East and West. Residential sales data were also collected for Beachville, Dorland, and the surrounding rural areas of Zorra and other South-west Oxford.

Sales data and historic records were collected in Woodstock to provide benchmark data that could be compared to trends in the study area. A starting focus was to see if real estate price trends in the study area were behaving differently from those in the City of Woodstock. If differences were observed the follow-up was to then determine the cause.

Figure 9.7 presents the findings of the sales tracking.

**Figure 9.7: Detached Home Sale Price Trends in the Local Study Area and City of Woodstock (2000 – 2018)**



*Keir Corp, 2019; Teranet, 2019*

The sales tracking data revealed that average residential sale prices in all areas investigated increased over the 2000 to 2018 timeframe. Within the local study area home sale prices in the Beachville area, Zorra and South-west Oxford (excluding Dorland area) were higher than those found in Ingersoll and Woodstock. In large part the price differentials are explained by the fact that homes in these areas tend to have very large lots, often up to an acre or more. The Dorland area is a subdivision of small older homes between Beachville and Woodstock and sale prices in the area tend to be modest.

Home sale prices in Ingersoll currently occupy a range between \$265,000 and \$390,000. Homes in the northwest and southeast generally reflect the top portion of this range. The southwest quadrant occupies the middle of the range for home sales and the northeast quadrant characterizes the lower part of the range. In recent years and still ongoing new homes are being developed and marketed in the southeast and southwest quadrants.

The northwest quadrant tends to be characterized by small older homes. During discussions with real estate professionals it was pointed out that the northeast quadrant evolved right from the origins of Ingersoll as a neighbourhood of small homes that could be afforded by workers involved in manufacturing and quarrying activities. Although the graph clearly shows that sale prices in this community have risen over time, the rate of increase has not been as steep as it has in the other three quadrants of the Town.

Relative to the City of Woodstock average home sale prices for the southeast Ingersoll quadrant show similar growth while the northeast, northwest and southwest Ingersoll quadrants show less growth.

Although a number of factors might be cited to help explain this difference, the most salient is that the City of Woodstock is the dominant urban centre in Oxford County. It is 3 times larger than Ingersoll in terms of population and it has a much larger compliment of retail, personal services and institutions. The City of Woodstock has a significantly larger economic base which generates growth and attracts people and businesses toward it. All of these forces play on the housing market and aggressively force prices up. It has been pointed out during the course of interviews that low income households are finding it increasingly difficult to buy or rent homes in the community.

#### **9.2.2.7 Agricultural Real Estate**

Valco is a leading real estate appraisal firm located in Southwest Ontario. They are publishers of an annual report that provides information on land values in Southwestern Ontario. Counties examined, included: Huron, Perth, Oxford, Middlesex, Elgin, Lambton, Kent, Essex, Bruce, Grey and Wellington. Among these, Oxford County stands out as having the most valuable agricultural land in Southwestern Ontario. Current median prices are in excess of \$20,000 per acre and the range covered is from a low of \$16,000 to a high in excess of \$28,000.

Between 2010 and 2017 agricultural land values in the County rose dramatically, more than doubling. Between 2017 and 2018 there has been a slight tailing off with a decline of approximately 1.4%.

#### **9.2.2.8 Conclusions and Observations**

##### **Site Vicinity and Haul Route**

1. There are four residences on properties within 500m of the site boundary. Three homes are associated with farmland.
2. There are 109 residences on properties that lie within or are bisected by the 1000m isoline. Most of these residences are located in the northeast quadrant of Ingersoll and along the Beachville Road including the small community of Centreville.

3. Between 1 and 2 km there are approximately another 1,296 single family homes and 14 multi-residential units with most of these being found in the northeast and southeast quadrants of Ingersoll, and along Karn road.
4. Beyond 2 km south to Hwy 401 the borders of the socio-economic study area there are a further 3,200 residences along with 30 multi residential buildings.
5. There are 27 physical residences that lie within or are bisected by the 500m isoline along the haul route.

### **The Wider Study Area**

1. MPAC assessment information derived from their Market Trend Reports indicates that there is an upward escalation in home assessment values in all parts of the socio-economic study area. This escalation underlies the fact that home values are rising. A similar growth in assessment values is also occurring in the City of Woodstock.
2. The CREA real estate sales data shows strong annual sales in the City of Woodstock and Town of Ingersoll. It also shows that units sold activity is two to three times higher in Woodstock relative to Ingersoll.
3. Average sale prices in the Ingersoll area have grown steadily since 2000 with the current prices being around \$345,000. Housing prices have also grown steadily in the City of Woodstock with the average sale price hovering around the \$400,000 mark.
4. The average days on market trend since 2015 shows a steep decline in both Ingersoll and Woodstock. This trend is indicative of strong demand and limited supply.
5. Sales tracking data collected over the last year corroborates the steady rise in home values throughout the study area and the City of Woodstock. It also confirmed the widening sale price differential between the two market areas.
6. The sales tracking data indicated a price differential going back in time among the four quadrants of Ingersoll with higher home values in the northwest and southeast. Medium home values in the southwest and the lower home values in the northeast.
7. High home sale values in the Beachville area are generally attributable to the unique character and large size of the properties.
8. The growing price differential between the City of Woodstock and Town of Ingersoll is explained for the most part by the fact that the City is a much larger economic entity with a significantly broader compliment of amenities and services. It attracts people and businesses and this in turn stimulates real estate activity and drives up sale prices.
9. On the agricultural front, Oxford County has the highest farmland values in southwestern Ontario. Prices have escalated significantly since 2010 and now top \$20,000 per acre on average.

### 9.2.3 Municipal Finances

Municipal finance profiles for the Town of Ingersoll, Townships of Zorra and South-west Oxford and Oxford County were constructed through examination of municipal financial information returns from 2010 to 2017 as well as the study of Statistics Canada data and a recent report by Hemson Consulting Ltd. titled Oxford County, Phase 1 Comprehensive Review.

#### 9.2.3.1 Population and Housing Growth 2001 to 2016

The historical population and household trends for Oxford County and the Study area since 2001 are respectively set out in Tables 9.12 and 9.13.

**Table 9.12: Population Growth 2001 to 2016**

		2001	2006	2011	2016
Local Study Area Municipalities	Zorra	8,370	8,420	8,280	8,360
	South-West Oxford	8,090	7,870	7,750	7,880
	Town of Ingersoll	11,401	12,190	12,490	13,110
	Sum of Local Study Area	27,861	28,480	28,520	29,350
Oxford County		103,200	106,600	108,700	113,900

*Statistics Canada, 2001, 2006, 2011, 2016*

**Table 9.13: Housing Growth 2001 to 2016**

		2001	2006	2011	2016
Local Study Area Municipalities	Zorra	2,820	2,890	2,940	3,070
	South-West Oxford	2,585	2,575	2,575	2,685
	Town of Ingersoll	4,285	4,985	4,795	5,085
	Sum of Local Study Area	9,690	10,450	10,310	10,840
Oxford County		37,270	39,310	41,560	44,270

*Statistics Canada, 2001, 2006, 2011, 2016*

Population growth for the Local Study Area municipalities between 2001 and 2016 saw a net increase of 1,489. Of this growth all of it occurred in Ingersoll. Both South-west Oxford and Zorra had population declines. Over the same time period Oxford County population grew by 10,700 persons.

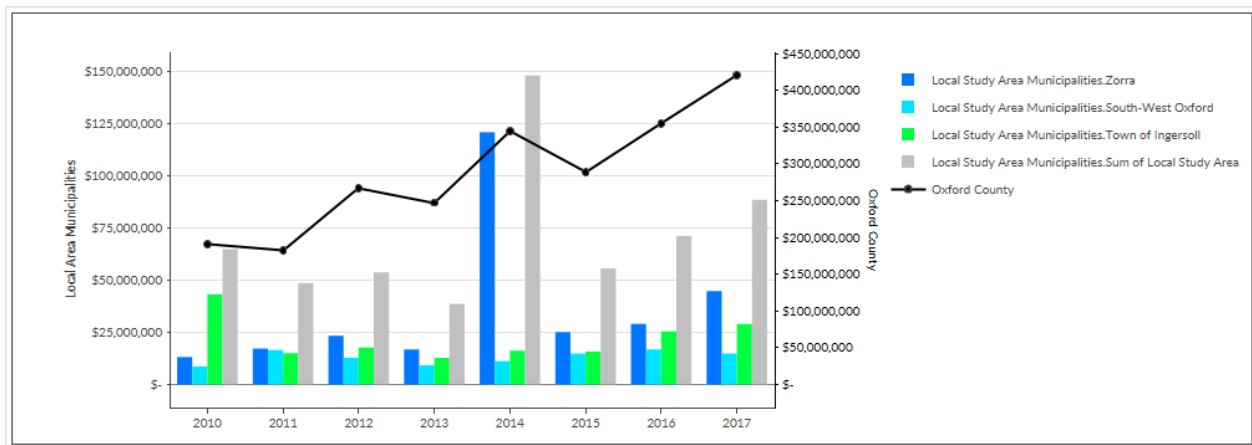
Housing growth for the local study area municipalities between 2001 and 2016 resulted in a net increase of 1,150 units. Approximately 70% of this growth occurred in Ingersoll, 9% in South-west Oxford and 21% in Zorra. Oxford County housing inventory grew by 7,000 units over the same time frame.

### 9.2.3.2 Building Permit Activity

Between 2010 and 2017 building permit value in the Local Area municipalities amounted to roughly \$481 million. Approximately 51% of this value fell to Zorra, 19% to South-west Oxford and 30% to Ingersoll. Oxford County over the same time frame accumulated in excess \$1.87 billion.

Figure 9.8 shows the trends. The huge spike in Zorra in 2014 is particularly noteworthy. Other than this spike however the value of permits in the Study Area municipalities is somewhat level (with the exception of 2014) in contrast to the climbing zig zag pattern shown by the County.

**Figure 9.8: Value of Building Permits 2010 to 2017**



Source: Keir Corp using FIR Data 2010 - 2017

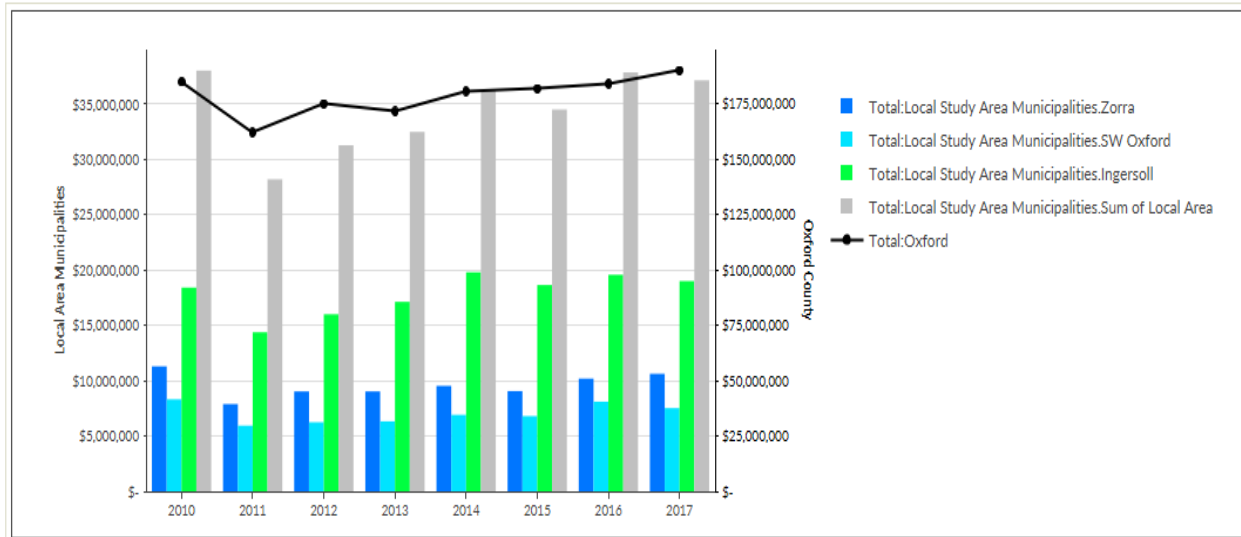
The dominant source of building permit value in the Zorra and Southwest Oxford tends to be non-residential which also holds true for the County. The reverse of this situation holds for the Town of Ingersoll.

### 9.2.3.3 Revenues

Taxation is the primary source of revenues for the study area Municipalities. In the case of Zorra it represents 67% of total revenues and for South-west Oxford 69%. Corresponding figures for Ingersoll and Oxford County are respectively 72% and 32%. Government transfers and other are also significant components of the revenue stream in Oxford County accounting for 29% and 39% respectively

Total revenues for the Study Area municipalities and County over the period 2010 to 2017 are shown in Figure 9.9. A bit of a trough occurred for all municipalities and the County in 2011 through 2013. Since then the trend is relatively stable.

**Figure 9.9: Revenues 2010 to 2017**



Source: Keir Corp using Municipal Financial Information Return Data 2010 - 2017

### 9.2.3.4 Performance Ratios

Two performance ratios are highlighted. The first is operating surplus ratio and the second is the debt service coverage ratio. Both are barometers of the fiscal health of a municipality.

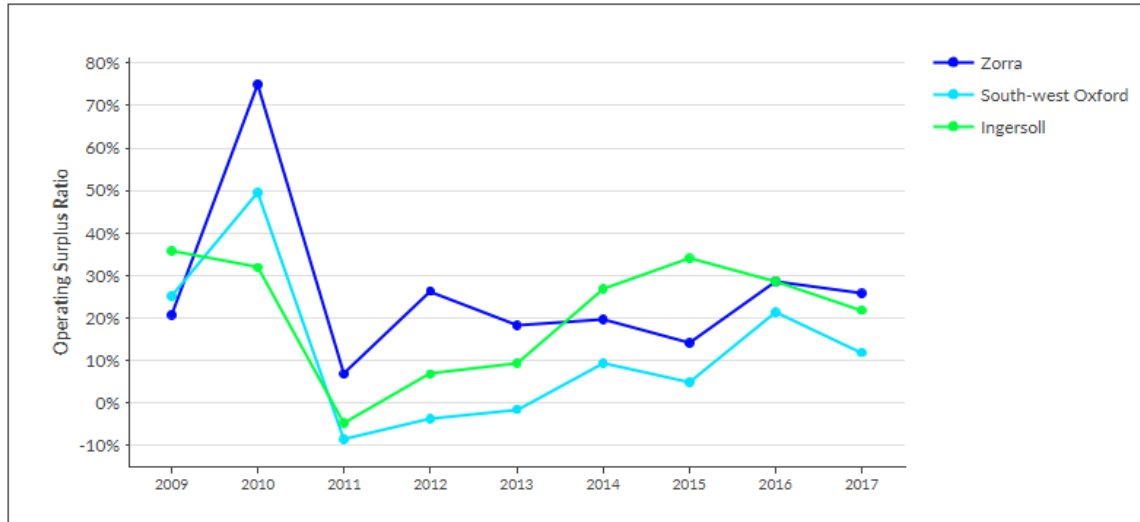
The operating surplus ratio is an indicator as to whether revenues raised only have the ability to cover operating expenses or whether they also have the ability to contribute to funding for other financial purposes. In the case of the three study area municipalities, financial information return (FIR) data indicate that all three have healthy ratios and have had so since 2014. There was a period prior to this however, particularly around 2011 when Ingersoll and South-west Oxford were in negative territory. Figure 9.10 provides profiles for the three municipalities.

The debt service coverage ratio is a measure of a municipality's ability to service its debt payments. The target set by the Ministry of Municipal Affairs and Housing is a ratio greater than or equal to 2. Figure 9.11 depicts the coverage ratios for the study area municipalities. Zorra has run close to the threshold in the past but in recent years it has improved its ratio to 3. Both South-west Oxford and Ingersoll have ratios well above the threshold.

All of the local study area municipalities appear to be in good financial health. With one exception there are no ratios in their respective FIR reports, including the two highlighted here that give any indication of financial difficulty.

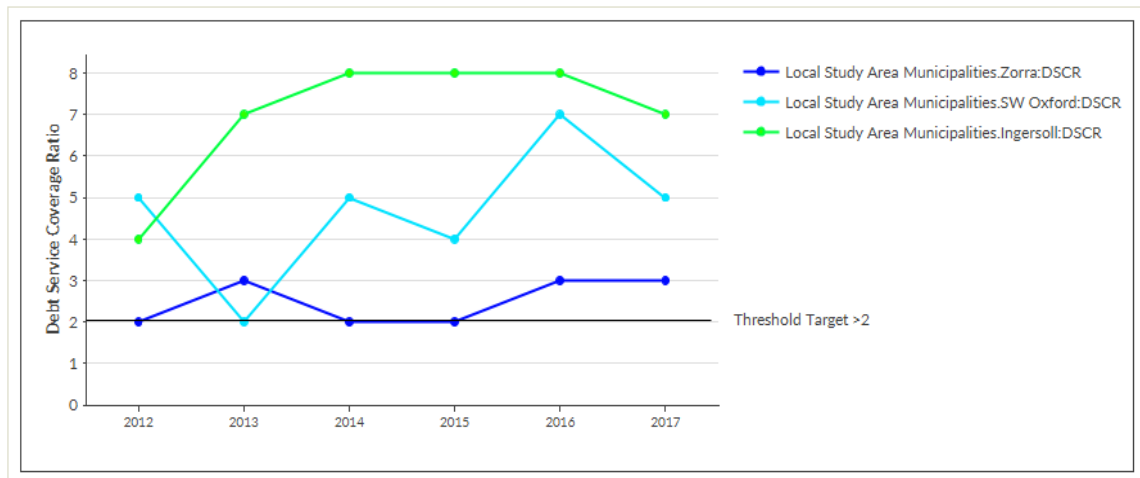
The one exception is for South-west Oxford which has an asset consumption ratio<sup>7</sup> consistently running above the <50% threshold.

**Figure 9.10: Operating Surplus Ratios**



Source: Keir Corp using Municipal Financial Information Return Data 2010 - 2017

**Figure 9.11: Debt Service Coverage Ratios**



<sup>7</sup> Asset consumption ratio measures the age of a municipality's physical assets. It measures the extent to which depreciable assets have been consumed by comparing the amount the assets have been used up and their cost. The target is <50%



### 9.2.3.5 Conclusions and Observations

1. Net population growth in the study area municipalities combined between 2001 and 2016 amounted to 1,489. All of this net growth occurred in Ingersoll. The population in Zorra remained stable and there was a slight decline in South-west Oxford. Over the same time period Oxford County increased its population by 10,700 persons.
2. Housing growth over the same time frame was up 1,150 units across all three local area municipalities. Ingersoll accounted for 70% of this growth with Zorra and South-west Oxford accounting for 21% and 9% respectively. Oxford County overall experienced 7,000 units of growth over the period.

Building permits in the local area municipalities covered \$481 million of construction activity over the 2010 to 2017 period with over 50% of this value occurring in Zorra. Over the same time period the County as a whole generated building permits that covered almost \$1.9 billion of construction.

3. It is noteworthy that a huge spike occurred in building permit value in Zorra in 2014.
4. Building permit activity since 2015 has been growing in all the study area municipalities as well as for the County overall.
5. The principal source of building permit value in the Zorra and South-west Oxford is non residential while the opposite is true for Ingersoll.
6. For the study area municipalities taxation is the dominant source of revenue roughly accounting for about 70% of the total. At the County level taxation, government transfers and taxation account for shares of the total in the 30 to 40% range.
7. Revenue growth in all study area municipalities and the County has been relatively flat since 2014. A trough occurred in all the municipalities and County in 2011.
8. The operating surplus ratios for each of the local study area municipalities are in positive territory and offer no reason for concern.
9. All of the local study areas have healthy debt service coverage ratios. Zorra did run at the threshold in the past but is now at a more comfortable level. Southwest Oxford and Ingersoll are well above the threshold level.
10. With one exception the financial ratios including the two above indicate that the study area municipalities are not confronting financial difficulties. The one slight matter of note is in the case of South-west Oxford where its asset consumption ratio is slightly above the desired threshold.

## 9.3 Future Baseline Conditions

### 9.3.1 Business and Economy

#### 9.3.1.1 Labour Force and Occupations

In the near term, the trends and patterns discussed previously for the labour force and occupations will persist. Skilled labour is in very tight supply in Oxford County and there is no indication that this shortage will be resolved in the near term. Skilled labour will continue to be recruited from both the Kitchener/Waterloo area and the Greater Toronto Area.

Toyota Motor Manufacturing Canada formally announced a \$1.4 billion investment in its Woodstock and Cambridge plants to build the new hybrid RAV4 vehicle with work shared between its Cambridge and Woodstock plants. The company currently employs 8,000 personnel and this expansion will add another 450 jobs (<https://www.cbc.ca/news/business/toyota-cambridge-trudeau-wynne-1.4649155>)

In addition to the Toyota expansion, Maple Leaf Foods announced their intention to build a new \$600 million, 60,000 m<sup>2</sup> poultry processing plant in London. Scheduled to come on stream in 2021 this plant will employ 1,400 workers. The Toyota and the Maple Leaf plants respectively located on the east and west peripheries of the study area will draw hard on the study area labour force. As noted in the previous section a substantial portion of the local area labour force commute to jobs in other municipalities. Ingersoll in particular provides a significant dormitory function for workers employed beyond its borders.

Hemson (2019) project that employment growth in the County will continue from the 2016 base to their forecast horizon year of 2046. They expect that 21,100 jobs will be added to achieve a total employment base of approximately 78,400. The table that follows sets out the projections for the study area municipalities and the County.

**Table 9.14: Projected Employment Growth (2016 to 2046)**

		2016	2021	2026	2031	2036	2041	2046	Growth
Local Area Municipalities	Zorra	2,800	2,890	2,920	2,960	3,010	3,080	3,150	350
	South-west Oxford	2,850	2,920	2,960	2,990	3,040	3,090	3,150	300
	Ingersoll	8,990	9,710	10,080	10,470	10,950	11,510	12,150	3,160
	Total Local Area	14,640	15,520	15,960	16,420	17,000	17,680	18,450	3,810
Oxford County	57,320	62,080	64,570	67,160	70,390	74,130	78,390	21,070	

Source: Hemson, 2019

Watson (2014) in their study on County employment lands noted that they expected all major sectors to experience growth driven by new job creation in auto-manufacturing, warehousing and transportation, agribusiness, retail trade and business services. They saw strong growth for

industry jobs and commercial jobs. Conversely, they conjectured that there would be little growth in agriculture and resource-based employment going forward.

New technologies, robotics and artificial intelligence (AI) are almost certain to play a major role and drive change in the employment picture in the County beyond 2030. McKinsey (2017) published a document on AI and predicted by 2036 that almost one half of all routine jobs worldwide could be automated. They concluded that manufacturing jobs are among those most susceptible to these new technologies.

In the same year, the Brookfield Institute (2017) published a national study on the concentration of occupations that might be most vulnerable to automation. Accommodation and food services, manufacturing, transportation and warehousing, agriculture and mining and quarrying were their top five candidates. All of these are strong occupational categories in the study area and the Brookfield study identified Ingersoll and Woodstock as two of the urban the municipalities in Canada most susceptible to job change and as a result of automation.

Beyond the urban areas, agriculture is also undergoing change. The family farm is disappearing at a rapid rate throughout Southern Ontario. Large field crop operators continue to buy up and rent vast swaths of agricultural land. Animal based agricultural operations particularly those involving dairy, pigs and poultry are also dramatically ramping up their scale and absorbing smaller operations. Robotic technologies loom large in agriculture. Big dairy operations rely on robotics to milk and feed their cattle, unmanned tractors and combines are entering the field and overhead drones are now widely employed to do crop surveillance. Big farm operations are hugely capital intensive, but they are not labour intensive. The number of jobs in conventional agricultural activities will continue to fall. On the other hand, the job market for agricultural technology is wide open. Graduates specializing in agricultural automation and information management are now in very strong demand.

### **9.3.2 Real Estate and Property Values**

Ongoing population, housing and employment growth is forecast for the study area municipalities and the County as a whole. All of these parameters will likely continue to act in concert to stimulate the local real estate market and property values.

As discussed previously there are a variety of demographic and economic conditions that are contributing to the buoyant real estate conditions. Key among these is the fact that the area has a very strong job market. Employment projections tabled in the previous section (Business and Economy) point to a potential increase of approximately 4,000 jobs in the local area as well as 21,000 jobs for the County as a whole.

Recent investments by Toyota and Maple Leaf foods are strong expressions of confidence in the future economic prosperity of Oxford County and its immediate neighbours. Job growth and strong wages give people the need and the means to invest in housing.

The other key trend that was identified as a catalyst to the local real estate market and associated rise in housing values was the out migration from the GTA to communities throughout southwestern Ontario particularly along the Highway 401 corridor.

Population forecasts generated by the Ontario Ministry of Finance from 2017 to 2041 predict 33% growth in the GTA population a 27% rise in population in South Central Ontario. These statistics indicate that the population pressures that are at play in the local study area real estate market at the present time will continue for the foreseeable future.

### 9.3.3 Municipal Finance

There will be future population and housing growth in Oxford County and this will drive up municipal costs and revenues. At the present time the County population is approximately 114,000. Hemson (2019) prepared a series of forecasts on both population and housing. They see the County population growing by close to 47,000 persons out to 2046. Their growth projection for the study area municipalities in combination to the same horizon year is 9,060. Table 9.15 sets out the forecast.

**Table 9.15: Projected Population Growth (2016 – 2046)**

		2016	2021	2026	2031	2036	2041	2046	Growth
Local Area Municipalities	Zorra	8,360	8,740	8,990	9,250	9,530	9,830	10,120	1,760
	South-west Oxford	7,880	8,140	8,380	8,650	8,910	9,120	9,330	1,450
	Ingersoll	13,110	14,240	15,130	16,090	17,070	18,030	18,960	5,850
Total Local Area		29,350	31,120	32,500	33,990	35,510	36,980	38,410	9,060
Oxford County		113,940	122,890	130,300	138,100	146,060	153,680	161,060	47,120

Source: Hemson, 2019

In association with population growth, housing stock in the local area municipalities and County is also expected to grow. Within the local area municipalities in combination approximately 3,400 units will be added to the existing housing stock over the forecast period. Of this number two thirds will be located in Ingersoll while Zorra and South-west Oxford are expected to account for roughly 19% and 15% respectively.

Housing Growth in Oxford County over the 2016 to 2046 timeframe is projected to be in the order of 18,300 units. Table 9.16 presents the growth projections.

**Table 9.16: Projected Housing Growth (2016 – 2046)**

		2016	2021	2026	2031	2036	2041	2046	Growth
Local Area Municipalities	Zorra	3,070	3,240	3,340	3,440	3,530	3,620	3,710	640
	South-west Oxford	2,700	2,810	2,900	2,990	3,080	3,150	3,220	520
	Ingersoll	5,080	5,580	5,950	6,320	6,690	7,020	7,330	2,250
	Total Local Area	10,850	11,630	12,190	12,750	13,300	13,790	14,260	3,410
Oxford County		44,280	48,230	51,330	54,410	57,430	60,070	62,600	18,320

Source: Hemson, 2019

Population and housing growth will have implications for municipal revenues and operating expenses. The per household revenues and operating expenses set out in Table 9.17 are sourced from the 2017 municipal financial information returns.

**Table 9.17: Per Household Revenue and Expense Factors (2017)**

		New Housholds	2017 Revenue per Household	2017 Operating Expenses per Household	Projected Revenue Growth	Projected Operating Expense Growth
Local Area Municipalities	Zorra	640	\$ 3,144	\$ 2,554	\$ 2,012,160	\$ 1,634,560
	South-west Oxford	520	\$ 2,401	\$ 2,187	\$ 1,248,520	\$ 1,137,240
	Ingersoll	2,250	\$ 3,536	\$ 2,940	\$ 7,956,000	\$ 6,615,000
	Total Local Area	3,410	\$ 3,289	\$ 2,753	\$ 11,216,680	\$ 9,386,800
Oxford County		18,320	\$ 4,106	\$ 3,399	\$ 75,221,920	\$ 62,269,680

Source: Keir Corp using Hemson household projections 2018 and FIR data 2017

Per household revenue and operating expenditures as a result of new household creation are projected to be in the order of the figures presented in Table 9.17. The per household revenues and operating expenses set out in the table are drawn from 2017 municipal financial information returns.

### 9.3.3.1 Conclusions and Observations

1. Employment growth is forecast for the local study area municipalities and County of Oxford out to 2041. On an annualized basis, job growth is projected to be in the order of 125 jobs per year in the study area municipalities combined and approximately 700 jobs per year for the County as a whole.
2. Both Toyota and Maple Leaf foods have made big investment commitments to operations in Oxford County and the surrounding region.
3. While continued job growth is forecast for manufacturing activities, very little job growth is expected in agriculture and quarrying going forward.
4. In the longer-term future, robotics and AI may come to play increasingly strong roles in business activities particularly in the manufacturing and agricultural sectors.

5. The demographic and economic forces that are driving buoyancy in the local real estate market and pushing up property values do not look to abate.
6. A strong economy contributes to job and income growth which in turn have a positive influence on the real estate market.
7. These economic conditions coupled with population in-migration along the Highway 401 corridor from the GTA show no signs of decreasing.
8. Housing growth fueled by population and job increases will generate both revenues and expenditure for the municipalities in the local study area and the County as a whole.

## 10. Evaluation of the Proposed Landfill

Section 6.1 (2)(c) and (d) of the Act, and the ToR, require an evaluation of:

- The effects that will be caused on the environment;
- The actions necessary to prevent, change, mitigate or remedy the effects on the environment;
- An evaluation of the advantages and disadvantages (net effects) to the environment.

This section presents the assessment of these matters as it relates to **the Economic and Financial Assessment** and for each of the EA criteria related to this study.

### 10.1 Economic Impacts of Facility Construction and Operation

The projected capital cost of the landfill is estimated at \$218 million. With the exception of some initial one-time construction activities, capital expenditures will be incurred over a 22 - year period (2021 to 2042).

It is estimated that roughly 95% of the capital expenditures will be made in Ontario with the balance coming from outside the Province. Approximately \$148 million in capital expenditures will be made in the Wider Area<sup>8</sup> and another \$60 million will be expended in the rest of Ontario.

Walker plans to subcontract for the labour and equipment requirements for the landfill construction activities.

Walker's landfill operating expenditures are expected to be in the order of \$280 million. This sum reflects an ongoing requirement for labour, supplies and equipment as well as royalties, marketing and operations management costs and will be incurred over the life of the landfill.

All of the operating expenditures are projected to be made in Ontario. It is estimated that approximately 86% of these expenditure (\$240 million) will be spent in the wider area with the remaining 14% (\$37 million) expended in the rest of Ontario.

The capital and operating cost budget information provided by Walker was formatted and submitted to Statistics Canada for the development of industry sector production functions and the subsequent calibration and running of the Agency's Inter-provincial Input / Output (I/O) Model. The model runs generated a series of economic outputs, which are described in further detail in section 10.3.

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<sup>8</sup> In this context, the Wider Area defined as an area roughly within 1-hour drive time of site

## **10.2 Summary of Other Environmental Effects Relevant to the Economic and Financial Environment**

This section looks at the relevant conclusions from other disciplines as they might pertain to the economic and financial environment. Potential nuisance effects for odour, noise and visual are further documented in a series of tables using receptor locations.

### **10.2.1 Effect Summaries for Study Disciplines**

#### **Agriculture**

No farms will be displaced and no farm business losses associated with farm market infrastructure or operational impacts associated with the landfill are anticipated.

#### **Air Quality**

Air emissions from all landfill sources (and landfill traffic), will not exceed provincial air quality standards at any off-site residence, business or public facility.

Dustfall or accumulation is not expected to be a significant issue.

Odours at most off-site residences within 5 km of the site would remain within the provincial guideline. The exceptions are a few residents immediately west of the landfill site, and as a result further mitigation has been recommended.

#### **Archaeology**

There are no effects noted by the archeology discipline that have economic or financial implications.

#### **Cultural Heritage**

There are no effects noted by the cultural heritage discipline that have economic or financial implications.

#### **Ecology**

There are no effects noted by the ecology discipline that have economic or financial implications.

#### **Groundwater/Surface Water**

There are no off-site effects projected for groundwater or surface water as a result of building and operating the proposed landfill.

#### **Human Health**

No health risks were identified that have economic implications.

#### **Land Use**

There are no effects noted by the land use discipline that have economic or financial implications.

#### **Noise/Vibration**

Noise from the landfill operations and traffic will not be significant at off-site locations. The only potential effect that has been identified is at the closest residence immediately southwest of the landfill during a portion of the Stage 3 landfill operation. As a result, a sound barrier has been recommended near this location for further mitigation.

The landfill operations are not expected to be a significant source of offsite vibrations.



**Social**

In the social report public attitude research revealed that area residents have concerns about the proposed facility and its potential effects on property values. The same study also notes however that over time, provided anticipatory fears around landfill impacts are not realized and there are no measureable effects on property values there is evidence that residents may positively reappraise their initial fears and opposition to the facility.

**Traffic**

There are no effects noted by the transportation discipline that indicate there will be significant economic or financial effects on local businesses. The increase in traffic on County Road 6 is well within the carrying capacity of the roadway.

**Visual Landscape**

The visual effects of the proposed landfill are minor with the exception of two residence and for these mitigation via landscape screening / berming will be required.

**10.2.2 Nuisance Effects by Receptor Points**

The following series of three tables respectively set out the effects at key receptor points for various nuisance effects under baseline conditions, future conditions without the landfill and future conditions with the landfill.

In general potential offsite nuisance effects to residences and businesses with the landfill present are quite limited. The residence most susceptible to impact is ZOR-11 which has some exposure to odour, noise and visual. Of the three effects odour and would require mitigation to reduce impact. Noise effects at his residence are minor and within regulatory threshold limits.

Businesses that might be affected by nuisance effects are located at the intersection of County Road 6 and Beachville Road. Traffic levels and associated noise and particulate levels would see some increase but again the traffic increase on Road is within the traffic level guidelines for the road and the particulate levels and noise effects are within accepted guideline thresholds.

**Table 10.1: Nuisance Effects Under Baseline Conditions**

Sources of Nuisance Effects	Description of Impacts
Odour	<ul style="list-style-type: none"> <li>➤ Odours are associated entirely with the SWLF site.</li> <li>➤ Currently, no odours have been detected at the assessed receptors, as the landfill does not exist.</li> </ul>
Particulate Matter (PM <sub>2.5</sub> , PM <sub>10</sub> and TSP) and Dust	<ul style="list-style-type: none"> <li>➤ Particulate matter and dust levels are caused by sources which include not only the proposed landfill but non-landfill sources as well. Sources of PM and dust emissions from Carmeuse quarry include:               <ul style="list-style-type: none"> <li>• On-site quarry vehicle traffic;</li> <li>• Material handling;</li> <li>• Crushing, screening, loading;</li> <li>• Blasting;</li> <li>• Wind erosion from storage piles;</li> <li>• Kiln activities; and,</li> <li>• Carmeuse and background traffic along the off-site haul route.</li> </ul> </li> <li>➤ Receptors ZOR-15, ZOR-16, SWO-4, SWO-18, SWO-19 are experiencing particulate matter (maximum diameter of 30 micrometers) concentrations above the criteria, largely due to background traffic.               <ul style="list-style-type: none"> <li>• SWO-4 is a residential receptor and is located at the intersection of County Road 6 and Beachville Road. Residences are located in the south and western corners of the intersection, as well as along Beachville road, south of the intersection.</li> </ul> </li> </ul>
Continuous (Stationary) Noise	<ul style="list-style-type: none"> <li>➤ Noise from existing continuous (stationary) sources at the quarry are in compliance with the Provincial sound level limits at the assessed receptors (all located within 5 km of the project site).</li> </ul>
Impulsive Noise	<ul style="list-style-type: none"> <li>➤ Frequent, impulsive noise sources are not associated with regular quarry operations.</li> <li>➤ There are no existing impulsive noises (non-landfill or landfill related) at the assessed receptors.</li> </ul>
Traffic Noise	<ul style="list-style-type: none"> <li>➤ The highest noise impacts from existing rural automobile traffic are at receptors located along Country Road 6 (SWO-19, SWO-18, SWO-4, ZOR-4).</li> </ul>
Traffic	<ul style="list-style-type: none"> <li>➤ In the existing condition, intersection movements along Country Road 6 operate at levels acceptable to the Ministry of Transportation.</li> </ul>
Visual	<ul style="list-style-type: none"> <li>➤ No minor or negative visual impacts are associated with the baseline condition, as the landfill does not exist.</li> </ul>

**Table 10.2: Future Nuisance Effects Without the Landfill**

Sources of Nuisance Effects	Description of Impacts
Odour	<ul style="list-style-type: none"> <li>➤ Odours are associated entirely with the SWLF site.</li> <li>➤ Odours are not expected at the assessed receptors in the future scenario without the landfill.</li> </ul>
Particulate Matter (PM <sub>2.5</sub> , PM <sub>10</sub> and TSP) and Dust	<ul style="list-style-type: none"> <li>➤ Particulate matter and dust levels are caused by sources which include not only the proposed landfill but non-landfill sources as well. Sources of PM and dust emissions from Carmeuse quarry include:               <ul style="list-style-type: none"> <li>• On-site quarry vehicle traffic;</li> <li>• Material handling;</li> <li>• Crushing, screening, loading;</li> <li>• Blasting;</li> <li>• Wind erosion from storage piles;</li> <li>• Kiln activities; and,</li> <li>• Carmeuse and background traffic along the off-site haul route.</li> </ul> </li> <li>➤ Receptors ZOR-11, ZOR-14, ZOR-15, ZOR-17, ZOR-18, SWO-3, and SWO-4 are predicted to experience future particulate matter (maximum diameter of 30 micrometers) concentrations above the criteria, largely due to background traffic.               <ul style="list-style-type: none"> <li>• SWO-4 is a residential receptor and is located at the intersection of County Road 6 and Beachville Road. Residences are located in the south and western corners of the intersection, as well as along Beachville road, south of the intersection.</li> </ul> </li> <li>➤ ZOR-15 (non-residential receptor) is also predicted to experience levels of dust fall above the criteria, due to non-landfill dust emission sources.</li> </ul>
Continuous (Stationary) Noise	<ul style="list-style-type: none"> <li>➤ Since noise from existing continuous (stationary) sources at the quarry are in compliance with the Provincial sound level limits, it is assumed that these sound levels would be met in the future scenario as well, without the landfill.</li> </ul>
Impulsive Noise	<ul style="list-style-type: none"> <li>➤ Frequent, impulsive noise sources are not associated with regular quarry operations</li> <li>➤ It is assumed that there are no impulsive noises (non-landfill or landfill related) at the assessed receptors, in the future scenario without the landfill</li> </ul>
Traffic Noise	<ul style="list-style-type: none"> <li>➤ The highest noise impacts from future rural automobile traffic (not including landfill trucks) are at receptors located along County Road 6 (SWO-19, SWO-18, SWO-4, ZOR-4).</li> </ul>

Traffic	➤ Under future background conditions without the landfill, intersection movements along Country Road 6 are predicted to operate at levels acceptable to the Ministry of Transportation.
Visual	➤ There are no minor or negative visual impacts associated with the landfill, in the future scenario without the landfill.

**Table 10.3: Future Nuisance Effect With the Landfill**

Sources of Nuisance Effects	Description of Impacts
Landfill Odour	<ul style="list-style-type: none"> <li>➤ Sources of landfill related odours included in the assessment are as follows:               <ul style="list-style-type: none"> <li>• Landfill working surface;</li> <li>• Fugitive gas release during interim cover and final cover stages;</li> <li>• Waste soil storage piles;</li> <li>• Raw leachate storage pond; and</li> <li>• Leachate aeration pond.</li> </ul> </li> <li>➤ Odours are predicted to be noticeable at ZOR-11 (residence located at 623851 Rd 62/North Town Line), once mitigation measures have been put in place.               <ul style="list-style-type: none"> <li>• Mitigation measures include control technologies to reduce odours from raw leachate pond and leachate aeration pond.</li> <li>• The standard nuisance effect criterion of 1 OU is predicted to be exceeded 0.9% of the time at ZOR-11.</li> <li>• ZOR-11 is the closest receptor and agricultural operation to the project site. The receptor also represents an ecological receptor (cliff swallow colony and possible significant wildlife habitat).</li> <li>• Odour impacts at ZOR-11 are expected to be heavily influenced by landfilling operations (as opposed to emissions from leachate ponds).</li> <li>• No mitigation strategies to further reduce impacts at ZOR-11 have been proposed.</li> </ul> </li> </ul>
Particulate Matter (PM <sub>2.5</sub> , PM <sub>10</sub> and TSP) and Dust	<ul style="list-style-type: none"> <li>➤ ZOR-5, ZOR-6, ZOR-14, ZOR-16, ZOR-17, ZOR-18 are predicted to have particulate matter (maximum diameter of 30 micrometers) concentrations above the respective criteria, once the landfill is in operation. Predicted concentrations are below the respective criteria for baseline and future scenarios without the landfill.               <ul style="list-style-type: none"> <li>• Of the receptors listed above, ZOR-5 and ZOR-6 are the only residential receptors.</li> <li>• ZOR-5 and ZOR-6 are located on 33 Line, north of Road 64. A significant portion of the predicted concentrations at ZOR-5</li> </ul> </li> </ul>

- and ZOR-6 are driven by contributions from background traffic.
- ZOR-16 (non-residential receptor) is also predicted to experience dust fall concentrations above the criteria in the future, with the proposed landfill in operation. Predicted dust fall concentrations at ZOR-16 are approaching the criteria in the future scenario, without the landfill.
- ZOR-15 is predicted to experience dust fall concentrations above the criteria in the future, with or without the landfill.
  - ZOR-3 and ZOR-11 are predicted to have particulate matter (maximum diameter of 30 micrometers) concentrations above criteria in the future scenarios, with and without the landfill. Concentrations are largely driven by background traffic. Predicted concentrations are below the respective criteria for the baseline condition.
  - ZOR-15, ZOR-16, SWO-4, SWO-18, SWO-19 are predicted to have particulate matter (maximum size of 30 micrometers) concentrations above criteria in baseline and future scenarios, with and without the landfill.
    - SWO-4 is a residential receptor. For SWO-4, the landfill contribution is predicted to increase the frequency of exceedances of criteria by 1%.
  - ZOR-17 (non-residential receptor) is predicted to experience the greatest increase in particulate matter (maximum diameter of 30 micrometers) concentrations due to operation of the landfill.
    - Future concentrations are predicted to be 105% of the criteria without the landfill, and 206% of the criteria with the landfill.
- Landfill Impulsive Noise
- Impulsive noise sources within the proposed landfill site include pest control devices
  - Impulsive noises are reflective of short bangs that dissipate quickly and are not continuous in nature.
  - Landfill-related impulsive noise is not predicted to be noticeable at any assessed receptor locations.
    - The assessed receptors are all located within 5 km of the project site.
- Change in Sound Levels due to Landfill Traffic
- The change in sound levels due to landfill related traffic on public roads is not expected to be detectable at any of the assessed receptors.
    - The assessed receptors are all located within 5 km of the project site.
- Cumulative Noise
- A cumulative effects approach was used to assess the amount of change in noise levels at receptors within 5 km of the project site
  - Existing noise levels (quarry operations and traffic) were compared to expected future noise levels (landfill operations, construction activities, on-site and off-site truck traffic)
  - Changes from existing sound level to future sound level with the landfill have the potential to be detectable at ZOR-11 (closest residence to landfill, located at 623851 Rd 62/North Town Line).

## Landfill Traffic

- A detectable change in sound levels is predicted for Stage 3 of the landfill
- Barrier or berm of 11 m has been proposed as a mitigative strategy, as the predicted cumulative sound levels for Stage 3 do not comply with the Provincial guidelines
- The haul route for the proposed landfill is located along County Road 6 (CR6)
- The total amount of traffic on CR 6 due to the proposed landfill represents a 5% incremental impact on the existing transportation network
  - 5% increase in traffic would likely correlate to 5% increase in collisions
  - Receptors along CR 6 include SWO-18, SWO-19, SWO-4, ZOR-4; of these receptors, SWO-4 represents an agricultural area.
  - Recommended mitigation to reduce traffic collisions includes adequate signage placed on CR 6 to advise of the new private landfill access road
  - Recommended mitigation also includes extending the second northbound lane on CR 6, allowing northbound vehicles to merge after the proposed landfill entrance. SWO-4 is the
- Proposed landfill will have a relatively small impact on receptors along CR 6 (SWO-18, SWO-19, SWO-4, ZOR-4)
  - SWO-4 represents an agricultural area and is the closest receptor to the location of the proposed landfill access road
- Increase in heavy vehicles (landfill trucks) could contribute to limited cracking and rutting on the road surface, affecting vehicular traffic along CR 6 and vehicles frequently travelling to the agricultural area at SWO-4.
- A relatively minor impact to local traffic networks due to the proposed landfill is expected between the future non-landfill and future landfill scenario.
  - SWO-4 is the receptor with the highest predicted change in local traffic networks.
- The following impacts would affect receptors along CR 6 (SWO-18, SWO-19, SWO-4, ZOR-4):
  - Proposed landfill trucks will not increase the frequency of single motor vehicle collisions along CR 6.
  - Potential for more heavy vehicle-related collisions to occur at intersections of CR 6 due to increase of heavy vehicles in the study area.
  - Proposed landfill will not worsen future background traffic conditions, with respect to intersection movements.
- Future intersection movements at SWO-4 (intersection of CR 6 and Beachville Road) without the proposed landfill would continue to operate at levels acceptable by MTO

## Non-Landfill Traffic

Visual

- 10 receptors have been identified to have potential views of the subject lands.
  - 5 of these receptors are residential and are located within > 1 km of the site (SWO-10, 12, 14, 15 16).
  - 3 of these receptors are residential and are located within 650 m to 989 m of the site (SWO-10, 12, 14, 15 16).
  - ZOR-10 (residential) has a potential view but with minor visual impacts
  - ZOR-11 (closest residential receptor to landfill) is predicted to have minor negative impact to views when the landfill is in operation.
  - Suggested mitigation for ZOR-10 and ZOR-11 is to add vegetation or tall berm to screen landfill from receptor.
- The proposed landfill will have no visual impact on the remaining receptors.
  - The remaining receptors are currently screened from subject lands by existing topography, vegetation, buildings, etc.

### **10.3 Project Effects on the Economic and Financial Environment**

The outputs from the economic modeling, primary data collection, secondary data review and output from other technical reports were used to understand the potential effects of the Project on the Economic and Financial Environment. These are described in this section.

#### **10.3.1 Effects on Businesses and Economy**

This section summarizes the potential project effects on:

- Local and Wider area Businesses;
- Labour Force, Employment and Income;
- Industry Sector Growth Trends;
- Labour Flows; and
- Commercial Fabric.

The EA Criteria described in this section are:

- Criterion 22 – Displacement of Businesses;
- Criterion 24 – Direct Employment;
- Criterion 25 – Indirect Employment;
- Criterion 26 – New Businesses Related Directly to Facility; and
- Criterion 27 – New Businesses in Related Industries

### 10.3.1.1 Business Displacement and Disruption

There are no businesses that will be displaced by the proposed landfill and there will be no active businesses disturbed in such a manner that they are unable to continue operations.

Carmeuse quarrying activity will be ongoing on the landfill site during landfill operations. Quarrying and landfilling will be synchronized to permit concurrent operations.

Businesses at the County Road 6 / Beachville Road intersection may experience some increased traffic and associated noise but these effects will be limited and should not hamper business operation.

Other than those effects cited above there are no effects on businesses in the vicinity of the site.

### 10.3.1.2 Effects on Labour Force, Employment and Income

Over the life of the landfill approximately 2,900 person years of employment will be created with the yearly average amounting to 133 jobs. Labour income will amount to approximately \$222 million and GDP will be in the order of \$435 million. Gross output will total close to \$809 million. Table 10.4 presents the total direct, indirect and induced statistics for these measures as well as average annual numbers.

**Table 10.4: Economic Outputs for Ontario**

	Direct		Indirect		Induced		Total	
	Total	Annual Average	Total	Annual Average	Total	Annual Average	Total	Annual Average
Output	\$ 474,716,000	\$ 21,578,000	\$ 207,642,000	\$ 9,438,273	\$ 126,630,000	\$ 5,755,909	\$ 808,988,000	\$ 36,772,182
GDP	\$ 255,461,000	\$ 11,611,864	\$ 104,856,000	\$ 4,766,182	\$ 74,363,000	\$ 3,380,136	\$ 434,680,000	\$ 19,758,182
Labour Income	\$ 120,538,000	\$ 5,479,000	\$ 66,198,000	\$ 3,009,000	\$ 34,764,000	\$ 1,580,182	\$ 221,500,000	\$ 10,068,182
FTE Jobs	1,591	72	823	37	520	24	2,934	133

Source: Keir Corp, 2018 with Statistics Canada IO data

Direct jobs will include those on site as well as associated jobs in other parts of the Walker organization. Indirect jobs are jobs associated with the supply chain of industries furnishing the landfill with goods and services over its life. Induced jobs are those created through income spending by persons holding direct and indirect jobs.

Economic outputs in the Wider Area are reflected in Table 10.5. It is expected that total person years of employment will amount to approximately 2,300 jobs or about 104 jobs per year on average over the life of the facility. Labour income in the Wider Area will amount to \$173 million, GDP \$349 million and gross output \$643 million. Similar to Table 10.4 above, Table 10.5 presents the total direct, indirect and induced statistics for these measures.



**Table 10.5: Economic Outputs for the Wider Area**

	Direct		Indirect		Induced		Total	
	Total	Annual Average	Total	Annual Average	Total	Annual Average	Total	Annual Average
Output	\$ 380,483,228	\$ 17,294,692	\$ 163,691,000	\$ 7,440,500	\$ 99,168,107	\$ 4,507,641	\$ 643,342,335	\$ 29,242,833
GDP	\$ 207,606,736	\$ 9,436,670	\$ 82,663,731	\$ 3,757,442	\$ 58,233,875	\$ 2,646,994	\$ 348,504,342	\$ 15,841,106
Labour Income	\$ 94,171,594	\$ 4,280,527	\$ 51,835,789	\$ 2,356,172	\$ 27,226,742	\$ 1,237,579	\$ 173,234,125	\$ 7,874,278
FTE Jobs	1,260	57	646	29	407	18	2,313	105

Source Keir Corp, 2018 with Statistics Canada IO data

Note: Average totals may not add precisely due to rounding

### 10.3.1.3 Effects on Industry Sector Growth Trends

The proposed landfill is not a major employer relative to some of the other projects mentioned in this report. Nevertheless it is an undertaking that will bolster the positive economic growth trends projected in the local study area, County and beyond.

It will stimulate activity in a spectrum of industry sectors, particularly in waste management services, construction and transportation and warehousing. Through income spending of direct and indirect employees it will also generate demand and business in the retail and service sectors.

### 10.3.1.4 Effects on Labour Flows

The project will place demands on the local labour supply. It is Walker's intent to attempt to contract out the construction works to local companies. Operating activities on the other hand will be largely handled by persons employed by Walker. The annual labour demands of the project in the local region amount to roughly 104 jobs. Of this number 57 direct jobs will be generated by on site activities and 29 indirect jobs will be created in companies supplying goods and services to the landfill during both construction and operation. The other 18 jobs will be created in area retail and service businesses through income spending of employees holding direct and indirect jobs.

The labour supply in Oxford County and surrounding area is very tight as was pointed out earlier in this report. Walker will need to carefully plan their direct labour requirements and undertake staffing on a planned schedule. Last minute staffing will be very difficult given the high demand for area workers and low employment rates. This will be particularly true for skilled workers.

Concomitant with the tight labour supply will be the need to offer very competitive wages. Low scale wages will not attract quality personnel. Local employment agencies and employers have all pointed out the fact that even at \$25 per hour the most basic of unskilled labour jobs cannot be filled.

### 10.3.1.5 Effects on Commercial Fabric

#### Consumer Spending

The labour income generated by the proposed landfill not only precipitates income tax flows to the Federal and Provincial governments but it also enables consumer spending. Statistics Canada data on household spending reveals the following (Table 10.6).

**Table 10.6: Distribution of Household Expenditures**

	Consumables
Food	13%
Shelter	40%
Communications	4%
Clothing	6%
Transportation	20%
Health Care	3%
Recreation	6%
Education	3%
Other	5%
Sum of Expenditures	100%

Source: Statistics Canada, 2016

Disposable income generated by the project applied against the Statistics Canada household expenditure distributions results in the following allocations of money to various consumable items in Ontario (Table 10.7).

**Table 10.7: Distribution of Project Generated Disposable Income in Ontario**

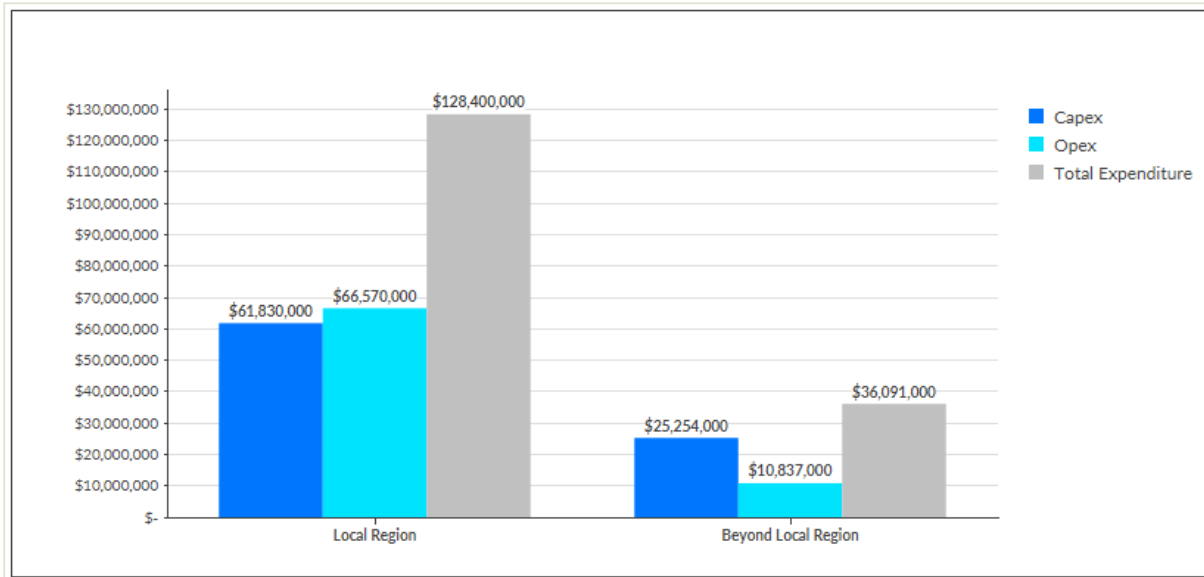
	Capex	Opex	Total Expenditure
Food	\$ 11,321,000	\$ 10,063,000	\$ 21,384,000
Shelter	\$ 34,833,000	\$ 30,964,000	\$ 65,797,000
Communications	\$ 3,484,000	\$ 3,096,000	\$ 6,580,000
Clothing	\$ 5,225,000	\$ 4,644,000	\$ 9,869,000
Transportation	\$ 17,417,000	\$ 15,482,000	\$ 32,899,000
Health Care	\$ 2,613,000	\$ 2,322,000	\$ 4,935,000
Recreation	\$ 5,225,000	\$ 4,644,000	\$ 9,869,000
Education	\$ 2,613,000	\$ 2,322,000	\$ 4,935,000
Other	\$ 4,353,000	\$ 3,870,000	\$ 8,223,000
Sum of Expenditures	\$ 87,084,000	\$ 77,407,000	\$ 164,491,000

Source: Keir Corp with Statistics Canada data 2016

Assuming that the geographic distribution of household spending mirrors the project expenditures then approximately \$128 million will be spent in the Local Region with the remaining balance of

\$36 million expended in other parts of Ontario. The graph (Figure 10.1) following shows the distribution of income spending associated with capital and operating expenditures.

**Figure 10.1: Geographic Distribution of Income Spending**



Source: Keir Corp 2019

The bulk of income spending (approximately 77%) will occur in the local region with a fairly balanced division of expenditures between income generated by construction and operating activities. Roughly 23% of income spending will occur outside the local region with an approximate two thirds one third division between expenditures respectively affiliated with construction and operating incomes.

### 10.3.1.6 Summary of Effects on Businesses and Economy

1. No businesses will be displaced by the proposed landfill. There will be some modest traffic increase and associated noise in the vicinity of the County Road 6 / Beachville Road lintersection but these effects will not limit businesss operations.
2. The projected capital cost of the landfill is \$218 million and roughly 95% of the associated expenditures will be made in Ontario.
3. Of the monies expended in Ontario approximately \$148 million will be made in the wider area, within approximately one hour drive from the project site.
4. Operating expenditures are projected to total \$277 million with 86% of these expenditures (\$240 million) being made in the wider area and the balance (\$37 million) being made in the rest of Ontario.

5. Over the life of the landfill approximately 2,900 person years of employment will be created with the yearly average summing to 133 jobs.
6. Labour income will total \$222 million, GDP \$435 million and gross output \$809 million.
7. Within the local region person years of employment created is expected to be 2,300 with an average annual job count of approximately 105.
8. Labour income, GDP and gross output figures projected for the local region are respectively estimated to be \$173 million, \$349 million and \$643 million.
9. Labour income generated by the project over its life will enable household spending.
10. It is estimated that \$128 million in household expenditures will be made in the local region with another \$36 million expended in other parts of Ontario.

### **10.3.2 Effects on Real Estate and Property Values**

A number of EA studies and technical documents were reviewed to provide background into the potential effects of landfills on surrounding property values. After consideration of the different approaches and their various strengths and weaknesses a multi-faceted approach was utilized for the study at hand. These included:

1. MPAC Market Trend Reports;
2. Canadian Real Estate Association Home Sale Statistics;
3. Current Area Real Estate Sales and Historic Price Profiles;
4. Interviews with local Real Estate Agents and a Home Builder; and
5. Literature Review.

The EA Criterion described in this section is:

- Criterion 23 – Property Value Impacts

#### **10.3.2.1 Municipal Property Assessment Corporation (MPAC)**

MPAC is a not for profit organization accountable to the Province and funded by all Ontario Municipalities. The Corporation's role is to assess all properties in the Province in compliance with the Assessment Act and regulations set by the Ontario Government. The Corporation's assessors are trained experts in the field of valuation and consistently apply appraisal industry standards and best practices.

From their website, MPAC indicates that in all market areas across the Province, approximately 85% of the current value of a property can be attributed to the following five characteristics:

- Location;
- Living area;
- Construction quality;

- Age; and
- Land (lot size or frontage and depth).

In discussion with MPAC it was learned that they have not undertaken any specific case studies on residential properties around landfills either existing or proposed. However, in these same discussion MPAC suggested that nearness to a quarry and landfill could have some influence on residential property values through the locational characteristic and also through considerations of proximity and abutment. To this end, the most recent (2017) MPAC Residential Market Trends Reports were examined for Zorra, South-west Oxford and Ingersoll to determine whether neighbourhood residential assessment values in proximity to the proposed facility have shown signs of decline given the Walker's public announcement in 2012 of their intention to seek approval for building and operating a landfill on the Carneuse property.

In all cases the opposite was observed. In the most recent projection available, MPAC forecast a rise in assessment values from 2016 to 2017 (and therefore property value increases) in all neighbourhoods surrounding the proposed facility. The relevant maps showing the projections are set out in Appendix G.

#### **10.3.2.2 Canadian Real Estate Association (CREA)**

Current CREA statistics were obtained for the Woodstock / Ingersoll market area. These statistics were tabulated and graphed to show real estate trends in the market area for the period 2000 to 2018. The focus of this study was two-fold. One, to discern the general trends and two, to see if there were any indications of a pricing downturn in the Ingersoll market area from 2012 forward.

The data analysis permits several immediate observations. These include:

- 1 Woodstock is the dominant market with number of home sales consistently more than double those in Ingersoll.
- 2 Median and average home sales have been continuously rising in both market areas.
- 3 Median and average home prices in Woodstock have been increasing at a faster rate than in Ingersoll since 2007 with a widening gap since 2011.
- 4 The days on market for home sales is precipitously declining in both market areas with the steepest decline in Ingersoll.

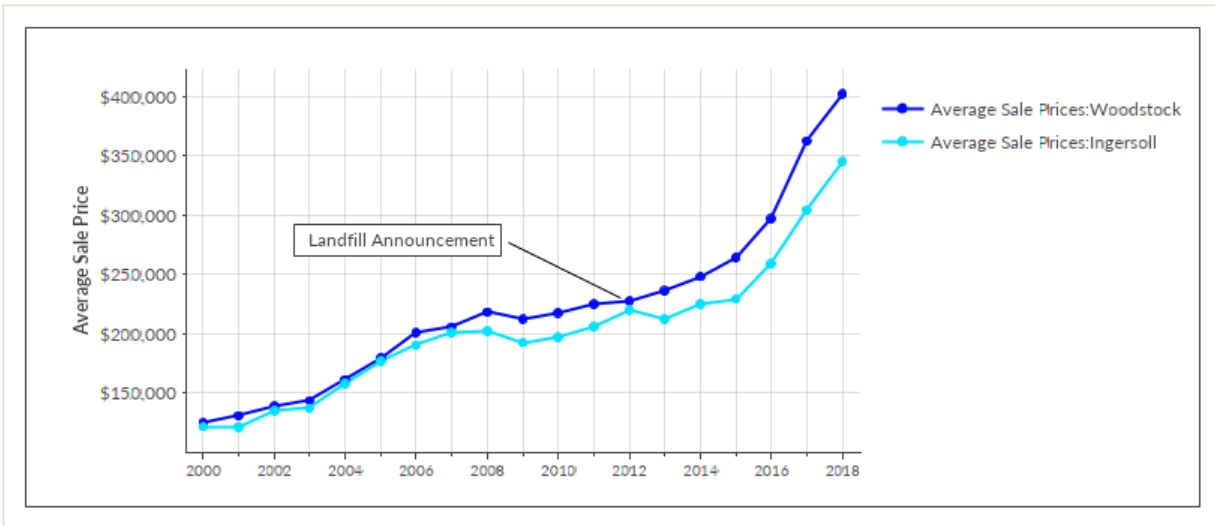
The data indicate that Woodstock / Ingersoll real estate market is a strong "sellers' market". There is robust demand, a rapidly the shrinking supply of homes, a steep decline for days on market and an aggressive rise in sale prices.

Over the 2000 to 2018 period the compound annual growth rates for detached home sale prices in Woodstock and Ingersoll were respectively 6.7% and 5.8%. Over the 2012 to 2018 period (i.e. post landfill announcement) the corresponding statistics climbed to 10.0% and 7.8%.

Careful examination of price curves for the two communities in the latter period reveals that there was a slight dip in house price growth after 2012 but then a full recovery and rapid increase thereafter. A shallower dip in home price growth occurred in Woodstock in 2011 but then full recovery took place by 2012 and also strong growth was observed thereafter. Figures 10.2 and 10.3 show the trends.

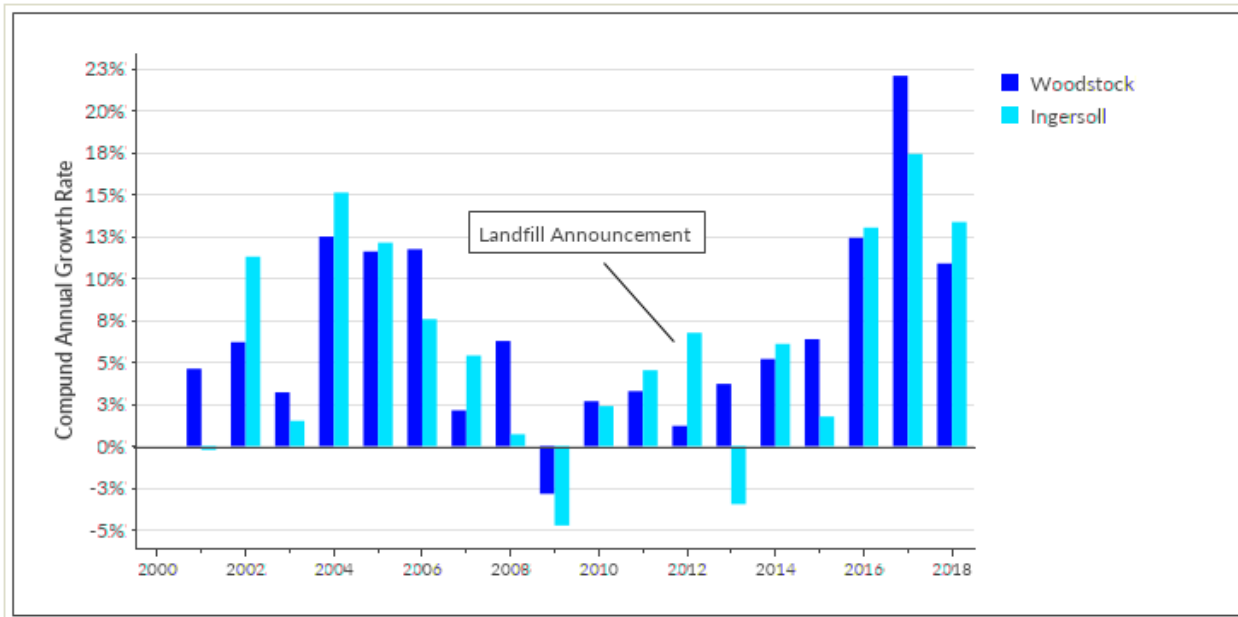
No data were available to indicate the reason for the sale price dip in 2013 in Ingersoll and whether it was in part attributable to the landfill announcement. If it was in part attributable to the landfill announcement the price growth deflection was less than 4% with more than full recovery within one year and then steep growth in the years following.

**Figure 10.2: Average Sale Price of Detached Home Sale Prices (2000 to 2018)**



Source: Keir Corp with CREA Data, 2019

**Figure 10.3: Compound Annual Growth Rates in Housing Prices (2000 to 2018)**



Source: Keir Corp with CREA Data, 2019

### 10.3.2.3 Current Real Estate Sales and Sales History

Home sales during the year 2018 in Woodstock and the local study area were noted using Teranet’s Geowarehouse. Approximately 580 homes were profiled in Woodstock and roughly 300 homes were profiled in the local study area. As indicated in Section 9.2.2.7, Woodstock was used as a control community to help identify any irregular price trends in the local study area housing market.

While Woodstock was studied as a whole, the local study area was broken into 8 geographies. Ingersoll itself was divided into 4 quadrants and then the area east of Ingersoll including Beachville and Dorland formed the 5<sup>th</sup> and 6<sup>th</sup> zones and the surrounding rural area of Zorra and other South-west Oxford formed the 7<sup>th</sup> and 8<sup>th</sup> zones,

Year 2018 sales and the corresponding sales history of properties were recorded using *Teranet’s GeoWarehouse program*. The sales data collected includes public and private sales including for sale by owners (FSBOs). Current and historic sales data were entered into a purpose-built model and regression analyses were performed on the data sets for each of the geographies to establish price trends.

The number of single family detached homes sold in 2018 and then traced back to record their sale histories amounted to 295 in the local study area and 582 in the City of Woodstock. Over the

2000 to 2018 period the number of sales transactions for these properties amounted to 614 in the local study area and 1,294 in the City of Woodstock. Table 10.8 provides the breakdown by area.

**Table 10.8: Properties Investigated and Associated Sales Transactions (2000-2018)**

		# of Properties Investigated	# of Sales Transactions Recorded
Local Study Area	Southwest Ingersoll	39	87
	Southeast Ingersoll	130	253
	Northwest Ingersoll	56	136
	Northeast Ingersoll	41	91
	Zorra	4	5
	Other South-west Oxford	7	12
	Dorland	9	16
	Beachville	9	14
	Sum of Local Study Area	295	614
Woodstock	582	1,294	
Sum of Area	877	1,908	

Source: Keir Corp, 2019

The regression analyses reveal steady growth trends in sale prices for all areas. The northeast and southeast Ingersoll quadrants, which have closest proximity to the proposed landfill, show increasing price growth throughout the 2000 to 2018 timeframe.

The trends identified through this methodology correlate well with the trends evidenced through analysis of the CREA data. Woodstock home sale prices have steadily ramped upward at a rate that aligns closely with the southeast Ingersoll quadrant and more aggressive than those found in the northeast, northwest and southwest Ingersoll quadrants. Correspondingly, Beachville area properties and those in Zorra and other South-west Oxford because of their unique large lot sizes, commanded premium prices that continue to climb.

Table 10.9 sets out the trend line compound annual growth rates for detached home sale prices in the local study area zones and the City of Woodstock over the 2000 to 2018 period.

**Table 10.9: Compound Annual Growth Rates of Home Sale Prices for Selected Properties (2000-2018)**

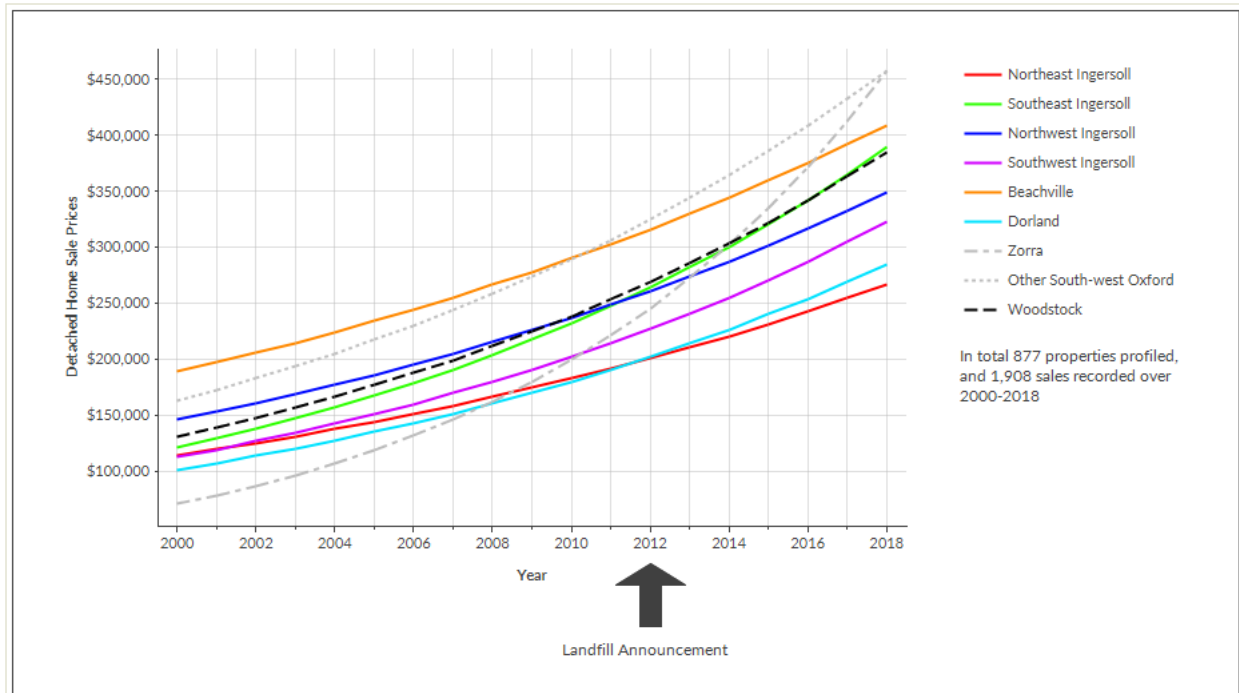
	CAGR
Northeast Ingersoll	4.83%
Southeast Ingersoll	6.70%
Northwest Ingersoll	4.96%
Southwest Ingersoll	6.02%
Beachville	4.39%
Dorland	5.92%
Zorra	10.91%
Other South-west Oxford	5.90%
Woodstock	6.17%

Source: Keir Corp, 2019



Figure 10.4 sets out the exponential sale price trend lines for all of the geographies studied.

**Figure 10.4: Exponential Trendlines for Detached Home Sale Prices in the Local Study Area and City of Woodstock**



Source: Keir Corp, 2019; Teranet 2019

### 10.3.2.4 Local Resident Questionnaire and Public Attitude Research

SLR administered questionnaires to households in the Site Vicinity Study Area as defined in the Social Assessment Work Plan (2017). A total of 1,321 completed questionnaires were tabulated and analysed by Intellipulse (2019).

In the Local Resident Questionnaire, of those respondents that stated the proposal itself has already affected the community, approximately 9% cited property values as one of those effects. Similarly, of those residents that stated the landfill might affect their use and enjoyment of property in the future, about 10% of those respondents cited decreased property values as a potential reason.

Approximately 6% of respondents who stated that the landfill might affect their home-based business also cited decreased property values as an area of concern. Approximately 15% of respondents who stated that the landfill might affect their commercial farming operation cited decreased property values as an issue.

These responses suggest that property values are an area of concern among Site Vicinity Study Area residents. Measureable and unmitigated environmental effects (e.g., noise, dust, odour, traffic) will likely exacerbate this concern. However, should the project mitigate any adverse nuisance effects, this concern may decrease over time.

Intellipulse (2017) also conducted Public Attitude Research with 1,066 residents in the Wider Study Area (Oxford County) for the Social Impact Assessment and SLR Consulting. When asked if the proposed landfill had an effect on the community, 46% of respondents replied yes. Of those that said yes (n=433), decreased property value was cited as a noticeable effect by 9% (n=39). Residents were also asked if the presence of an operating landfill would have an effect on the community, for which 72% (n=678) stated yes. Of those responses, decreased property value was cited by 10% (n=68) as an anticipated effect.

These results indicate that some residents in both the Site Vicinity and Wider Study Area perceive the Project to have the potential for decreasing property values.

#### **10.3.2.5 Real Estate Professionals and Home Builder**

During the course of investigations we were able to speak with three individuals involved with real estate sales as well as one home builder in the local study area. The real estate representatives indicated that the current market is exceptionally strong. First time buyers and retirees are moving into the area from the GTA and this trend is expected continue. Home sale prices have continued to rise rapidly.

It was pointed out that most home buyers have little concern with the quarry operations despite there being regular blasting, an industrial landscape, intermittent dust emissions and heavy truck traffic. With respect to the proposed landfill however, a very strong and extensive opposition has been mobilized against it. It was the opinion of the individuals interviewed that people were reacting with pre-conceived opinions that the landfill would be a significant detriment to the local area. Residents were particularly fearful of water contamination, odour and truck traffic.

When asked about some of the differences in real estate trends in the local and regional area the interviewees pointed out that Woodstock is the dominant community in Oxford County and it is growing rapidly. They indicated that it has a new hospital and in general, relative to Ingersoll is larger with more services and amenities to offer. These characteristics drive up prices and to a large degree explain the differences in house prices between Ingersoll and Woodstock.

Turning to the local study area it was noted that the northeast quadrant of Ingersoll is an area of small lower priced homes as historically this was the area where workers traditionally lived. Owners and managers tended to live in the higher priced areas in the core and southwest quadrant.

With respect to agricultural properties, one of the interviewees noted that very few farms are listed and that sales occur predominately by word of mouth within the surrounding community.

One of the interviewees had visited Walkers operation in Thorold and met with local realtors. The takeaway was that none of the people involved with real estate sales in the area had any concerns with Walker's South Landfill operations in Niagara.

In reference to the local study area, one of the interviewees indicated that they had been involved in one property sale where the prospective buyers walked away because they did not want to be downwind from the proposed facility. The interviewee remarked that this incident occurred at the time of the Walker announcement of the proposed landfill in 2012. Further discussion revealed there was a brief slowdown in sales activity at this time but that matters quickly turned around and there has been no negative market reaction since. In addition to the above, we heard about one other purported incident from a property owner where a sale did not move forward because of the proposed landfill.

The home builder interviewed pointed out that they are having a difficult time keeping pace with the market. The demand is so strong that they have had to pull product off the market because they cannot build it fast enough. On top of this demand there is also great difficulty in hiring labour. Low-skilled jobs paying \$25 per hour cannot be filled.

As described by the real estate interviewees, the people fueling the demand for housing in the area are from GTA moving westward along the Highway 401. They are a mixture of first home buyers, empty nesters and retirees. New homes in the 1,300 to 2,000 square foot range are selling in the \$375,000 to \$450,000 range. Further down the Highway in Chatham the same caliber of homes are selling in the \$250,000 range.

The conversation with real estate professionals and the home builder revealed that there is very little land left for development in Ingersoll. The dialogue also revealed that the Ingersoll Golf Club (golf course) has been bought by a developer from London. It is conjectured that in order to grow its land area, Ingersoll will need to push north via annexation into Zorra Township however this action was not deemed likely in the near future.

When the conversations turned to the proposed landfill it was not felt that it has affected home buying activity at the present time. It was suggested that out of town people purchasing homes are vaguely aware of the proposal. For residents within the community itself, the comment was made that there seems to be opposition fatigue relative to the situation when the landfill proposal was first announced.

Looking to the future, should the landfill be operationalized, a key concern for the operator will be odour management. If odour is properly managed then the effect of the landfill on realtors ability to sell their product will be minimal.

### 10.3.2.6 Literature

There is a very extensive body of literature on the potential effects of landfills on property values. Much of this material from the 1970s, 1980s and 1990s. There are only a few documents published after 2000.

Many of the technical documents conclude that property values will be diminished by the nearby presence of landfills. However, in many of these instances it is unclear as to how these landfills were constructed and operated and whether they were situated in greenfield locations or in more industrialized locations.

The most robust studies relied on hedonic modeling to determine the potential effects on property values. These studies concluded that the closer a property is to a major landfill the more likely it is to suffer value loss. Some studies went so far as to calculate value loss on a per foot distance basis.

Richard Ready (2005) carried out a meta-analysis and posed the question: "Do landfills always depress nearby property values?" Ready's study is a useful document as it looked at all available hedonic pricing estimates of the impact of landfills on nearby property values including original estimates for 3 landfills in Pennsylvania.

Ready (2005) concluded that all available hedonic price studies show that high volume landfills (> 500 tons per day) will have a greater impact on property values than landfills that accept low volumes. However, he also pointed out that the meta-analysis conducted leads to the conclusion that there are important differences among individual landfills and their potential for property value impacts. He notes that some low volume landfills may have no impact at all or potentially a positive impact. He further notes, all high-volume landfills that generate impacts will have some negative affect on nearby property values.

For the subject study there are two questions that arise from the preceding:

- 1 Is the proposed landfill different from typical facilities?
- 2 Will the proposed landfill generate impacts that will affect nearby property values?

Dealing with the first question, the proposed facility is not a typical landfill. It is an industrial facility located in an existing industrial landscape (i.e. quarry). The landfill is located in an exhausted part of the quarry but the quarrying itself and lime processing will continue for many decades to come with the end product being transported off-site by road and rail. The actual landfill itself will mainly operate below grade in the quarry, and only rise above grade in the final stages of cell fill.

Turning to the second question, the technical environmental studies do not predict that the landfill will generate significant off-site impacts. There will be no effect on ground or surface water. The facility will not be highly visible from the surrounding community. The transportation requirements

are well within the capacity of the designated haul route. The off-site noise, dust and odour nuisances will be localized, infrequent and incremental. Given these conditions although the proposed landfill is a high volume facility, it is not seen to create tangible impacts that will diminish property values.

Despite the decidedly negative publicity that has been ongoing since the proposal was announced in 2012, the property value data analysed as part of this assessment clearly demonstrates that there has been no significant or sustained decrease in property values in the vicinity of the proposed landfill site, relative to other communities in the County external to the study area. Likewise, future property values are not expected to be significantly impacted by the proposed landfill, based on the following:

- The landfill is to be situated on a portion of a larger site where heavy industry (quarrying and rock processing) has been, and will continue to be, carried out for a very long time. Property values in the vicinity are for the most part already adjusted to this type of land use.
- The proposed facility will be constructed and operated as a state-of-the art landfill.
- Other studies related to this EA have concluded that the net off-site effects of the landfill construction and operation are expected to be limited to relatively minor and infrequent nuisances that do not go beyond 500 m of the site. Walker has proposed plans to manage any nuisance effects if and as they occur (e.g., public complaints and response procedure), as they have been doing successfully at their Niagara operations.
- These findings are consistent with the Ministry of Environment, Conservation and Parks' Guideline D-4 Land Use On or Near Landfills and Dumps which states that "The Ministry considers the most significant contaminant discharges and visual problems to be normally within 500 metres of the perimeter of a fill area." (Section 5.3)
- Experience at Walker's Niagara landfill and studies that looked at community landfill effects elsewhere<sup>9,10</sup> suggest that provided the landfill is state-of-the art and its construction and operation are well managed with limited off-site nuisances, initial neighbourhood opposition to a facility is not longstanding but reversible when expected outcomes are not realized. In the case of property values there is a reciprocal relationship. When property values remain strong and grow peoples' concerns diminish and as this happens there is positive reinforcement of neighbourhood attributes and the value of constituent properties. Since the

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<sup>9</sup> Hampson, Christine Lynne, "Residents Reappraisal of the Halton Regional Landfill Site: A Study of Psychosocial Impacts" McMaster University, (September 1997).

<sup>10</sup> Okeke, Christian Uzo and Armour, Audrey, "Post-Landfill Siting Perceptions of Nearby Residents: A Case Study of Halton Landfill", *Applied Geography*, (2000)

announcement of the landfill in 2012, a brief dip in property values at the time has been followed by 6 years of strong unbated value growth.

Notwithstanding the above, we nevertheless recommend that as a precaution, Walker should consider offering a property value protection agreement to residential and farm property owners within 500 m of the waste fill area. This distance is recommended based on the results of the EA studies and the Ministry's guidelines, as noted above, but also based on the fact that there are very limited data on existing property value trends within 500 m of the site given that only 3 properties lie within this distance.

### **10.3.2.7 Summary of Effects on Property Values**

- 1 Adopted a multi-faceted approach to examine the potential effects on property values.
- 2 MPAC data for the local study area does not indicate any down turn in property values at the present time.
- 3 The opposite is true, the Agency predicts rising prices in all parts of the local study area.
- 4 Real estate statistics available from the CREA show very strong market conditions in the Woodstock Ingersoll market area.
- 5 Housing prices have risen in both communities across the 2000 to 2018 period.
- 6 A small inflection in the housing price rise was seen in both communities but more pronounced in Ingersoll around the time Walker announced the proposed landfill.
- 7 There is no available evidence to suggest this inflection was caused by Walker and the condition resolved itself within a year and home prices have continued to rise precipitously ever since.
- 8 The historic sales profiling of recently sold properties corroborates the CREA data. Home sale prices have been continually rising in all areas over the 2000 to 2018 period.
- 9 Interviews with realtors and a home builder point to an extremely buoyant housing market with strong demand and limited supply.
- 10 Neither the real estate professionals nor the home builder see a downturn in the real estate market, and they have not seen any negative influence of the proposed landfill on the market other than a brief price inflection at the time of the Walker's announcement of the proposed landfill.

- 11 If the landfill is permitted and becomes operational the principal concern among the real estate professionals is odour, though if odour effects are not significant this will not be a concern.
- 12 Public Attitude Research shows property values as a concern among area residents, however, should measureable impacts to the environment be mitigated and minimal, the concern is expected to decrease over time.
- 13 Based on the literature, large scale conventional landfills that generate impacts will diminish the value of properties in proximity.
- 14 The proposed landfill is not a conventional landfill. It will be located in an existing industrial landscape where quarrying will be ongoing for many decades. The landfill will start over a hundred feet below grade and only rise above grade in the final stages of cell filling.
- 15 The impacts predicted by technical experts conclude: there will be no impact on ground and surface water; the landfill will not be highly visible in the surrounding community; the associated truck traffic is well within the carrying capacity of the County Road 6 haul route; and noise, dust and odour will not significantly affect surrounding properties. Therefore direct environmental effects associated with the preceding will not influence property values.
- 16 There may be some downturn in real estate values and sales activity during initial construction and operation of the proposed landfill but provided peoples' expectations for negative impact are not realized downturns should be small and brief.
- 17 Notwithstanding the preceding it is recommended that Walker offer property value protection to all properties within 500 m of the landfill site.

### **10.3.3 Effects on Municipal Finances**

This section describes how the project may affect the municipal tax base and municipal services.

The EA Criteria described in this section are:

- Criterion 19 – Effects on Other Public Services;
- Criterion 28 – Public Costs for Indirect Liabilities; and
- Criterion 29 - Effects on the Municipal Tax Base.

#### **10.3.3.1 Cost Impositions**

The proposed landfill places no demands on municipal infrastructure. Located in the Township of Zorra, the landfill will have its own source of potable water and it will build its own treatment facility to handle leachate generated onsite. Any solid waste produced on site will be handled by Walker.

Truck transport to and from the site will be via County Road 6. Should road improvements be required as a result of site operations Walker will work with the County to implement the needed improvements and cover costs as appropriate.

### 10.3.3.2 Municipal Contributions

In recent years there has been considerable debate about how landfill properties would be valued and taxed after 2020. However, in December 2018 the Minister of Finance provided an update on the assessment of properties in the landfill class for property tax purposes. In a letter to the Ontario Waste Management Association (OWMA), the Minister confirmed that in order to maintain stability for landfill operators and municipalities, the Province would maintain the current valuation methodology for properties in the landfill class for the next reassessment. This commitment means that landfills will continue to be assessed as vacant industrial land.

In order to calculate the annual property taxes that might be forthcoming from the proposed landfill, Walker’s South Landfill in Niagara, given its many similarities to the proposed landfill, has been used a proxy for current value assessment (CVA). At the present time the South Landfill has a CVA of roughly \$3.2 million. When this value is applied against the tax rates for vacant industrial land in the Township of Zorra approximately \$77,400 in total property taxes are created and these are distributed accordingly (refer to Table 10.10).

**Table 10.10: Estimated Annual Municipal Tax Revenue Generated by Proposed Landfill**

	Southwest Landfill
Lower Tier	\$ 28,526
Upper Tier	\$ 20,389
Education	\$ 28,483
Sum of Tax	\$ 77,398

*Source: Keir Corp with Walker Data and Township of Zorra FIR Data 2017*

Spread out over the 20-year operating life of the landfill these property tax monies could amount to approximately \$1.55 million.

In addition to the property tax revenues flowing to the Township of Zorra, further financial contributions may be made through royalty payments with the host municipality on tonnage received. Although, Walker has not yet entered into discussions with the host or any adjacent municipalities on this matter, it has undertaken its own research to determine the practices and quantum associated with this form of payment for other major privately owned landfills in the Province. For the cases examined, royalty payments on tonnage are generally in a range of \$1 to \$3 per tonne.



For reference, at the present time the Township Zorra has a total annual revenue of approximately \$10.6 million. The combination of taxes and royalty payments could significantly add to this amount.

Additive to all of the preceding further taxes benefits to municipalities in Ontario could be realized through land transfers and production of goods and services associated with the project. Based on the input output analysis the monies generated at the municipal level are estimated to be in the order of \$12.8 million spread over the life of the project. Of this sum approximately \$8.4 million will be generated through capital expenditures and \$4.4 million through operating expenditures.

### **10.3.3.3 Summary of Effects on Municipal Finance**

- 1 The proposed landfill places no demands on municipal infrastructure. It will have its own source of potable water and its own treatment facility to handle and leachate. Any solid waste produced will be handled by Walker.
- 2 Truck transport to and from the site will be by County Road 6 and projected traffic volumes do not exceed the carrying capacity of the roadway.
- 3 Should any road improvements be required as a result of site operations Walker will work with the County to implement the needed improvements and cover costs as appropriate.
- 4 The proposed landfill will generate approximately \$77,000 in property taxes with roughly 37% of this sum flowing to the Township of Zorra, 26% to the County and 37% to the Boards of Education.
- 5 In addition to property taxes further financial contributions to the host municipality may be made through royalty payments on tonnage received.
- 6 Although Walker has not yet entered into negotiations with the host or adjacent municipalities on the matter of royalty payments, based on practices for other privately owned major landfills in the Province the range appears to be in the order of \$1 to \$3 per tonne.
- 7 Capital and operating expenditures of the project over its life will also generate tax outputs for different levels of government via products and production. At the municipal level across the Province approximately \$12.8 million will be generated with 66% of this attributable to capital expenditures and 34% attributable to operating expenditures.

### **10.3.4 Public Service and Cost to Customers**

The EA Criteria described in this section are:

- Criterion 18 – Level of Public Service; and

- Criterion 30 – Effects on the Cost of Service to Customers.

#### **10.3.4.1 Potential Benefits**

The County of Oxford currently operates the Salford Landfill predominately for its municipal waste disposal needs. This facility given current and projected usage has approximately 45 years of capacity remaining.

With respect to IC&I waste however, the County is in a export situation. The majority of businesses within the County contract with private-sector waste disposal companies that transport waste to landfills beyond the County. Much of this waste moves to large, privately-owned, regional landfills in other municipalities.

The proposed landfill provides an alternative to the export of IC&I waste. It offers area businesses a convenient lower cost disposal option within the County.

Reports prepared by Oxford County estimate that businesses in Oxford County export between 20,000 to 25,000 tonnes of solid waste annually to private landfills located in other municipalities. Should this waste be shipped to the proposed landfill in Oxford county, the transportation cost savings would be on the order of \$10 per tonne resulting in gross annual savings between \$200,000 and \$250,000 per year.

Additionally, the landfill provides a backstop for the County should a situation ever arise requiring an alternative or emergency disposal location for municipal waste.

Oxford County seeks to be a leader in waste management initiatives and so do Walker. The proposed facility may provide the opportunity to partner and implement innovative resource recovery and waste management initiatives. Walker's Niagara waste management campus is an example of an integrated set of facilities involving recycling, composting, energy production disposal and agricultural land rehabilitation. The latter touches on many of the waste management and sustainability goals expressed by the County Oxford.

Although GHG tax implications are handled in more section 10.3.5.3 it is also worth noting here that the landfill provides the Province of Ontario with a significant public service opportunity to help reduce GHG emissions and enable realization of its emission reduction targets.

#### **10.3.4.2 Summary of Effects on Public Service and Cost to Customer**

- 1 The proposed landfill will offer area businesses a convenient lower cost disposal option relative to the current situation of exporting their waste to disposal facilities beyond the County particularly to the United States.

- 2 Cost savings to area businesses could be in the order of \$200,000 to \$250,000 per year.
- 3 The landfill also provides a backup for the County should a situation ever arise requiring an alternative or emergency disposal option for municipal waste.
- 4 The proposed facility could serve as the nucleus for a County/Walker partnership to implement innovative waste management initiatives.
- 5 The landfill will reduce provincial GHG emissions and significantly help the Province to move towards its emission reduction targets.

### **10.3.5 Effects on Provincial and Federal Taxes**

This section describes how the project might affect taxes at the Provincial and Federal Levels.

The EA Criterion described in this section is:

- Criterion 31 – Effects on the Provincial / Federal Tax Base

#### **10.3.5.1 Tax Outputs for Production and Products<sup>11</sup>**

In addition to the municipal taxes benefits generated by the project through product and production taxes the Project will also generate a stream of tax outputs for the Federal and Provincial governments by similar mechanisms. Over the 22-year life of the project approximately \$26.6 million in tax revenue (excluding income and property taxes) will be generated. Roughly 27% of these monies will flow to the Federal government and 73% to the Provincial government, Table 10.11 provides a breakdown of Federal and Provincial tax outputs generated by capital and operating expenditures over the life of the project.

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<sup>11</sup> Production and product taxes include such entities as: gas tax, excise tax, duty tax, sales tax GST, PST and HST, custom import duties, trading profits, land transfer tax, amusement tax, consumption tax and environment tax.

**Table 10.11: Product and Production Tax Outputs for Federal and Provincial Levels of Government**

			Capex	Opex	Total Expenditure
Federal	Products	Trading Profits	\$ 5,000	\$ 4,000	\$ 9,000
		Gas Tax	\$ 460,000	\$ 1,286,000	\$ 1,746,000
		Excise Tax	\$ 15,000	\$ 13,000	\$ 28,000
		Duty Tax	\$ 270,000	\$ 233,000	\$ 503,000
		Environment Tax	\$ -	\$ -	\$ -
		Air Transportation Tax	\$ 40,000	\$ 37,000	\$ 77,000
		Sales Tax GST and PST	\$ 341,000	\$ 267,000	\$ 608,000
		Custom Import Duties	\$ 2,236,000	\$ 1,794,000	\$ 4,030,000
		Sum of Products	\$ 3,367,000	\$ 3,634,000	\$ 7,001,000
	Production	\$ 95,000	\$ 53,000	\$ 148,000	
<b>Total</b>	<b>\$ 3,462,000</b>	<b>\$ 3,687,000</b>	<b>\$ 7,149,000</b>		
Provincial	Products	Environment Tax	\$ 10,000	\$ 9,000	\$ 19,000
		Gallon Tax	\$ 90,000	\$ 79,000	\$ 169,000
		Trading Profits	\$ 580,000	\$ 501,000	\$ 1,081,000
		Gas Tax	\$ 698,000	\$ 2,334,000	\$ 3,032,000
		Land Transfer Tax	\$ 1,856,000	\$ -	\$ 1,856,000
		Amusement Tax	\$ 42,000	\$ 36,000	\$ 78,000
		Consumption Taxes	\$ 372,000	\$ 970,000	\$ 1,342,000
		Sales Tax	\$ 251,000	\$ 223,000	\$ 474,000
		Harmonized Sales Tax	\$ 4,781,000	\$ 3,397,000	\$ 8,178,000
	Sum of Products	\$ 8,680,000	\$ 7,549,000	\$ 16,229,000	
Production	\$ 2,021,000	\$ 1,130,000	\$ 3,151,000		
<b>Total</b>	<b>\$ 10,701,000</b>	<b>\$ 8,679,000</b>	<b>\$ 19,380,000</b>		
<b>Sum of Governments</b>	<b>\$ 14,163,000</b>	<b>\$ 12,366,000</b>	<b>\$ 26,529,000</b>		

Source: Keir Corp, 2018 with Statistics IO data

### 10.3.5.2 Personal Income Taxes

In addition to tax outputs for production and products, the proposed landfill through direct indirect and induced labour income, provides the basis for income tax. Table 10.12 sets out the labour income and jobs generated by the undertaking. Simple division of labour income by jobs provides the average wage level per job for the two expenditure categories. In the case of capital expenditures, the average wage is in the order of \$82,000 and for operating expenditures approximately \$69,000. For the project overall, the average wage generated is \$75,500.

**Table 10.12: Average Wages Generated**

	Capex	Opex	Total Expenditure
Total Labour Income	\$ 120,175,000	\$ 101,325,000	\$ 221,500,000
FTE Jobs	1,473	1,461	2,934
Average Income per Job	\$ 81,575	\$ 69,370	\$ 75,499

Source Keir Corp, 2018 with Statistics IO data

The estimated income taxes generated at the Federal and Provincial levels plus Canadian Pension Plan and Employment Insurance (CPP/EI) payments are set out in Table 10.13. Total Income taxes generated at the Federal level are forecast to be in the order of \$32.7 million and \$13.6 million at the Provincial level. CCP/EI contributions are anticipated to be approximately \$10.1 million.

**Table 10.13: Income Taxes and CPP/EI Generated**

	Capex	Opex	Total Expenditure
Federal	\$ 18,251,000	\$ 14,439,000	\$ 32,690,000
Provincial	\$ 7,638,000	\$ 5,935,000	\$ 13,573,000
CPP/EI	\$ 5,085,000	\$ 5,042,000	\$ 10,127,000
Sum of Tax	\$ 30,974,000	\$ 25,416,000	\$ 56,390,000

*Source Keir Corp, 2018 with Canada Revenue Agency Tax Rates*

### 10.3.5.3 Carbon Tax

On April 1, 2019 the Federal Government put a carbon tax in place in Ontario. This tax is imposed on greenhouse gas (GHG) emissions from the use of fossil fuels. Under the federal tax, oil products such as gasoline and diesel, natural gas and coal fired electricity are affected. At present, the federal tax prices carbon dioxide equivalent (CO<sub>2</sub>e) at \$20 per tonne (i.e 4.4 cents per litre of gasoline). By 2022 the tax will rise to \$50 per tonne of CO<sub>2</sub>e.

GHD produced a GHG quantification report for Walker that assesses the GHG emissions reductions that would result from the development of the Southwestern Landfill. This report estimates that the proposed landfill will result in a net positive effect by reducing Ontario' GHG emissions associated with waste management activities by 5.8 to 7.5 m tonnes of CO<sub>2</sub>e.

Priced at \$50 per tonne at the time the proposed landfill is scheduled to begin operation, the proposed Southwestern Landfill would reduce Ontario's emissions commensurate to \$290 million to \$375 million over the combined 20-year operating life and 50-year emissions life of the proposed landfill, without impacting Ontario taxpayers or businesses. In other words, the Province can accrue these emissions reductions against its GHG emissions reductions targets, without having to use taxpayer money to fund GHG reduction incentive programs or tax Ontario businesses, equivalent to \$290 million to \$375 million.

This is roughly equivalent to removing 24,000 to 32,000 cars from the road every year.

Ontario's 2030 GHG emissions reduction target is to reduce emissions to 30% below 2005 levels, which equals 17.6 million tonnes below the 'business as usual' scenario. The proposed Southwestern Landfill would reduce Ontario's emissions by 5.8 to 7.5 million tonnes CO<sub>2</sub>e.

The Province does not currently have a 2050 GHG reduction target and while the emissions reductions related to the development of the Southwestern Landfill would occur over 50 years, to further illustrate the magnitude of these reductions, they would equate to between 33% and 43% of the Province's 2030 target.

The emission reductions generated through the project not only produce a significant environmental benefit they also reduce the tax burden on Provincial businesses and consumers.

#### **10.3.5.4 Summary of Effects on Provincial and Federal Taxes**

- 1 The proposed project through a variety of taxes (exclusive of income tax and property tax) will flow approximately \$26.5 million to Federal, Provincial and government coffers.
- 2 The rough distributions of this sum are 27% to the Federal Government, 73% to the Provincial Government.
- 3 Income taxes generated over the life of the project are expected to total \$56.4 with the following distributions: Federal Government \$32.7 million, Provincial Government \$13.6 million and CPP/EI funds \$10.1 million.
- 4 GHG tax avoidance in the Province as a result of emission reductions afforded by the proposed landfill are estimated to be between \$290 million to \$375 million over the life of the project. Emission reductions are an environmental benefit and a beneficial tax avoidance for Ontario businesses and consumers.
- 5 Ontario's 2030 GHG emissions reduction target is to reduce emissions to 30% below 2005 levels, which equals 17.6 million tonnes below the 'business as usual' scenario. The proposed Southwestern Landfill would reduce Ontario's emissions by 5.8 to 7.5 million tonnes of CO<sub>2</sub>e.

#### **10.4 Summary of Effects on the Economic and Financial Environment**

A series of economic criteria impact tables are included in the main environmental assessment document. This qualitative summation reflects findings set out in the previous sections.

- 1 No businesses will be displaced and no businesses will have operations disrupted.
- 2 Capital and operating expenditures associated with the landfill will flow into the Ontario economy with a substantial portion flowing into the economy of the wider area within roughly a one hour drive of the project site.
- 3 The proposed landfill will generate significant employment and associated labour income in the Province and local region.
- 4 Household spending for persons directly and indirectly associated with the project will contribute to the provincial and local economies.

- 5 Direct environmental effects of the proposed landfill are minor and limited in distribution. Property values will not be compromised by these effects.
- 6 There may be some turn down in in real estate values and sales activities during initial landfill construction and operation, however provided people's expectations are not realized downturns should be small and brief.
- 7 Data indicates that direct environmental impacts beyond the landfill are minimal. However, recognizing that some property owners by virtue of their immediate proximity to the landfill may always feel the value of their property will be compromised it is recommended that Walker offer property value protection to all owners of property within 500 m of the landfill.
- 8 There will be no demands placed on municipal infrastructure and Walker will work with the County to implement and appropriately cost share any needed improvements to County Road 6 as a result of landfill construction and operations.
- 9 The proposed landfill will generate annual municipal revenues through property tax payments and subject to negotiation on royalty payments to the host municipality, as is the case with all other large, privately owned landfills in Ontario. Product and production taxes generated by the project will also flow to the municipalities.
- 10 The proposed landfill offers area businesses a convenient lower cost disposal option relative to current circumstances and it provides a backstop for the County should a situation ever arise requiring an alternative or emergency disposal option for municipal waste.
- 11 The proposed facility could provide a partner platform and nucleus for innovative waste management initiatives.
- 12 The landfill will reduce provincial GHG emissions and help the Province realize its Greenhouse Gas emission reduction targets.

## **11. Monitoring, Contingency and Impact Management Recommendations**

A series of recommendations have been put forward in various technical studies to monitor leachate, ground water, surface water, air emissions gas, dust, noise, visual and traffic. Specifics regarding these monitoring plans and related contingency responses are contained within the technical reports.

The public complaints reporting and response system will also provide means to monitor potential effects.

### **11.1 Impact Management**

Impact management of potential landfill effects on the economic and financial conditions will rely on issues and concerns raised by the public and authorities to Walker directly as well as through routine monitoring activities carried out by Walker during the course of landfill construction and operation. From an economics perspective to the extent possible local hiring and sourcing of goods and services during construction and operations should be pursued. Additionally the provision of property value protection to properties within 500 m of the proposed landfill is recommended.



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## **Appendix A – Glossary of Terms**

## **Glossary of Terms**

**Direct Impact** - measures the initial requirements for an extra dollar's worth of output of a given industry. The direct impact on the output of an industry is a one dollar change in output to meet the change of one dollar in final demand. Associated with this change, there will also be direct impacts on GDP, jobs, and imports.

**FIR** – Ontario municipal financial information return

**FSBO** - for sale by owner

**FTE Jobs** – Full time equivalent jobs - include employee jobs converted to full time equivalence based on the overall average full-time hours worked in either the government or business sectors

**GDP** – Gross Domestic Product – measures the value of the final output of finished goods and services

**Gross Output** – measures the total economic activity involved in the production of goods and services. It is much broader measure of the economy than GDP. It is the value of net output or GDP plus intermediate production.

**Indirect Impact** - measures the changes due to inter-industry purchases as they respond to the new demands of the directly affected industries. This includes all the chain reaction of output up the production stream since each of the products purchased will require, in turn, the production of various inputs.

**Induced Impact** - measures the changes in the production of goods and services in response to consumer expenditures induced by households' incomes (i.e., wages) generated by the production of the direct and indirect requirements.

**Labour Income** – is the amount employed people earn by working. It includes wages and benefits.

**Stat Can IO Model** – Statistics Canada Interprovincial Input / Out Model

# **Appendix B – Environmental Assessment Criteria and Studies**

Appendix Table B-1: EA Technical Studies Matrix

Criteria	Definition/ Rationale	Studies Addressing the Criteria											Study Areas			Duration			
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic/ Financial	Groundwater/ Surface Water	Human Health	Land Use	Noise/Vibration	Social	Traffic	Visual/	On-Site & Site Vicinity	Along the Haul	Wider Area	Operational Period	Post-Closure Period
<b>Public Health &amp; Safety</b>																			
1	Explosive hazard due to combustible gas accumulation in confined spaces.						<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
2	Effects due to exposure to air emissions.		<input checked="" type="checkbox"/>												<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
3	Effects due to fine particulate exposure.		<input checked="" type="checkbox"/>												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	
4	Effects due to contact with contaminated groundwater or surface water.						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
5	Flood hazard.						<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
6	Disease transmission <i>via</i> insects or vermin.				<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Public Health &amp; Safety (continued)</b>																			
7	Potential for traffic collisions.												<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	

Study that will be primarily responsible for addressing criterion.

**Note:** Many of the studies will provide key input to criteria that will be address through other impact assessment studies.





Criteria	Definition/ Rationale	Studies Addressing the Criteria											Study Areas			Duration			
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic/ Financial	Groundwater/ Surface Water	Human Health	Land Use	Noise/Vibration	Social	Traffic	Visual/	On-Site & Site Vicinity	Along the Haul	Wider Area	Operational Period	Post-Closure Period
<b>Social and Cultural (continued)</b>																			
15	Displacement/disturbance of cultural/heritage resources.				<input checked="" type="checkbox"/>													<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
16	Effects on land resources, traditional activities or other interests of Aboriginal Communities.											<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
17	Displacement/destruction of archaeological resources.			<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>				<input checked="" type="checkbox"/>	
18	Level of public service provided by the waste disposal facility.									<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
19	Effects on other public services.									<input checked="" type="checkbox"/>					<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>		<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Study that will be primarily responsible for addressing criterion.

**Note:** Many of the studies will provide key input to criteria that will be address through other impact assessment studies.

Criteria	Definition/ Rationale	Studies Addressing the Criteria											Study Areas			Duration			
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic/ Financial	Groundwater/ Surface Water	Human Health	Land Use	Noise/Vibration	Social	Traffic	Visual/	On-Site & Site Vicinity	Along the Haul	Wider Area	Operational Period	Post-Closure Period
<b>Social and Cultural (continued)</b>																			
20	Changes to community character/cohesion.																		
	Community character and cohesion refer to physical characteristics, social stability, attractiveness as a place to live and patterns of social interaction. A waste disposal facility may actually or perceptually interfere with these important community attributes.																		
21	Compatibility with municipal land use designations and official plans.																		
	A waste disposal facility has the potential to affect the viability of present and future land uses, which may have an effect on planning decisions made in the surrounding community.																		
<b>Economics</b>																			
22	Displacement/disruption of businesses or farms.																		
	Any on-site businesses or farms would be displaced by a waste disposal facility, and there could be financial losses as a result of relocation. Some types of businesses located in the site vicinity or along the haul routes may suffer financial losses due to the potential nuisance effects or perceived effects associated with the operation of a waste disposal facility such as noise, litter, dust, odour, visibility, birds, vermin and traffic congestion.																		
23	Property value impacts.																		
	The establishment and operation of a waste disposal facility may adversely affect property values in the site vicinity or along the haul routes.																		
24	Direct employment in waste disposal facility construction and operation.																		
	A waste disposal facility may create new employment opportunities both in the construction and day-to-day operation.																		
25	Indirect employment in related industries and services.																		
	A waste disposal facility has the potential to have impacts on employment opportunities in local firms supplying products or services directly, or as secondary suppliers.																		

Study that will be primarily responsible for addressing criterion.

**Note:** Many of the studies will provide key input to criteria that will be address through other impact assessment studies.

Criteria	Definition/ Rationale	Studies Addressing the Criteria											Study Areas			Duration			
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic/ Financial	Groundwater/ Surface Water	Human Health	Land Use	Noise/Vibration	Social	Traffic	Visual/	On-Site & Site Vicinity	Along the Haul	Wider Area	Operational Period	Post-Closure Period
<b>Economics (continued)</b>																			
26	New business opportunities related directly to waste disposal facility construction and operation.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
27	New business opportunities in related industries and services.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
28	Public costs for indirect liabilities.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
29	Effects on the municipal tax base.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
30	Effect on the cost of service to customers.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
31	Effects on the provincial/ federal tax base.						<input checked="" type="checkbox"/>										<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
<b>Natural Environment &amp; Resources</b>																			
32	Loss/displacement of surface water resources.						<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	
33	Impact on the availability of groundwater supply to wells.						<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
34	Effects on stream baseflow quantity/quality.						<input checked="" type="checkbox"/>							<input checked="" type="checkbox"/>			<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Study that will be primarily responsible for addressing criterion.

**Note:** Many of the studies will provide key input to criteria that will be address through other impact assessment studies.

Criteria	Definition/ Rationale	Studies Addressing the Criteria											Study Areas			Duration			
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic/ Financial	Groundwater/ Surface Water	Human Health	Land Use	Noise/Vibration	Social	Traffic	Visual	On-Site & Site Vicinity	Along the Haul	Wider Area	Operational Period	Post-Closure Period
<b>Natural Environment &amp; Resources (Continued)</b>																			
35	Loss/disturbance of terrestrial ecosystems.					<input checked="" type="checkbox"/>												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
36	Loss/disturbance of aquatic ecosystems.					<input checked="" type="checkbox"/>												<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
37	Displacement of agricultural land.	<input checked="" type="checkbox"/>																<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
38	Disruption of farm operations.	<input checked="" type="checkbox"/>																<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
39	Sterilization of industrial mineral resources.									<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
40	Displacement of forestry resources.									<input checked="" type="checkbox"/>								<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
41	Loss/disruption of recreational resources.											<input checked="" type="checkbox"/>						<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>

Study that will be primarily responsible for addressing criterion.

**Note:** Many of the studies will provide key input to criteria that will be address through other impact assessment studies.

**Appendix Table B-2: EA Technical Studies Interconnectivity Matrix**

Because effectively evaluating the EA criteria provided in Table B-1 may require input from experts in many disciplines, WEG adopted a methodology that facilitates a cross-functional approach among the experts. Each EA criterion has been assigned a 'lead' expert for reporting purposes (see Table B-1). The lead expert is responsible for coordinating efforts with any other expert they determine necessary to effectively report on that criterion as well as providing information to other experts who need input from them to report on any other criteria. Table B-2 provides possible relationships required between experts to effectively report on their respective EA criteria. The actual relationships will be developed during the EA process in consultation with interested parties.

		Reference Studies												
		Agriculture	Air Quality	Archaeology	Cultural Heritage	Ecology	Economic / Financial	Groundwater / Surface Water	Human Health	Land Use	Noise / Vibration	Social	Traffic	Visual / Landscape
<b>Technical Studies</b>	Agriculture		✓							✓	✓		✓	
	Air Quality												✓	
	Archaeology													
	Cultural Heritage								✓		✓			✓
	Ecology		✓					✓			✓		✓	
	Economic / Financial	✓	✓	✓	✓	✓		✓	✓	✓	✓	✓	✓	✓
	Groundwater / Surface Water	✓										✓		
	Human Health		✓					✓			✓			
	Land Use													
	Noise / Vibration													
	Social	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓
	Traffic	✓								✓		✓		
	Visual Landscape											✓		

# **Appendix C – Map and Tables of Receptor Point Locations**

Appendix Figure C-1: Map of Receptor Point Locations



Appendix Table C-1: Receptor Points – Township of Zorra

Receptor ID (See Map)	Description
<b>Township of Zorra</b>	
ZOR-1	Represents multiple residences and agricultural operations in the north-west portion of the site vicinity study area
ZOR-2	Represents multiple residences and agricultural operations north of the project site along a potential haul route
ZOR-3	Represents one (1) residence and agricultural operation immediately north of the project site and along a potential haul route
ZOR-4	Represents agricultural area along a potential haul route
ZOR-5	Represent one (1) residence and agricultural operation within 1000m of project site, along a potential haul route
ZOR-6	Represents one (1) residence and agricultural operation within 1000m of the project site, along a potential haul route
ZOR-7	Represents a mixed use area (no residence) east of the project site (near solar farm) in the vicinity of Oxford Thames River Trail parking
ZOR-8	Represents agricultural area within 1000m immediately west of the project site
ZOR-9	Represents multiple residences and agricultural operations within 1000m immediately west of the project site
ZOR-10	Represents location of municipal groundwater well and agricultural operations within 1000m of the project site and along a potential haul route
ZOR-11	Location of the nearest residence and agricultural operation to the project site, within 500m Also represents ecological receptor (cliff swallow colony and possible significant wildlife habitat).
ZOR-12	Location of the Ingersoll Rural Cemetery within 500m to 1000m of the project site and ecological receptors in the Quarry Lake.
ZOR-13	Represents residential receptors and agricultural receptors.
ZOR-14	Represents ecological receptor (grassland habitat, habitat for endangered and threatened species).
ZOR-15	Represents ecological receptor (barn swallow colony, possible habitat for endangered and threatened species and colonial species).
ZOR-16	Represents ecological receptor (woodland community where eastern woodpeewee breed).
ZOR-17	Represents ecological receptor (old watercourse channel, possible habitat for endangered and threatened species, and a tributary of the Thames River)
ZOR-18	Represents ecological receptor (MAM/SA community with breeding amphibians and potential significant wildlife habitat).

Receptor >1000m away from project site
Receptor 500 - 1000m away from project site
Receptor <500m away from project site



Appendix Table C-2: Receptor Points – Town of Ingersoll

Town of Ingersoll	
ING-1	Represents residential neighbourhood in the north east portion of the Town of Ingersoll
ING-2	Represents multiple residences, community features and businesses in north west Ingersoll in the vicinity of Laurie Hawkins P.S.
ING-3	Represents multiple residences, community features and businesses in the vicinity of Ingersoll District Collegiate Institute
ING-4	Represents Thames River at the surface water discharge location and multiple residences and businesses in the eastern most portions of Ingersoll
ING-5	Represents multiple residences, community features and businesses in downtown Ingersoll and in the vicinity of Canterbury Folk Festival site
ING-6	Represents multiple residences and community features in the vicinity of Royal Roads Public School (closest school to the project site)
ING-7	Represents multiple residences and community features in the vicinity of Ingersoll Golf and Country Club in the south west portion of Ingersoll
ING-8	Represents multiple residences and community features in the vicinity of Alexandra Hospital in south central Ingersoll
ING-9	Represents multiple residences, community features, agricultural operations in the vicinity of Lorne Moon Park and on area of future residential development along Ingersoll town boundary
ING-10	Represents area of multiple residences and agricultural operations in the vicinity of the Ingersoll Cheese and Agricultural Museum and Elm Hurst Inn and Spa in south east Ingersoll
ING-11	Represents an ecological receptor (Thames River Aquatic Habitat, habitat for fish species targeted by anglers).

Receptor >1000m away from project site
Receptor 500 - 1000m away from project site
Receptor <500m away from project site

**Appendix Table C-3: Receptor Points – Township of South-west Oxford**

Township of South-West Oxford	
SWO-1	Represents multiple residences along Beachville Road within 1000m of the project site (closest residences south of the project site), and ecological receptors (great blue heron rookery, potential significant wildlife habitat).
SWO-2	Represents multiple residences along Beachville Road within 1000m of the project site within the vicinity of Hi-Way Pentecostal Church
SWO-3	Represents multiple residences and agricultural operations along Beachville Road within 1000m south east of the project site as well as ecological receptors along the Thames River (potential endangered and threatened species).
SWO-4	Represents multiple residential locations and businesses at the intersection of beachville road along a potential haul road (County Road 6)
SWO-5	Represents multiple residences and agricultural operations, east of the project site in vicinity of the Beachville District Museum and Oxford Thames River Trail parking
SWO-6	Represents multiple residences and community features in the vicinity of Colombo Club of Oxford
SWO-7	Represents multiple residences, businesses and community features in the community of Beachville and the Living Way Pentecostal Church
SWO-8	Represents multiple residences, agricultural operations, businesses and community features in the vicinity of St. Mary's Cemetery
SWO-9	Represents multiple residences and businesses at the eastern most portion of the site vicinity study area in the vicinity of the Westmount Motel
SWO-10	Represents multiple residences and agricultural operations along Karn Road
SWO-11	Represents multiple residences and agricultural operations along Karn Road
SWO-12	Represents multiple residences and agricultural operations along Karn Road
SWO-13	Represents multiple residences within 1000m of the project site, in the vicinity of the Centreville Pond and Conservation Area, and ecological receptors (basking area for snapping and painted turtle)
SWO-14	Represents multiple residences and agricultural operations along Karn Road
SWO-15	Represents multiple residences and agricultural operations along Karn Road
SWO-16	Represents multiple residences and agricultural operations along Karn Road
SWO-17	Represents multiple residences and agricultural operations along Karn Road
SWO-18	Represents multiple residence and agricultural operations in the vicinity of the intersection of Karn Road and County Road 6 along a potential haul route
SWO-19	Represents multiple residences, agricultural operations and businesses in the vicinity of the intersection of Clarke Road and County Road 6, along a potential haul route
SWO-20	Represents multiple residences and agricultural operations in the vicinity of the intersection of Clarke Road and E Hill Line
SWO-21	West Hill Line and Clarke Road
SWO-22	Church Line and Clarke Road
Township of East Zorra-Taverstock	
EZT-1	Represents multiple residences and agricultural operations in the vicinity of the intersection at Hwy 2 (Dundas Street) and 10 Line in the Township of East Zorra-Taverstock

	Receptor >1000m away from project site
	Receptor 500 - 1000m away from project site
	Receptor <500m away from project site

# Appendix D – Business Data Base

**Appendix Table D-1: Business Data Base**

	Distance from Site	Municipality	Business Name	Business Genre	Address
1	<=500m from Haul Route and 1,001m - 2,000m from Site	South-West Oxford	B&D Garden Centre	Retail	584299 Beachville Rd, Ingersoll, ON N5C 3J5
2	<=500m from Haul Route and 1,001m - 2,000m from Site	South-West Oxford	D&D Commercial Property Maintenance Ltd / Handy Bins Oxford County (works yard)	Special Services	584319 Beachville Rd
3	<=500m from Haul Route and 1,001m - 2,000m from Site	South-West Oxford	JE Culp Transport Ltd.	Trucking Yard & Shop	584290 Beachville Rd, Beachville, ON N5C 3J5
4	<=500m from Haul Route and >2,000m from Site	South-West Oxford	Leaping Deer Adventure Farm and Market	Farmer's Market and Adventure Farm	544212 Clarke Rd, Ingersoll, ON N5C 3J8
5	<=500m from Haul Route and 1,001m - 2,000m from Site	South-West Oxford	McKenzie Wiring	Electrician	584233 Beachville Rd, Ingersoll, ON N5C 3J5
6	<=500m from Haul Route and 1,001m - 2,000m from Site	South-West Oxford	Oxford Landscape & Supply	Retail	584271 Beachville Rd, Ingersoll, ON N5C 3J5
7	<=1000m	Zorra	Carmeuse Lime Ltd.	Limestone and Lime Mining	P.O. Box 190 Ingersoll, ON N5C 3K5
8	<=1000m	South-West Oxford	Hazen Masonry	Masonry	354468 Mill Line, Ingersoll ON
9	<=1000m	Zorra	Killean Acres Horses	Horse Farm	603804 Cemetery Lane, Ingersoll, ON N5C 1M1
10	<=1000m	South-West Oxford	Patterson Gord Welding	Welding	584083 Beachville Rd, Ingersoll, ON N5C 3J5
11	<=1000m	South-West Oxford	PM Hydraulics	Hydraulics components	584024 Beachville Rd, Ingersoll, ON N5C 3J5
12	1,001m - 2,000m	Ingersoll	Afford a Floor (warehouse/shop)	Special Services	109 Mutual St Ingersoll, ON N5C 1Z5
13	1,001m - 2,000m	Ingersoll	Anytime Fitness	Fitness/Recreation	111 Charles St E, Ingersoll, ON N5C 1J9
14	1,001m - 2,000m	Ingersoll	Canadian Tire	Retail	98 Mutual St, Ingersoll, ON N5C 1S5
15	1,001m - 2,000m	Ingersoll	Catherine Cannon, Grief Recovery Specialist	Health Care	39 Raglan St, Ingersoll, ON N5C 1P9
16	1,001m - 2,000m	Ingersoll	Charles Street Dental	Health Care	59 Charles St E, Ingersoll, ON N5C 1J5
17	1,001m - 2,000m	South-West Oxford	Denby Environmental Services	Septic Services	584331 Beachville Rd, Beachville, ON N0J 1A0
18	1,001m - 2,000m	Ingersoll	Ficht Family Auto Body	Automotive	152 Carnegie St, Ingersoll, ON N5C 4A8
19	1,001m - 2,000m	Ingersoll	Furst-McNess Company	Agricultural Commodities	30 Wilson St., Ingersoll ON N5C 4E8
20	1,001m - 2,000m	Ingersoll	Giant Tiger	Retail	111 Charles St E, Ingersoll, ON N5C 1J9
21	1,001m - 2,000m	Ingersoll	Golies By Doug	Fitness/Recreation	146 Carnegie St, Ingersoll, ON N5C 4E7
22	1,001m - 2,000m	Zorra	Hansford Tree Service	Special Services	6637788 Rd 66 Ingersoll ON N5C 3J5
23	1,001m - 2,000m	Ingersoll	HearingLife	Health Care	120 Thames St N, Ingersoll, ON N5C 4B1
24	1,001m - 2,000m	Ingersoll	Hometown Heating & Cooling	Special Services	113 Mutual St, Ingersoll, ON N5C 1Z8
25	1,001m - 2,000m	Ingersoll	Ian C. Moyer Insurance Agency Inc.	Insurance	7 St. Andrew St, Ingersoll, ON N5C 1K6
26	1,001m - 2,000m	Ingersoll	Import Automotive	Automotive	148 Carnegie St, Ingersoll, ON N5C 4A8
27	1,001m - 2,000m	Ingersoll	Ingersoll Rent-All Inc.	Special Services	108 Mutual St, Ingersoll, ON N5C 1S5
28	1,001m - 2,000m	Ingersoll	Ingrox Ltd. - Ingersoll Car Wash and Office (location)	Special Services	13 & 11 St. Andrew St, Ingersoll, ON N5C 1K6
29	1,001m - 2,000m	Ingersoll	Ingrox Ltd. - Self-Storage Facilities (location)	Special Services	98 Thames St N, Ingersoll, ON
30	1,001m - 2,000m	Ingersoll	L. Janssen Bookkeeping	Finance	305 Tunis St, Ingersoll, ON N5C 1W9
31	1,001m - 2,000m	Ingersoll	Little Caesars Pizza	Food Service	120 Thames St N, Ingersoll, ON N5C 4B1
32	1,001m - 2,000m	Ingersoll	Mary Kay Cosmetics	Distributor	174 Metcalfe St, Ingersoll, ON N5C 1M9
33	1,001m - 2,000m	Ingersoll	Murray's Radiator & Automotive Services	Automotive	111 Mutual St, Ingersoll, ON N5C 1S6
34	1,001m - 2,000m	Ingersoll	NAPA AUTOPRO - Butterworth's Service Centre Inc.	Automotive	119 Charles St E, Ingersoll, ON N5C 1J9
35	1,001m - 2,000m	Ingersoll	Oxford Community Child Care Inc	Special Services	24 Raglan St, Ingersoll, ON N5C 1P9
36	1,001m - 2,000m	Ingersoll	Pet Valu	Pet Care	120 Thames St N, Ingersoll, ON N5C 4B1
37	1,001m - 2,000m	Ingersoll	Proedge Skate Shop	Special Services	99 St Andrews St, Ingersoll, ON
38	1,001m - 2,000m	Ingersoll	Riverside Mini Mart	Retail	211 Charles St E, Ingersoll, ON N5C 1K3
39	1,001m - 2,000m	Ingersoll	Roots to Ends Hair Studio - Tranquility Day Spa	Hair Care & Spa	63 Charles St E, Ingersoll, ON N5C 1J5
40	1,001m - 2,000m	Ingersoll	Scott Douglas Plastics Ltd.	Industry	50 Janes Rd, Ingersoll, ON N5C 3K1

	Distance from Site	Municipality	Business Name	Business Genre	Address
41	1,001m - 2,000m	Ingersoll	Shoppers Drug Mart	Health Care	120 Thames St N, Ingersoll, ON N5C 4B1
42	1,001m - 2,000m	Ingersoll	Southwestern Auto Sales	Automotive	108 Mutual St, Ingersoll, ON N5C 1S5
43	1,001m - 2,000m	Ingersoll	Super Dollar Stop	Retail	111 Charles St E, Ingersoll, ON N5C 1J9
44	1,001m - 2,000m	Ingersoll	Tanner's Studio	Special Services	120 Thames St N, Ingersoll, ON N5C 4B1
45	1,001m - 2,000m	Ingersoll	Thamesford Pizza Company	Food Service	111 Charles St E, Ingersoll, ON N5C 1J9
46	1,001m - 2,000m	Ingersoll	The Elite Engineering Group Inc.	Special Services	58 Rossiter Rd, Ingersoll, ON N5C 4E1
47	1,001m - 2,000m	Ingersoll	The Ponting Financial Group	Finance	7 St. Andrew St, Ingersoll, ON N5C 1K6
48	1,001m - 2,000m	Ingersoll	Tiny's Ltd.	Automotive	184 Carnegie St, Ingersoll, ON N5C 0B3
49	1,001m - 2,000m	Ingersoll	Walker Environmental	Waste Management	160 Carnegie St, Ingersoll, ON N5C 4A8
50	1,001m - 2,000m	Ingersoll	Weddingfavours.ca	Retail	9 St. Andrews St, Ingersoll, ON N5C 1K6
51	1,001m - 2,000m	Ingersoll	Zehr Transport Ltd.	Transportation	30 Wilson St, Ingersoll, ON N5C 4E8
52	> 2000m	Ingersoll	10 Buck Pizza	Food Service	10 Bell St, Ingersoll, ON N5C 2N5
53	> 2000m	Ingersoll	A & W Restaurant	Food Service	170 Cullogen Rd, Ingersoll, ON N5C 3J7
54	> 2000m	Ingersoll	A Dogs House	Pet Care	164 Oxford St, Ingersoll, ON N5C 4V7
55	> 2000m	Ingersoll	Ace Auto Group and Ingersoll RV & Trailer	Automotive	307 Harris St, Ingersoll, ON N5C 3J8
56	> 2000m	Ingersoll	Ackert's Auto Spa	Special Services	400 Bell St, Ingersoll, ON N5C 2P6
57	> 2000m	Ingersoll	Active Care Physiotherapy	Health Care	29 Noxon St, Ingersoll, ON N5C 3V6
58	> 2000m	Ingersoll	Ah Chuan Restaurant	Restaurants	23 King St W, Ingersoll, ON N5C 2J2
59	> 2000m	Ingersoll	Al's Tirecraft	Automotive	431 Bell St, Ingersoll, ON N5C 2P7
60	> 2000m	Ingersoll	Alasko	Food Service	50 Chisholm Dr, Ingersoll, ON N5C 2C6
61	> 2000m	Ingersoll	All Canadian Conrete Inc	Special Service	365 Thomas St, Ingersoll, ON N5C 0B1
62	> 2000m	Ingersoll	All Care Energy	Special Services	191 Canterbury St, Ingersoll, ON N5C 1E2
63	> 2000m	Ingersoll	All Treat Commodities Inc.	Industry	214 Clarke Road East, Ingersoll, ON N5C 3J8
64	> 2000m	South-West Oxford	Allin Brothers Towing and Repair	Special Services	584642 Beachville Rd, Beachville, ON N0J 1A0
65	> 2000m	Ingersoll	Anderson's Appliance & Mattress	Retail	42 King St W, Ingersoll, ON N5C 2J4
66	> 2000m	South-West Oxford	Andy's Garage	Automotive	434791 Zorra Line, Beachville, ON N0J 1B0
67	> 2000m	Zorra	Anging Outfitters	Retail	684460 Road 68, Woodstock, ON N4S 7V7
68	> 2000m	Ingersoll	APC - Auto Parts Centre	Automotive	40 Thames St S, Ingersoll, ON N5C 2T1
69	> 2000m	Ingersoll	AT & T Cleaning and Power Washing	Special Services	247 Charles St. W, Ingersoll, ON N5C 2M5
70	> 2000m	Ingersoll	Atlantic Packaging and Products	Industry	45 Chisholm Dr, Ingersoll, ON N5C 2C7
71	> 2000m	Ingersoll	B&G Foot Care Services	Health Care	134 Bell St, Ingersoll, ON N5C 2N8
72	> 2000m	Ingersoll	Bell St. Variety	Retail	181 Bell St, Ingersoll, ON N5C 2P2
73	> 2000m	South-West Oxford	Bell-Camp Manufacturing Inc.	Industry	543925 Clarke Road, Ingersoll, ON N5C 3K5
74	> 2000m	Ingersoll	BMO Bank of Montreal	Finance	104 Thames St S, Ingersoll, ON N5C 2T4
75	> 2000m	Ingersoll	Bob's Westend Service Automotive Repair	Automotive	174 Whiting St, Ingersoll, ON N5C 3B3
76	> 2000m	South-West Oxford	Body By Vi	Retail	P.O. Box 85, Beachville, ON N0J 1A0
77	> 2000m	Ingersoll	Bridge Variety	Retail	15 Thames St S, Ingersoll, ON N5C 2S8
78	> 2000m	Zorra	Bristol Coachworks-MacNab Transit Sales Corp	Automotive	439 Bell St, Ingersoll, ON N5C 2P6
79	> 2000m	Ingersoll	BrokerLink	Insurance	45 King St E, Ingersoll, ON N5C 1G5
80	> 2000m	Ingersoll	Butcher Engineering Enterprises Ltd	Industry	17 Underwood Rd, Ingersoll, ON N5C 3V6

	Distance from Site	Municipality	Business Name	Business Genre	Address
81	> 2000m	Ingersoll	CampMart RV	Automotive	325 Ingersoll St S, Ingersoll, ON N5C 3R1
82	> 2000m	Ingersoll	Canada Post Corporation	Government	36 Charles St W, Ingersoll, ON N5C 2L6
83	> 2000m	South-West Oxford	Canada Post Corporation ~ Beachville Post Office	Government	434794 Zorra Line Beachville ON NOJ 1A0
84	> 2000m	Ingersoll	Canada Speedometer	Automotive	201 Bell St, Ingersoll, ON N5C 2P2
85	> 2000m	Ingersoll	Canadian Mental Health Association - Nurse Practitioner-Led Clinic	Health Care	19 King St E, Ingersoll, ON N5C 1G3
86	> 2000m	Ingersoll	Canadian Treads	Automotive	60 Samnah Crescent, Ingersoll, ON N5C 3J7
87	> 2000m	Ingersoll	Carlson Wagonlit Travel	Travel Agency	25 King St W Unit C, Ingersoll, ON N5C 2J2
88	> 2000m	Ingersoll	Carquest Auto Parts - Regis Auto Parts	Automotive	50 Thames St S, Ingersoll, ON N5C 2S9
89	> 2000m	Ingersoll	Century 21 Heritage House Ltd.	Real Estate	16 King St W, Ingersoll, ON N5C 2J3
90	> 2000m	Ingersoll	CHATT Inc. Community Health Assessment & Therapy Team	Health Care	269 King St W, Ingersoll, ON N5C 2K6
91	> 2000m	Ingersoll	Chocolatea	Retail	38 King St E, Ingersoll, ON N5C 1G5
92	> 2000m	Ingersoll	Christopher Burgard RMT Massage Therapy	Health Care	45 King St E, Ingersoll, ON N5C 1G5
93	> 2000m	Ingersoll	Chuck's Roadhouse Bar & Grill	Restaurants	215 Thames St S, Ingersoll, ON N5C 2T6
94	> 2000m	Ingersoll	CIBC	Finance	160 Thames St S, Ingersoll, ON N5C 2T5
95	> 2000m	Ingersoll	Coilplus Canada Inc.	Industry	18 Underwood Road, Ingersoll, ON N5C 3V6
96	> 2000m	Ingersoll	Comfort Inn & Suites	Hospitality/Hotels	20 Samnah Crescent, Ingersoll, ON N5C 3J7
97	> 2000m	South-West Oxford	Compusoft Systems & Computax Systems	Finance	434875 43rd Line, Beachville, ON, NOJ 1A0
98	> 2000m	Ingersoll	Concepts Auto Sales	Automotive	427 Bell St, Ingersoll, ON N5C 2P7
99	> 2000m	Ingersoll	Connect Hearing	Health Care	168 Oxford St, Ingersoll, ON N5C 2V7
100	> 2000m	Ingersoll	Custom Concept Photography & Framing	Special Services	115 Thames St S, Ingersoll, ON N5C 2T3
101	> 2000m	South-West Oxford	D&S Machine Quality at Work	Special Services	585002 Beachville Rd, Woodstock, ON N4S 7V6
102	> 2000m	South-West Oxford	D&T Mobile Wash	Special Service	565055 Kam Rd, Woodstock, ON
103	> 2000m	Ingersoll	D. John's Hair Gallery	Hair Care	59 King St W, Ingersoll, ON N5C 2J7
104	> 2000m	Ingersoll	D.A. Sparkes Accounting Inc.	Finance	99 Thames St N, Ingersoll, ON N5C 3G6
105	> 2000m	Ingersoll	Dairy Queen	Food Service	5 Charles St E, Ingersoll, ON N5C 1J5
106	> 2000m	Ingersoll	Delta Machine & Design Ltd.	Industry	49 Chisholm Drive, Ingersoll, ON N5C 2C7
107	> 2000m	East Zorra-Tavistock	Design Temp Heating and Air	Special Services	684484 Oxford Hwy 2
108	> 2000m	Ingersoll	Desjardins	Finance	33 King St W, Ingersoll, ON N5C 2J7
109	> 2000m	Ingersoll	Dexter	Industry	347 King St W, Ingersoll, ON N5C 3K6
110	> 2000m	Ingersoll	Diamond Dance Centre	Fitness/Recreation	144 Whiting St, Ingersoll, ON N5C 3B3
111	> 2000m	Ingersoll	Dino's Restaurant	Restaurants	15 King St W, Ingersoll, ON N5C 2J2
112	> 2000m	Ingersoll	Dollarama	Retail	110 Oxford St, Ingersoll, ON N5C 2V5
113	> 2000m	Ingersoll	Domino's	Food Service	60 Charles St W Unit #5, Ingersoll, ON N5C 2L6
114	> 2000m	Ingersoll	Dorothee's Shoppe	Retail	124 Thames St S, Ingersoll, ON N5C 2T4
115	> 2000m	Ingersoll	Dove Dental Centre	Health Care	59 Thames St S, Ingersoll, ON N5C 2S8
116	> 2000m	South-West Oxford	Down to Earth	Special Services	P.O. Box 41 Beachville, ON NOJ 1A0
117	> 2000m	Ingersoll	Dr. Carla Van Beek-Paterson - Dentist	Health Care	117 Duke St, Ingersoll, ON N5C 2W7
118	> 2000m	Ingersoll	Dr. Marc Pariser - Family Physician	Health Care	81 Charles St W, Ingersoll, ON N5C 2L7
119	> 2000m	Ingersoll	Dr. Stephen Tait & Associates - Optometrists	Health Care	245 Thames St S, Ingersoll, ON N5C 2T8
120	> 2000m	Ingersoll	Dr. Susan Mazzocco - Optometrist	Health Care	77 Charles St W, Ingersoll, ON N5C 2L7

	Distance from Site	Municipality	Business Name	Business Genre	Address
121	> 2000m	Ingersoll	Duynisveld & Company Professional Corporation Chartered Accountants	Finance	116 Oxford St, Ingersoll, ON N5C 2V5
122	> 2000m	Ingersoll	Dwell Urban Boutique	Retail	147 Thames St S, Ingersoll, ON N5C 2T5
123	> 2000m	Ingersoll	E&E McLaughlin Ltd	Warehousing	50 Chisholm Dr, Ingersoll, ON N5C 2C6
124	> 2000m	Ingersoll	EDF Services	Special Services	6 Boles St, Ingersoll, ON N5C 3V9
125	> 2000m	Ingersoll	Edward Jones Investment	Finance	25 King St W Unit B, Ingersoll, ON N5C 2J2
126	> 2000m	Ingersoll	Elm Hurst Inn & Country Spa	Hospitality/Hotels and Restaurants	415 Harris St, Ingersoll, ON N5C 3J8
127	> 2000m	Ingersoll	Embrace Beauty Lounge	Special Services	171 Thames St S, Ingersoll, ON N5C 2T6
128	> 2000m	Ingersoll	ERTH Corporation	Utility	180 Whiting St, Ingersoll, ON N5C 3B5
129	> 2000m	South-West Oxford	Esso-Circle K	Restaurant	Ingersoll ONroute (Hwy 401 east of Oxford County Rd 6)
130	> 2000m	Ingersoll	Fairbanks Auto Body	Automotive	166 Whiting St, Ingersoll, ON N5C 3B3
131	> 2000m	Ingersoll	Fastenal	Retail	265 Ingersoll St S, Ingersoll, ON N5C 3P1
132	> 2000m	Zorra	FGO Organic Processing	Special services	194338 19th Line N5C 3J6
133	> 2000m	Ingersoll	First Choice Hair Cutters	Hair Care	120 Thames St N, Ingersoll, ON N5C 3C9
134	> 2000m	Ingersoll	First Impressions	Hair Care	164 Oxford St, Ingersoll, ON N5C 2V7
135	> 2000m	Ingersoll	First Ontario Credit Union	Finance	108 Thames St S, Ingersoll, ON N5C 2T4
136	> 2000m	Ingersoll	Floors Xtra	Retail	160 Whiting St, Ingersoll ON N5C 3B3
137	> 2000m	Ingersoll	Floral Occasions	Flora	134 Thames St S, Ingersoll, ON N5C 2T4
138	> 2000m	Ingersoll	Framed-In Tyme	Retail	122 Merritt St, Ingersoll, On N5C 3A1
139	> 2000m	Ingersoll	Frank's Convenience	Retail	159 Thames St S, Ingersoll, ON N5C 2T3
140	> 2000m	Ingersoll	Funnell Insurance Group - The Co-operators	Insurance	45 Charles St W, Ingersoll, ON N5C 2L5
141	> 2000m	Ingersoll	Glass Doctor of Oxford County- Ingersoll Glass & Mirror Limited, DBA	Special Services	68 Thames St S, Ingersoll, ON N5C 2T1
142	> 2000m	Ingersoll	Glassford Motors Ltd.	Automotive	30 Samnah Crescent, Ingersoll, ON N5C 3J7
143	> 2000m	Ingersoll	GM CAMI Assembly	Automotive	300 Ingersoll St S, Ingersoll, NOJ 1W0
144	> 2000m	Ingersoll	Gotta Guy	Special Services	8 Scourfield Dr, Ingersoll, ON N5C 0A4
145	> 2000m	Zorra	Graham's Otter Rental Equipment Sales & Services	Retail	194268 Bell St, Ingersoll, ON N5C 0A4
146	> 2000m	Ingersoll	Grampa's Attic & Bookstore	Retail	155 Thames St S, Ingersoll, ON N5C 2T3
147	> 2000m	Zorra	Great Floors	Retail	194253 19 Line, Ingersoll, ON N5C 3J6
148	> 2000m	South-West Oxford	Green Design Landscaping	Special Services	P.O. Box 119, Beachville, ON, NOJ 1A0
149	> 2000m	Ingersoll	H&R Block	Finance	10 Charles St E, Ingersoll, ON N5C 1J4
150	> 2000m	Ingersoll	Hammond Air Conditioning Ltd.	Special Services	125 Samnah Crescent, Ingersoll, ON N5C 3J7
151	> 2000m	Zorra	Hazen Motorcycle	Special Services	21 Ellen St, Ingersoll, On NSC 3J6
152	> 2000m	Ingersoll	HDM Technology	Special Services	345 King St. W, Ingersoll, ON N5C 2K9
153	> 2000m	Ingersoll	Healthy Life-Styles Nutrition & Wellness Centre	Retail	19 King St W, Ingersoll, ON N5C 2J2
154	> 2000m	Ingersoll	Heartland Farm Mutual Insurance Company	Insurance	9 King St W, Ingersoll, ON N5C 2J2
155	> 2000m	Ingersoll	Heavenly Sweets Ingersoll	Food Service	127 Thames St S, Ingersoll, ON N5C 2T3
156	> 2000m	Ingersoll	Hercules Tire International	Industry	11 Ingersoll St, Ingersoll, ON N5C 3J7
157	> 2000m	Ingersoll	HMO Technology, Manufacturing and Design	Special Services	347 King St W, Ingersoll, ON N5C 3K6
158	> 2000m	Ingersoll	Holly McIntyre - The Realty Firm Inc	Real Estate	153 Thames St S, Ingersoll, ON N5C 2T3
159	> 2000m	Ingersoll	Home Hardware Building Centre	Retail	15 Samnah Crescent, Ingersoll, ON N5C 3J7
160	> 2000m	Ingersoll	Hunt Footcare Clinic	Health Care	238 Thames St S, Ingersoll, ON N5C 2T5

	Distance from Site	Municipality	Business Name	Business Genre	Address
161	> 2000m	Ingersoll	Hunter Precious Metals and Rocks	Retail	31 Witty Ave Ingersoll ON N5C 3N9
162	> 2000m	Ingersoll	Hydra Dyne Technology Inc.	Industry	55 Samnah Crescent, Ingersoll, ON N5C 3J7
163	> 2000m	Ingersoll	Ian R. Blain Barrister & Solicitor	Lawyer	36 King St E, Ingersoll, ON N5C 1G4
164	> 2000m	Ingersoll	IMT	Industry	347 King St W, Ingersoll, ON N5C 3K6
165	> 2000m	Ingersoll	Ingersoll Automotive	Automotive	22 Charles St E, Ingersoll, ON N5C 1J4
166	> 2000m	Ingersoll	Ingersoll Barber Shop	Hair Care	10 King St W, Ingersoll, ON N5C 2J3
167	> 2000m	Ingersoll	Ingersoll Creative Arts Centre	Arts	125 Centennial Lane (Victoria Park), Ingersoll, ON N5C 3V3
168	> 2000m	Ingersoll	Ingersoll Family Dentistry	Health Care	128 Duke St, Ingersoll, ON N5C 2J5
169	> 2000m	Ingersoll	Ingersoll Foodland	Grocery	72 Charles St W, Ingersoll, ON N5C 2L6
170	> 2000m	Ingersoll	Ingersoll Golf Club	Fitness/Recreation	51 Holcroft St W, Ingersoll, ON N5C 3K1
171	> 2000m	Ingersoll	Ingersoll Lanes	Fitness/Recreation	134 Thames St N, Ingersoll, ON N5C 3E1
172	> 2000m	Ingersoll	Ingersoll Massage Therapy	Health Care	42 King St E, Ingersoll, ON N5C 1G5
173	> 2000m	Ingersoll	Ingersoll Music Academy	Arts	40 King St E, Ingersoll, ON N5C 1G4
174	> 2000m	Ingersoll	Ingersoll Paper Box Company Ltd	Industry	327 King St W, Ingersoll, ON N5C 2K9
175	> 2000m	Ingersoll	Ingersoll Pharmasave	Retail	19 King St E, Ingersoll, ON N5C 2L6
176	> 2000m	Ingersoll	Ingersoll Pizza & Pasta	Food Service	17A Thames St S, Ingersoll, ON N5C 2S8
177	> 2000m	Ingersoll	Ingersoll Products Inc.	Industry	267 Ingersoll St S, Ingersoll, ON N5C 3J7
178	> 2000m	Ingersoll	Ingersoll Support Services Inc.	Special Services	189 Oxford St, Ingersoll, ON N5C 2V8
179	> 2000m	Ingersoll	Ingersoll Theatre of Performing Arts (ITOPA)	Arts	88 Thames St S, Ingersoll, ON N5C 3K5
180	> 2000m	Ingersoll	Ingersoll Veterinary Services	Pet Care	56 King St W, Ingersoll, ON N5C 2J4
181	> 2000m	Ingersoll	Ingersoll Water and Wine	Food Service	42 King St W, Ingersoll, ON N5C 2J4
182	> 2000m	Ingersoll	Ingersoll Wellness Centre	Health Care	110 Thames St S, Ingersoll, ON N5C 2T4
183	> 2000m	Ingersoll	Inspire Chiropractic	Health Care	238 Thames St S, Ingersoll, ON N5C 2T4
184	> 2000m	Ingersoll	Intech Clean Energy Inc.	Industry	375 Thomas St Unit 1, Ingersoll, ON N5C 0B1
185	> 2000m	Ingersoll	IPC Securities Corporation	Finance	161 Thames St S, Ingersoll, ON N5C 2T6
186	> 2000m	Ingersoll	Island Breeze Launderette	Special Services	99 Thames St N, Ingersoll, ON N5C 3C6
187	> 2000m	Ingersoll	J-Tech Design/ J-Tech Laser Scan	Special Services	35 Samnah Crescent, Ingersoll, ON N5C 3J7
188	> 2000m	Ingersoll	Jingles Hair Design	Hair Care	14 King St W, Ingersoll, ON N5C 2J3
189	> 2000m	South-West Oxford	John's Car Care	Automotive	585009 Beachville Rd, Woodstock, ON N4S 7V6
190	> 2000m	Ingersoll	Joker & Crown	Restaurants	129 Thames St S, Ingersoll, ON N5C 2T3
191	> 2000m	Ingersoll	Josie's Place	Hospitality/Hotels	126 1/2 Albert St. West, Ingersoll, ON N5C 2A2
192	> 2000m	Ingersoll	Ken's Small Engine Repairs Ltd	Special Services	79 Victoria St Unit 1, Ingersoll, ON N5C 1W9
193	> 2000m	Ingersoll	King's Variety	Retail	7 King St W, Ingersoll, ON N5C 2J2
194	> 2000m	Ingersoll	Koffee Korner	Food Service	114 Thames St S, Ingersoll, ON N5C 2T4
195	> 2000m	Ingersoll	Kraft Korner	Retail	123 Thames St S, Ingersoll, ON N5C 2T3
196	> 2000m	Ingersoll	L L Turner General Accounting	Finance	46 Dean Crescent, Ingersoll, ON N5C 3C3
197	> 2000m	Ingersoll	Lesser Brothers Jewellers Ltd.	Retail	146 Thames St S, Ingersoll, ON N5C 2T4
198	> 2000m	Ingersoll	Lexcor	Lawyer	128 Duke St, Ingersoll, ON N5C 2W8
199	> 2000m	Ingersoll	Liquor Control Board of Ontario (Store 169)	Food Service	68 Charles St W, Ingersoll, ON N5C 2L6
200	> 2000m	Zorra	Little Minnows Daycare	Daycare	523835 County Rd 7, Ingersoll, ON N5C 3J5



	Distance from Site	Municipality	Business Name	Business Genre	Address
201	> 2000m	Ingersoll	Local Dairy Products	Industry	139 Victoria St, Ingersoll, ON N5C 2M8
202	> 2000m	Ingersoll	Lorne P. Moyer - Homeopath	Health Care	12 McMillian Court, Ingersoll, ON N5C 4H3
203	> 2000m	Ingersoll	Louie's Pizza, Pasta & More	Restaurants	440 Bell St, Ingersoll, ON N5C 2P6
204	> 2000m	Ingersoll	Mac's Convenience Store	Retail	6 Bell St, Ingersoll, ON N5C 2N5
205	> 2000m	Ingersoll	Mango Salad Restaurant	Restaurants	95 Thames St S, Ingersoll, ON N5C 2T2
206	> 2000m	South-West Oxford	Market Place	Restaurant	Ingersoll ONroute (Hwy 401 east of Oxford County Rd 6)
207	> 2000m	Ingersoll	MBH Mechanical/ Electrical	Special Services	P.O. Box 64, Ingersoll, ON N5C 3K1
208	> 2000m	Ingersoll	McBeath-Dynes Funeral Home	Special Services	246 Thames St S, Ingersoll, ON N5C 2T7
209	> 2000m	Ingersoll	McClay's Transportation Group Ltd.	Transportation	132 Ingersoll St, Ingersoll, ON N5C 3K1
210	> 2000m	Ingersoll	McDonald's	Food Service	120 Thames St N, Ingersoll, ON N5C 4B1
211	> 2000m	Ingersoll	McFarlan Rowlands Insurance Brokers	Insurance	64 Charles St W, Ingersoll, ON N5C 2L6
212	> 2000m	Ingersoll	McKenzie Homes	Housing	5 Chatfield St, Ingersoll, ON N5C 0B3
213	> 2000m	Ingersoll	McKim's Home Hardware	Retail	142 Thames St S, Ingersoll, ON N5C 2T4
214	> 2000m	Ingersoll	McLellan Industries	Industry	99 Victoria St, Ingersoll, ON N5C 2M8
215	> 2000m	Ingersoll	McLennan & Company Ltd	Finance	118 Oxford St, Ingersoll, ON N5C 2V5
216	> 2000m	Ingersoll	McQ Handling Inc.	Special Services	46 Chisholm Drive, Ingersoll, ON N5C 2C6
217	> 2000m	Ingersoll	Medquest	Special Services	50 Chisholm Dr, Ingersoll, ON N5C 2C6
218	> 2000m	Ingersoll	Micacchi Warnick & Company	Finance	45 King St W, Ingersoll, ON N5C 2J7
219	> 2000m	Ingersoll	Midtown Motors Ltd.	Automotive	125 Bell St, Ingersoll, ON N5C 2N9
220	> 2000m	Ingersoll	Millcreek Printing	Industry	30 King St E, Ingersoll, ON N5C 1G4
221	> 2000m	South-West Oxford	Minature Power Products	Special Services	584784 Beachville Rd, Woodstock, ON N4S 7V6
222	> 2000m	Ingersoll	Minitube Canada	Industry	110 Samnah Cres, Ingersoll, ON N5C 3J7
223	> 2000m	Ingersoll	Miracle-Ear	Health Care	99 Thames St S, Ingersoll, ON N5C 2T1
224	> 2000m	Ingersoll	Miss Ingersoll	Restaurants	107 Thames St S, Ingersoll, ON N5C 2T3
225	> 2000m	Ingersoll	Mister Safety Shoes	Retail	345 Ingersoll St, Ingersoll, ON N5C 3V7
226	> 2000m	Ingersoll	Mobile	Retail	124 Whiting St, Ingersoll, ON N5C 1G1
227	> 2000m	Ingersoll	Modern Hipster	Retail	70 Thames St S, Ingersoll, ON N5C 2T1
228	> 2000m	Ingersoll	Montessori School of Ingersoll	Preschool	280 Wellington St, Ingersoll ON N5C 1TL
229	> 2000m	Ingersoll	NAPA Auto Parts	Automotive	70 Thames St S, Ingersoll, ON N5C 2T1
230	> 2000m	Ingersoll	Nesbitt Coulter LLP	Lawyer	183 Thames St S, Ingersoll, ON N5C 2T6
231	> 2000m	Ingersoll	Nifast Canada Corporation	Industry	12 Underwood Rd, Ingersoll, ON N5C 3K1
232	> 2000m	Ingersoll	North49Vape Ingersoll	Retail	83 Thames St S, Ingersoll, ON N5C 2T2
233	> 2000m	Ingersoll	Nutrition Outlet	Retail	101 Thames St S, Ingersoll, ON N5C 2T3
234	> 2000m	Zorra	Oak Country Homes Ltd.	Housing	623495 Road 62, Ingersoll, ON N5C #J5
235	> 2000m	South-West Oxford	Oakleaf Gardens & Landscapes Inc	Special Services	P.O. Box 248 Beachville ON N0J 1A0
236	> 2000m	Ingersoll	Oakwood Transport	Transportation	129 Oakwood St, Ingersoll, ON N5C 3K1
237	> 2000m	Ingersoll	OATC Ingersoll Clinic	Health Care	17 Thames St S, Ingersoll, ON N5C 2S9
238	> 2000m	Ingersoll	Occupational Hygiene Solutions	Special Services	119 Thames St S, Ingersoll ON N5C 2T3
239	> 2000m	Ingersoll	Oemeta North America	Industry	265 Ingersoll St, Ingersoll, ON N5C 3J7
240	> 2000m	Ingersoll	Old Tyme Taxi	Transportation	20 Charles St E, Ingersoll, ON N5C 1J4

	Distance from Site	Municipality	Business Name	Business Genre	Address
241	> 2000m	Ingersoll	On the Edge Collectable Art & Cutlery	Retail	11 King St W, Ingersoll, ON N5C 2J2
242	> 2000m	South-West Oxford	Onarc	Industry	565055 Kam Rd, Woodstock, ON
243	> 2000m	Ingersoll	One Stop Water	Special Services	101 Thames St N, Ingersoll, ON N5C 3C9
244	> 2000m	Zorra	Ontario Hydro (Beachville)	Utility	56 Embro St, Beachville, N0J 1A0
245	> 2000m	Ingersoll	Ontario Refrigerated Services Inc.	Special Services	450 Thomas St, Ingersoll, ON N5C 3J7
246	> 2000m	South-West Oxford	Organic Results	Special Services	434875 43rd Line, Beachville, ON N0J 1A0
247	> 2000m	Ingersoll	Oxford Cabinetry & Millwork	Special Services	73 Victoria St, Ingersoll, ON N5C 2M8
248	> 2000m	South-West Oxford	Oxford Custom Machining	Special Services	585032 Beachville Rd, Beachville ON N4S 7V6
249	> 2000m	Ingersoll	Oxford Electronics	Special Services	91 Canterbury St, Ingersoll, ON N5C 2C7
250	> 2000m	Ingersoll	Oxford Feed Supply Ltd.	Retail	360 Harris St, Ingersoll, ON N5C 3J8
251	> 2000m	Ingersoll	Oxford Manor	Health Care	276 Oxford St, Ingersoll, ON N5C 2W1
252	> 2000m	South-West Oxford	Oxford Sand and Gravel	Aggregate	544969 Clarke Rd, Woodstock, ON
253	> 2000m	Ingersoll	Oxford School of Dance	Arts	156 Victoria St, Ingersoll, ON N5C 2N1
254	> 2000m	Ingersoll	Oxford Tax Service	Finance	175 Thames St S, Ingersoll, ON N5C 2T6
255	> 2000m	Ingersoll	Parker Denture Clinic	Health Care	107 Melita St, Ingersoll, ON N5C 3T2
256	> 2000m	Ingersoll	Parkrow Auto Sales Ltd.	Automotive	55 Thames St S, Ingersoll, ON N5C 2S8
257	> 2000m	Ingersoll	Parkside Child Care Centre	Daycare	30 Caffyn St, Ingersoll, ON N5C 3T9
258	> 2000m	Ingersoll	Patina's Gifts of Art & Craft	Retail	112 Thames St S, Ingersoll, ON N5C 2T4
259	> 2000m	Ingersoll	Paul Brown & Son Excavating Ltd.	Industry	360 Bell St, Ingersoll, ON N5C 2P5
260	> 2000m	Ingersoll	PB's Fries (food truck)	Food Service	5 Carnegie St, Ingersoll, ON
261	> 2000m	Ingersoll	People's Choice Warranty Ltd.	Insurance	18 King St W, Ingersoll, ON N5C 3L8
262	> 2000m	Ingersoll	Petro-Canada	Retail	186 Canterbury St, Ingersoll, ON N5C 1C8
263	> 2000m	Ingersoll	Petro-Canada	Retail	10 Samnah Crescent, Ingersoll, ON N5C 3J7
264	> 2000m	Ingersoll	Phantom Hair Studio	Hair Care	151 Thames St S, Ingersoll, ON N5C 2T3
265	> 2000m	South-West Oxford	Phil's welding service and small engine repair	Welding	564962 Kam Rd, Woodstock, ON
266	> 2000m	Ingersoll	Pita Pit	Food Service	174 Culloden Road, Ingersoll, ON N5C 3R2
267	> 2000m	Ingersoll	POW Engineering	Special Services	50 Samnah Crescent, Ingersoll, ON N5C 3J7
268	> 2000m	Ingersoll	Precision Property Services	Special Services	226 Charles St. E Ingersoll ON N5C 1K5
269	> 2000m	Ingersoll	Preservation Technologies Canada/The MediaPreserve	Special Services	P.O. Box 371, Ingersoll, ON N5C 3V3
270	> 2000m	Zorra	Pro Fleet Care	Automotive	684280 Road 68 RR#2, Ingersoll ON N5C 3J5
271	> 2000m	South-West Oxford	R Thompson Landscape	Special Service	565055 Kam Rd, Woodstock, ON
272	> 2000m	Ingersoll	RBC Royal Bank	Finance	156 Thames St S, Ingersoll, ON N5C 2T4
273	> 2000m	Ingersoll	Re/Max a-b Realty Ltd Brokerage	Real Estate	46 Charles St E, Ingersoll, ON N5C 1J6
274	> 2000m	Zorra	Rick's Security Storage	Special Services	194253 19th Line, Ingersoll, ON N5C 3J6
275	> 2000m	Ingersoll	Rietta's Décor & Design Centre	Retail	25D King St W, Ingersoll, N5C 2J2
276	> 2000m	Ingersoll	Roberts & Co. Ladies Wear	Retail	122 Thames St S, Ingersoll, ON N5C 2T4
277	> 2000m	Ingersoll	Rock Solid Designs	Special Services	90 Clarke Road West, Ingersoll, ON N5C 3R3
278	> 2000m	Ingersoll	Rosco Electric	Special Services	260 Bell St, Ingersoll, ON N5C 2P3
279	> 2000m	Ingersoll	Royal LePage Triland Realty	Real Estate	159 Thames St S, Ingersoll, ON N5C 3E3
280	> 2000m	Ingersoll	Salvation Army Thrift Store/Food Bank	Special Services	192 Thames St S, Ingersoll, ON N5C 2T5

	Distance from Site	Municipality	Business Name	Business Genre	Address
281	> 2000m	Ingersoll	Searles Motor Products	Automotive	348 Harris St, Ingersoll, ON N5C 3J8
282	> 2000m	Ingersoll	Second Trails Care Community	Health Care	263 Wonham St S, Ingersoll, ON N5C 3P6
283	> 2000m	Ingersoll	Seiwa Kai Honbu Dojo	Fitness/Recreation	85 Thames St S, Ingersoll, ON N5C 2T2
284	> 2000m	Ingersoll	Sew Stylish Wedding Works	Retail	125 Thames St S, Ingersoll, ON N5C 2T3
285	> 2000m	Ingersoll	Shaggy Parlor	Pet Care	42 Thames St S, Ingersoll, ON N5C 2S9
286	> 2000m	Ingersoll	Shinde Dentistry Professional Corporation	Health Care	81 Charles St W, Ingersoll, ON N5C 2L7
287	> 2000m	Ingersoll	Shurr Electronics	Retail	157 Thames St S, Ingersoll, ON N5C 2T3
288	> 2000m	Ingersoll	Simply Linen Inc.	Special Services	265 Ingersoll St S, Ingersoll, ON N5C 3J7
289	> 2000m	Ingersoll	Sivaco - A Heico Wire Group Company	Industry	330 Thomas St, Ingersoll, ON N5C 3K5
290	> 2000m	Ingersoll	Stöckin2it Signs	Special services	400 Bell St, Ingersoll, ON N5C 2P6
291	> 2000m	Ingersoll	Stitch It Central	Retail	189 Thames St S, Ingersoll, ON N5C 2T6
292	> 2000m	Zorra	Stratford Farm Equipment	Special Services	684288 Oxford 2, Ingersoll, ON N5C 3J5
293	> 2000m	South-West Oxford	STS Roofing	Special Services	584652 Beachville Rd, Beachville, ON N0J 1A0
294	> 2000m	Ingersoll	Subway Sandwiches & Salads	Food Service	120 Thames St N, Ingersoll, ON N5C 3C9
295	> 2000m	Ingersoll	Subway Sandwiches & Salads	Food Service	176 Culloden Road, Ingersoll, ON N5C 3R2
296	> 2000m	Ingersoll	Sushi Eleven	Restaurants	144 Thames St S, Ingersoll, ON N5C 2T4
297	> 2000m	Ingersoll	Sutton Group Realty	Real Estate	77 Thames St S, Ingersoll, ON N5C 2T2
298	> 2000m	Ingersoll	TD Canada Trust	Finance	195 Thames St S, Ingersoll, ON N5C 2T6
299	> 2000m	Ingersoll	Tease & Company	Hair Care	118 Thames St S, Ingersoll, ON N5C 2T4
300	> 2000m	Ingersoll	Tetra-Chem Industries	Industry	271 Ingersoll St S, Ingersoll, ON N5C 3J7
301	> 2000m	Ingersoll	TFT Global Inc.	Industry	390 Thomas St S, Ingersoll, ON N5C 3J7
302	> 2000m	Ingersoll	Thames General Dentistry	Health Care	177 Thames St S, Ingersoll, ON N5C 2T6
303	> 2000m	Ingersoll	The Beer Store	Food Service	62 Charles St W, Ingersoll, ON N5C 2L6
304	> 2000m	Ingersoll	The Happy Chronic	Retail	6 King St E, Ingersoll, ON N5C 3L8
305	> 2000m	Ingersoll	The Ingersoll Variety	Retail	182 Whiting St, Ingersoll, ON N5C 3B5
306	> 2000m	Ingersoll	The Olde Bakery Cafe	Restaurants	120 Thames St S, Ingersoll, ON N5C 2T4
307	> 2000m	Ingersoll	The Wine Cellar & Cheese Shop	Food Service	188 Thames St S, Ingersoll, ON N5C 2T5
308	> 2000m	Ingersoll	This & That Store	Retail	50 Thames St S, Ingersoll, ON N5C 2S9
309	> 2000m	South-West Oxford	Thorton Sand and Gravel	Aggregate	545021 Clarke Rd, Woodstock, ON
310	> 2000m	South-West Oxford	Tim Hortons	Restaurant	Ingersoll ONroute (Hwy 401 east of Oxford County Rd 6)
311	> 2000m	Ingersoll	Tim Hortons Donuts	Food Service	10 Samnah Crescent, Ingersoll, ON N5C 3J7
312	> 2000m	Ingersoll	Tim Hortons Donuts	Food Service	75 Thames St S, Ingersoll, ON N5C 2C6
313	> 2000m	Ingersoll	Timeless Consignment	Retail	105 Thames St S, Ingersoll, ON N5C 2T3
314	> 2000m	Ingersoll	Tirecraft	Automotive	90 Samnah Crescent, Ingersoll, ON N5C 3J7
315	> 2000m	Ingersoll	Tony & Gus Hairstyling	Hair Care	116 Thames St S, Ingersoll, ON N5C 2T4
316	> 2000m	Ingersoll	Toth's Fossils and Minerals	Retail	316 Harris St, Ingersoll, ON N5C 3J8
317	> 2000m	Ingersoll	Tremblett's Independent Grocers	Grocery	273 King St W, Ingersoll, ON N5C 2K6
318	> 2000m	Ingersoll	V Nails & Day Spa	Hair Care	21 King St W, Ingersoll, ON N5C 2J2
319	> 2000m	South-West Oxford	Wendy's	Restaurant	Ingersoll ONroute (Hwy 401 east of Oxford County Rd 6)
320	> 2000m	South-West Oxford	Westmount Motel and Uhaul rental	Accommodation	585076 Beachville Rd, Woodstock, ON N4S 7V6

	Distance from Site	Municipality	Business Name	Business Genre	Address
321	> 2000m	Zorra	Whole Tire	Retail	Rd 68, Ingersoll, ON N5C 3J5
322	> 2000m	Ingersoll	Wonderful Nails	Hair Care	149 Thames St S, Ingersoll, ON N5C 2T3
323	> 2000m	Ingersoll	Woodingford Lodge	Health Care	325 Thames St S, Ingersoll, ON N5C 2T8
324	> 2000m	Ingersoll	Xtreme Overhead Doors Inc	Retail	432 King St W, Ingersoll, ON N5C 3J7
325	> 2000m	Ingersoll	Yates Veterinary Clinic	Pet Care	48 Thames St S, Ingersoll, ON N5C 2S9
326	> 2000m	Ingersoll	Young's PharmaChoice Pharmacy	Health Care	136 Thames St S, Ingersoll, ON N5C 2T4
327	> 2000m	Zorra	Your Ultimate Services Inc.	Special Services	434935 43rd Line, Beachville, ON N0J 1A0

**Appendix E – Southwestern Landfill Business Survey  
and Analysis**



**SOUTHWESTERN LANDFILL PROJECT**  
ENVIRONMENTAL ASSESSMENT BUSINESS SURVEY

Dear Business Owner/Operator,

Walker Environmental is proposing to build a modern, engineered landfill (called the Southwestern Landfill) on the lands owned by Carmeuse Lime (Canada), located at 374681 37th Line (Oxford County Road 6) in the Township of Zorra, Oxford County, Ontario.

The Southwestern Landfill proposal is undergoing an Environmental Assessment (EA). An EA is a provincial planning and decision-making process that determines and considers potential environmental effects before the project is allowed to begin. Once the EA is complete, the Ontario Minister of the Environment, Conservation and Parks will decide if the Southwestern Landfill will be approved.

The EA process ensures that local government agencies, First Nations, and interested members of the public are consulted and their concerns are considered.

Walker Environmental retained Keir Corp to undertake an assessment of the economic aspects of the proposed Southwestern Landfill project for the EA.

We hope you can take a few minutes to respond to the business survey questions. This information will help us understand the existing business community and assess the impact of the proposed Southwestern Landfill.

All information will be treated in the strictest confidence and it will be aggregated for purposes of analysis. No individual views will be attributed to a specific business.

Should you have any questions, or if you would like to discuss your responses in further detail, please contact Angus Keir by phone at (647) 781-8132 or by email at [angus@keircorp.com](mailto:angus@keircorp.com).

Thank you for your assistance with our study.

Sincerely,

Angus Keir

A handwritten signature in black ink, appearing to read "Angus Keir", written in a cursive style.

Associate, Keir Corp

Southwestern Landfill Project – Environmental Assessment Business Survey

**INSTRUCTIONS**

This survey can be completed by hand and returned by mail or it can be completed and submitted online.

**MAIL-IN SURVEY**

1. Please read over the survey form and examine the attached map.
2. Answer questions in order and as best you can.
3. Once you have finished, mail the completed survey to Keir Corp in the enclosed postage-paid envelope as soon as possible. Mailed survey results received by December 14, 2018 will be included in our assessment.

**ACCESSING THIS SURVEY ONLINE**

The Southwestern Landfill Project – Environmental Assessment Business Survey is also available online at:

<https://www.surveymonkey.com/r/southwesternlandfill>

In order to access the survey online you will be required to enter the unique survey identification code provided below. Online survey results received by December 14, 2018 will be included in our assessment.

Please be assured that all information will be treated in the strictest confidence and it will be aggregated for purposes of analysis. No individual views will be attributed to a specific business.

Southwestern Landfill Project – Environmental Assessment Business Survey

1. How long has your business operated at this current address?

- 1 - 2 years
- 3 - 5 years
- 6 - 10 years
- 11 - 20 years
- 20+ years

2. What are the three main things that you **LIKE** about this area as a place to conduct your business? (**Choose up to 3**)

- Accessibility
- Cost of owning / leasing or renting business property
- Cost of utilities
- Image and history of the site
- Landscape or view
- Municipal tax rate
- Quality of natural environment / environmental conditions
- Other (please specify)
- Proximity to market
- Proximity to 401 Highway
- Proximity to other businesses or services
- Proximity to suppliers
- Noise levels
- Traffic levels
- Don't know / unsure
- None

3. What are the three main things that you **DISLIKE** about this area as a place to conduct your business? (**Choose up to 3**)

- Accessibility
- Cost of owning / leasing or renting business property
- Cost of utilities
- Image and history of the site
- Landscape or view
- Municipal tax rate
- Quality of natural environment / environmental conditions
- Other (please specify)
- Proximity to market
- Proximity to 401 Highway
- Proximity to other businesses or services
- Proximity to suppliers
- Noise levels
- Traffic levels
- Don't know / unsure
- None





Southwestern Landfill Project – Environmental Assessment Business Survey

4. What is the main business activity conducted at this location?  
(Select the best answer that applies)

- |   |  |
|---|--|
| <input type="checkbox"/> Agriculture, forestry, fishing and hunting | <input type="checkbox"/> Industrial Supplies & Services                |
| <input type="checkbox"/> Advertising & Media                        | <input type="checkbox"/> Legal   |
| <input type="checkbox"/> Arts, Culture & Entertainment              | <input type="checkbox"/> Lodging & Travel                              |
| <input type="checkbox"/> Automotive & Marine                        | <input type="checkbox"/> Manufacturing, Production & Wholesale         |
| <input type="checkbox"/> Business & Professional Services           | <input type="checkbox"/> Mining, quarrying, and oil and gas extraction |
| <input type="checkbox"/> Computers & Telecommunications             | <input type="checkbox"/> Personal Services & Care                      |
| <input type="checkbox"/> Construction Equipment & Contractors       | <input type="checkbox"/> Pets & Veterinary                             |
| <input type="checkbox"/> Family, Community & Civic Organizations    | <input type="checkbox"/> Public Utilities & Environment                |
| <input type="checkbox"/> Finance & Insurance                        | <input type="checkbox"/> Recreation Vehicles                           |
| <input type="checkbox"/> Government & Education                     | <input type="checkbox"/> Restaurants, Food & Beverages                 |
| <input type="checkbox"/> Health Care                                | <input type="checkbox"/> Retail & Shopping                             |
| <input type="checkbox"/> Home & Garden                              | <input type="checkbox"/> Sports & Recreation                           |
|   | <input type="checkbox"/> Transportation                                |

5. What portion of your business is conducted outdoors or dependent on outdoor conditions?

- |                                     |                               |
|-------------------------------------|-------------------------------|
| <input type="checkbox"/> None       | <input type="checkbox"/> Most |
| <input type="checkbox"/> Some       | <input type="checkbox"/> All  |
| <input type="checkbox"/> About half |                               |

6. In the past five years, have you considered moving from this address?

- Yes
- No

If **YES**, what was the main reason that you considered for moving?

- To have more room / space
- To lower operating costs
- To upgrade equipment and facilities
- To move closer to customers, suppliers, natural resources, labour, or similar type companies (clustering)
- Other (please specify)
- To consolidate into fewer facilities
- To access improved natural environmental conditions
- Closing business / retirement
- To improve quality of life (excluding environmental conditions)

If **NO**, what was the main reason you decided to remain at this address?

- Prefer this location
- Business opportunities
- Low cost of doing business
- Cost of moving
- Changed mind / other reason

7. In general, how familiar would you say you are with Walker Environmental?

- Very familiar
- Somewhat familiar
- Not very familiar
- Not at all familiar

Southwestern Landfill Project – Environmental Assessment Business Survey

8. Do you use any of the Walker Environmental waste management resource recovery services?

- Yes  Don't know / unsure  
 No

If **YES**, which services do you use? (**Select all that apply**)

- Landfill / Waste Disposal  Biosolids Management  
 Waste Trucking & Transfer  Organic Recycling Feedstock  
 Waste / Recycling Drop-Off  Grease Traps and Used Cooking Oil Recycling  
 Landfill Gas Utilization  Don't know / unsure  
 Composting  
 Wood, Tie & Shingle Recycling

9. Before receiving this survey, how familiar were you with the proposed Walker Environmental Southwestern Landfill project?

- Very familiar  Not very familiar  
 Somewhat familiar  Not at all familiar



### PROJECT DESCRIPTION

Walker Environmental is proposing to build a modern, engineered landfill on the lands owned by Carmeuse Lime (Canada), located at 374681 37th Line (Oxford County Road 6) in the Township of Zorra, Oxford County, Ontario.

The proposed Southwestern Landfill will be built on a part of the property that has already been mined for aggregate resources, which is a re-use of industrial land.

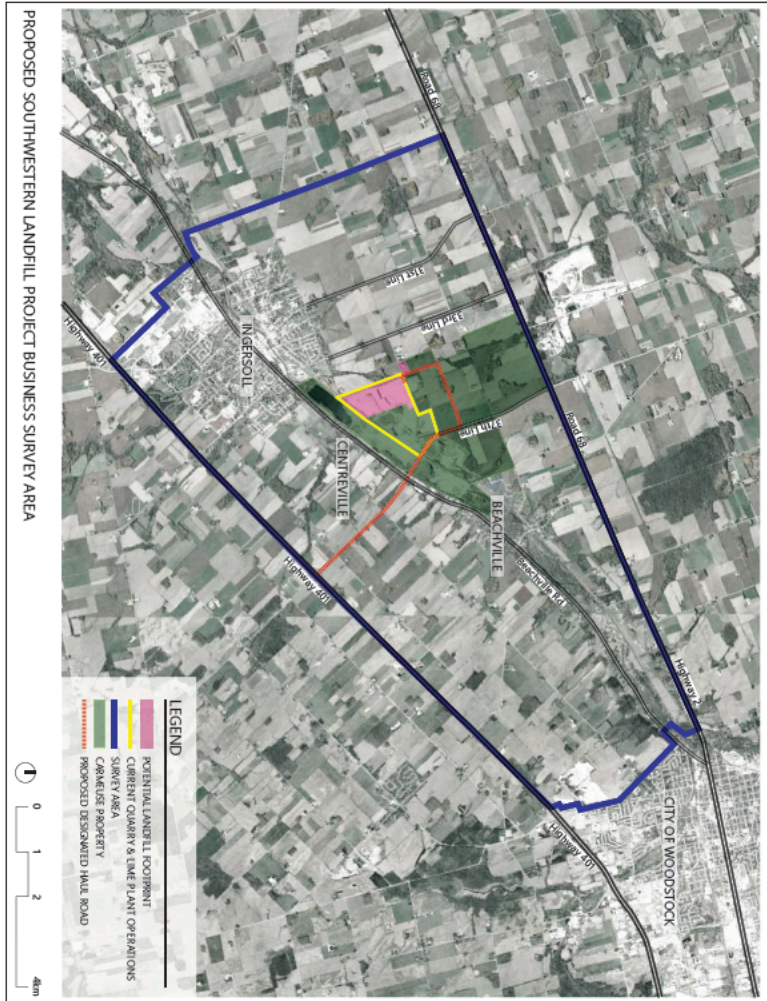
If approved, the Southwestern Landfill would accept solid, non-hazardous waste generated in the Province of Ontario. The proposal is considering a site that would accept approximately 1,100,000 tonnes of waste per year over a 20 year operating period.

The Southwestern Landfill will be designed, operated, closed, and maintained in accordance with the requirements of Ontario Regulation 232/98 (Landfilling Sites) under the Environmental Protection Act.

In addition to the landfill area, the Southwestern Landfill project would include other infrastructure required to support operation and environmental protections at the site, including (but not limited to):

- Access roads
- An area where material arriving at the site can be weighed and inspected
- A buffer area around the landfill, where waste will not be deposited
- Landfill gas collection and management infrastructure
- Leachate (water that has contacted waste) collection and management infrastructure
- Environmental monitoring equipment and installations (e.g. groundwater monitoring wells)

The following map shows the proposed landfill area, as well as the boundaries of this business survey.



Southwestern Landfill Project – Environmental Assessment Business Survey

The following questions relate to potential impacts of the proposed Southwestern Landfill Project to your business.

10. How, if at all, do you think your business might be affected by the proposed Southwestern Landfill project?

- My business will be positively affected       My business will not be affected  
 My business will negatively affected       Don't know / unsure

**IF you think your business might be affected by the proposed Southwestern Landfill project, please describe how? (List up to 3 reasons)**

1.
2.
3.

11. How might your level of satisfaction with this area as a place to do business change because of the proposed Southwestern Landfill project?

- Up a great deal       Down a great deal  
 Up somewhat       No Change  
 Down somewhat



Southwestern Landfill Project – Environmental Assessment Business Survey

12. In the future, do you foresee moving your business from this property because of the proposed Southwestern Landfill project?

- |  |  |
|--|--|
| <input type="checkbox"/> Very likely                 | <input type="checkbox"/> Unlikely            |
| <input type="checkbox"/> Likely                      | <input type="checkbox"/> Very unlikely       |
| <input type="checkbox"/> Neither likely nor unlikely | <input type="checkbox"/> Don't know / unsure |

13. What might Walker Environmental do to reduce or eliminate the impacts of the proposed Southwestern Landfill project on your business? (List up to 3 things)

1.
2.
3.

**THANK YOU**

Please mail the completed survey to Keir Corp using the postage-paid envelope.



## MEMORANDUM

<b>TO:</b>	Walker Environmental
<b>FROM:</b>	Keir Corp. and Savanta Inc.
<b>SUBJECT:</b>	Southwestern Landfill Business Survey Protocol
<b>DATE:</b>	February 19, 2019
<b>RE:</b>	<b>SURVEY SUMMARY</b>

This memo details the survey results from the Southwestern Landfill Business Survey developed by Keir Corp and Savanta Inc.

### 1. INTRODUCTION

Walker Environmental is proposing to build an engineered landfill on the lands owned by Carmeuse Lime (Canada), located at 374681 37th Line in the Township of Zorra, Oxford County, Ontario. As part of the Environmental Assessment (EA) process, Keir Corp is completing an analysis of the existing economic environment and the potential effects of the proposed project. Part of this study includes the Southwestern Landfill Business Survey (the survey) of business owners and operators. The survey aimed to collect information on how local businesses operate in the area, the factors that are important to their success, and feedback on how the potential project might affect their operations.

To aid in the survey administration, Keir Corp retained Savanta Inc. to assist in the development, deployment, analysis and reporting for the survey.

### 2. METHODOLOGY

Keir Corp and Savanta designed the survey which was delivered to businesses in close proximity to the project site. Walker Environmental provided input and review throughout the survey development. The survey, including a map of the proposed project site and business survey boundary area, can be found in **Appendix A**.

Surveys were printed and hand delivered by Keir Corp, Walker Environmental and Savanta associates to businesses within the pre-determined drop off area over a 4-day period from November 5 to 8, 2018 (276 surveys) with some additional hand deliveries during mid-November (12 surveys) and mailing of surveys to unreachable businesses mid-November (33 surveys). Businesses within the study area were identified via the Town of Ingersoll and Rural Oxford Economic Development Corporation online business directories, local knowledge, and visually identified while conducting deliveries.

Once a survey had been delivered to a business, it was recorded as *delivered and accepted* or *not accepted*. Mailed in and online responses received by December 14<sup>th</sup>, 2018 were included in the assessment.



A pre-paid addressed envelope was delivered as part of the survey package. Respondents had the option to either (a) mail in a hard copy of their survey responses, or (b) complete the survey online via SurveyMonkey. Detailed instructions on how to access and complete the survey online were included in the survey package.

Each business was assigned a unique 5-digit numerical code which appeared on the survey instructions as well as on the survey package envelope. While the codes did not restrict anyone from completing the online survey, they were reviewed by Keir Corp to ensure validity, eliminating any repeat or non-business respondents. Online responses were restricted to one Internet Protocol (IP) address per survey response to reduce the likelihood of respondents filling out the survey multiple times. Surveys that were mailed and delivered to the PO box were manually entered into the online survey platform.

### **3. RESULTS**

A total of 288 surveys were hand delivered and accepted by businesses. Three businesses declined the survey. Of the 33 surveys mailed out, one survey was received back undelivered. A total of 17 online surveys were completed online and 5 hard copies were mailed in, for a total of 22 responses. This section provides a tabular summary of responses, by question. In some cases, the total number of responses is greater than the number of respondents if more than one answer was requested.

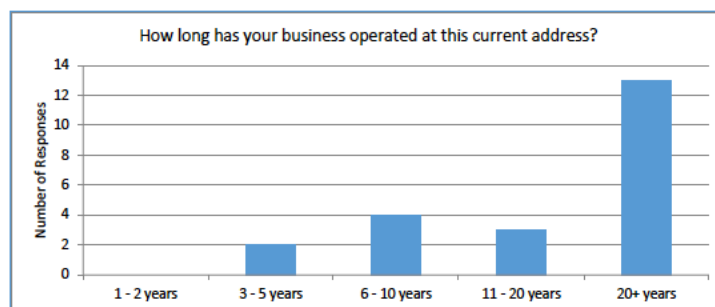
The results summarize the responses only and are not statistically representative of the larger population of businesses in the study area.

**Question 1.**

Respondents were asked to enter their 5-digit code to begin the survey for tracking purposes.

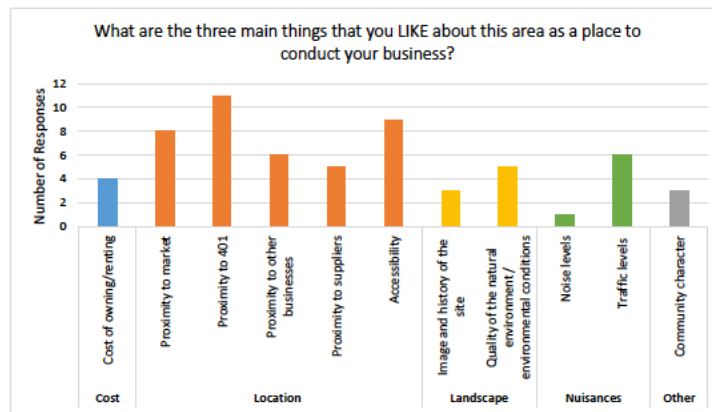
**Question 2. How long has your business operated at this current address?**

A total of 13 businesses have operated in the survey drop off area for 20+ years; 3 businesses have been operating between 11 to 22 years; 4 business have been operating between 6 to 10 years and 2 business have been operating between 3 to 5 years. No businesses stated that they have been in operation for 1 to 2 years.



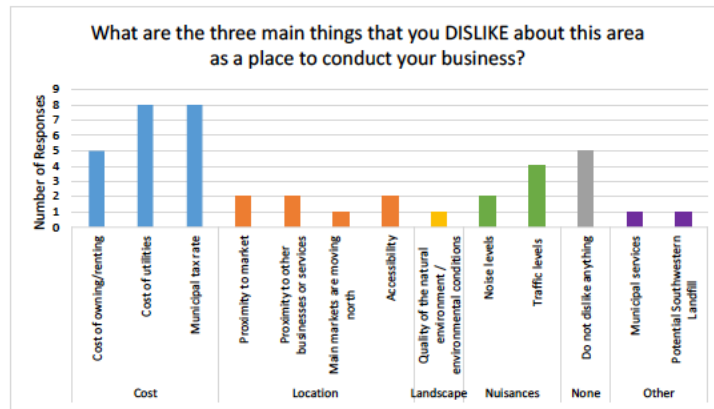
**Question 3. What are the three main things that you LIKE about this area as a place to conduct your business? (choose up to 3)**

Respondents were given a list of potential answers to select, including an open ended "other" category. These responses were then grouped in the analysis to show common themes. Most respondents stated that their businesses' location (proximity to the 401) was what they liked most about the area as a place to conduct business.



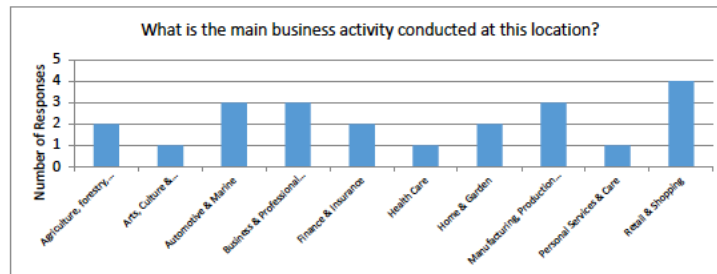
**Question 4. What are the three main things that you DISLIKE about this area as a place to conduct your business? (Choose up to 3)**

Respondents were given a list of potential answers to select, including an open ended "other" category. These responses were then grouped in the analysis to show common themes. Most respondents stated costs related to taxes and utilities were what they disliked most about the area as a place to conduct business.



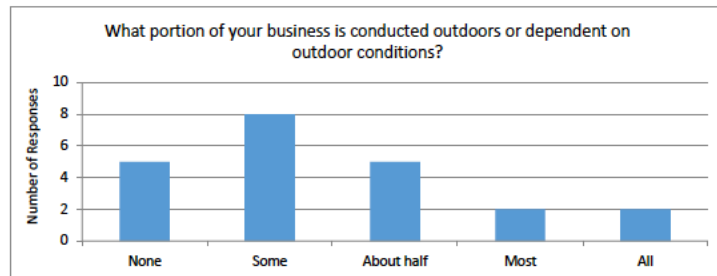
**Question 5. What is the main business activity conducted at this location? (Select the best answer that applies)**

Respondents selected one activity from a list of categories that best represents the business they conduct at their location. The most common response was Retail and Shopping.



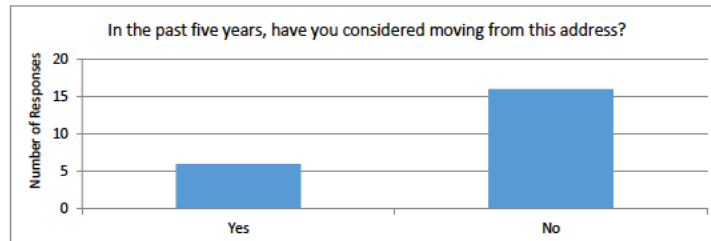
**Question 6. What portion of your business is conducted outdoors or dependent on outdoor conditions?**

Two respondents estimated that they conduct all of their business outdoors or that their business is dependent on outdoor conditions, while 2 business answered "most", 5 said "about half" of their business is conducted outdoors/dependent on outdoor conditions, 8 answer "some" and 5 answered that none of their business is conducted outdoors or dependent on outdoor conditions.



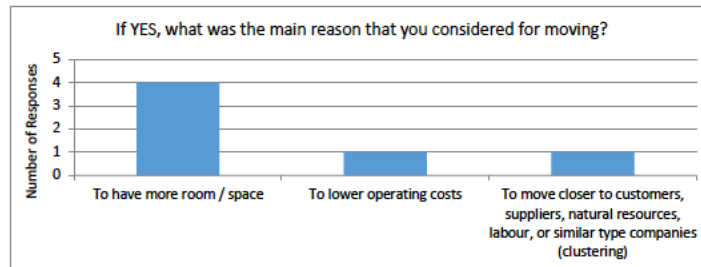
**Question 7. In the past five years, have you considered moving from this address?**

Six businesses answered that they have considered moving from their current address during the past 5 years, while 16 answered no.



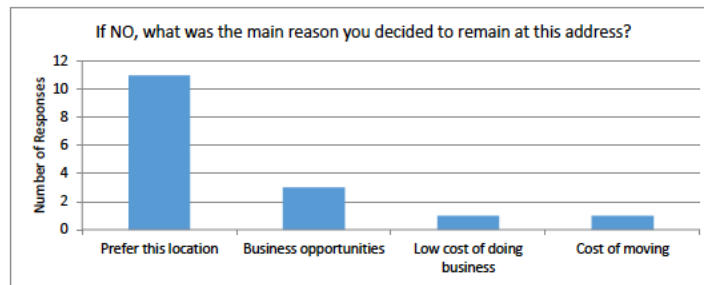
**Question 8. If YES, what was the main reason that you considered for moving?**

Of the six respondents that answered yes to considering moving from their current address in the past 5 years, 4 of them stated that it was to have more room/space, 1 said to lower operating costs, and another noted it was to move closer to customers, suppliers, natural resource, or similar type of companies (clustering).



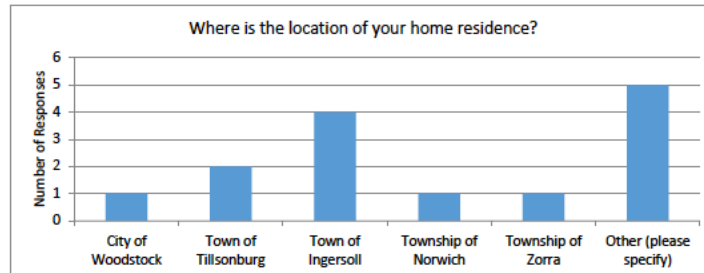
**Question 9. If NO, what was the main reason you decided to remain at this address?**

Of the 16 respondents who answered no to considering moving in the past 5 years, 11 of them noted that their main reason for remaining at their current address is because they prefer the location, 3 respondents remained due to their business opportunities at their current address, 1 business preferred to stay due to the low cost of doing business, and 1 business remained at their current location due to the cost of moving.



**Question 10. Where is the location of your home residence?**

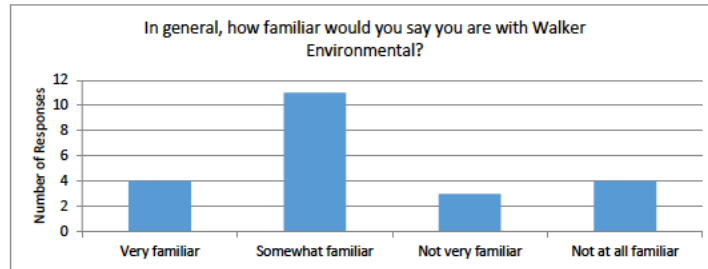
After final printing and delivery of the surveys, the project team added a new survey question to the online survey platform. The 17 respondents who filled out the survey online were asked the location of their home residence. The 5 respondents who filled out the physical survey and mailed it in did not have this question on their survey.



\*Other: City of Guelph, Town of Minto (Hamilton-Clifford), Central Egin, City of London, Town of Dorchester

**Question 11. In general, how familiar would you say you are with Walker Environmental?**

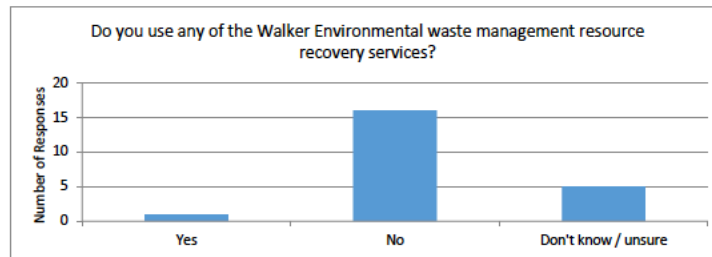
Four business respondents stated they were very familiar with Walker Environment, while 11 indicated they were somewhat familiar with the company. Three respondents noted they were not very familiar with the company, and 4 said they were not at all familiar with Walker Environmental.





**Question 12. Do you use any of the Walker Environmental waste management resource recovery services?**

One business uses Walker Environmental waste management resource recovery services, while 16 answered that they do not use any of Walker's services, and 5 businesses were unsure if they used any of their resource recovery services.

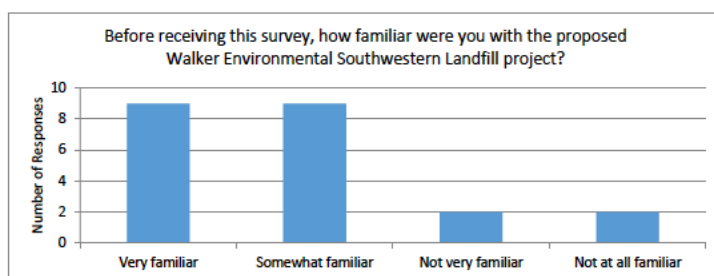


**Question 13. If YES, which services do you use? (Select all that apply)**

The one respondent who stated that they use Walker Environmental waste management resources noted they used landfill/waste disposal services.

**Question 14. Before receiving this survey, how familiar were you with the proposed Walker Environmental Southwestern Landfill project?**

Businesses were asked to select their level of familiarity with the proposed Walker Environmental Southwestern Landfill project, with 9 stating they were very familiar with the project. An additional 9 businesses noted they were somewhat familiar with the project; 2 business were not very familiar with the project and 2 noted they were not at all familiar with the proposed project.



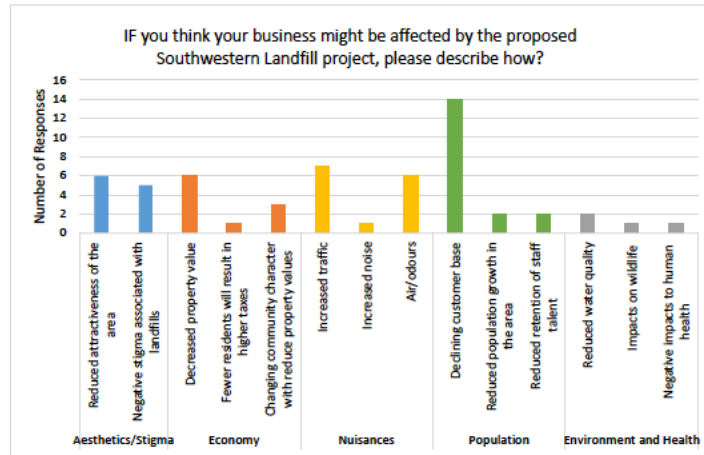
**Question 15. How, if at all, do you think your business might be affected by the proposed Southwestern Landfill project?**

Two respondents stated that they thought the proposed project would positively affect their business; however, 14 businesses felt that the proposed project would negatively affect their business. An additional 2 businesses felt they would not be affected, and 4 were unsure of how the proposed project might affect their business.



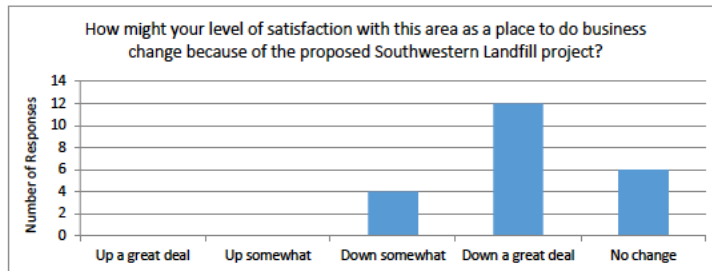
**Question 16. IF you think your business might be affected by the proposed Southwestern Landfill project, please describe how? (List up to 3 reasons)**

Respondents were asked to provide up to 3 open ended responses (some provided more), which were coded following survey completion. The following table illustrates responses from businesses when asked how the proposed project might affect their business.



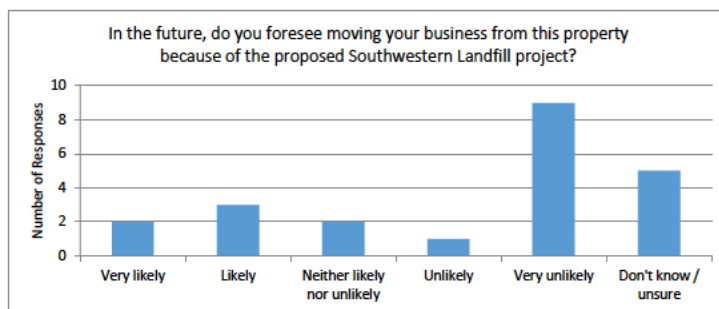
**Question 17. How might your level of satisfaction with this area as a place to do business change because of the proposed Southwestern Landfill project?**

Business were asked how they thought their level of satisfaction with their current business area might change as a result of the proposed project. No respondents said they thought their satisfaction would go up a great deal or up somewhat. Four of the business respondents felt their satisfaction with the area would go down, 12 felt their satisfaction would go down a great deal, and 6 felt there would be no change in their level of satisfaction with the proposed area as a result of the proposed project.



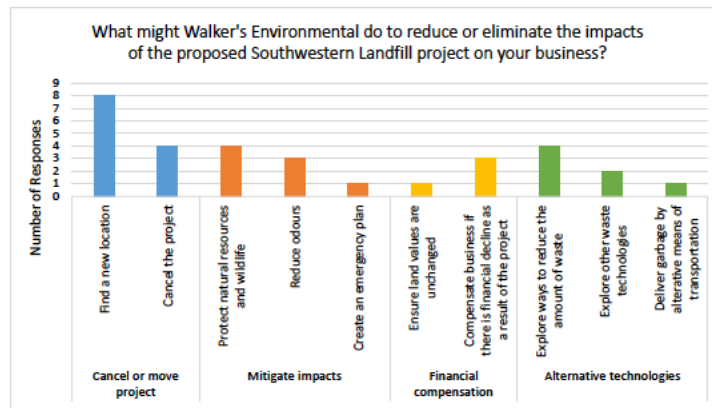
**Question 18. In the future, do you foresee moving your business from this property because of the proposed Southwestern Landfill project?**

Two businesses stated they are very likely to move from their current property as a result of the proposed project, while 3 said likely. Two business answered neither likely nor unlikely, 1 business said unlikely, 9 stated it is very unlikely that they'll move their place of business as a result of the proposed project, and 5 business did not know or were unsure.



**Question 19. What might Walker Environmental do to reduce or eliminate the impacts of the proposed Southwestern Landfill project on your business? (List up to 3 things)**

Business were asked what Walker Environmental might do to reduce or eliminate the impacts of the proposed project. The most frequently stated response was to find a new location for the project.



**4. NEXT STEPS**

The results included in this memo will be shared with Walker Industries and incorporated into the final Economic Analysis.

# **Appendix F – Municipal Letters and Information Requests**



February 1<sup>st</sup>, 2019

Don MacLeod, CAO  
Zorra Township  
*transmitted via email*

**RE: SWLF EA- Municipal Official Meetings**

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Dear Mr. MacLeod,

As part of the Southwestern Landfill Environmental Assessment (EA), the social and economic studies are underway. As part of those studies, representatives from SLR Consulting and Keir Corporation would like to interview municipal staff and elected officials. Walker representatives will also attend the interviews as a resource if there are any questions about the Southwestern Landfill EA.

In response to email correspondence between Walker Environmental and Zorra Township January 31<sup>st</sup>, 2019, please see the list of socio-economic interview questions below. The questions have been supplied by Kier Corporation and SLR Consulting to ensure appropriate personnel are available for the meetings.

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February 1<sup>st</sup>, 2019

Mary Ellen Greb, CAO  
Township of South West Oxford  
*transmitted via email*

**RE: SWLF EA- Municipal Official Meetings**

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Dear Ms. Greb,

As part of the Southwestern Landfill Environmental Assessment (EA), the social and economic studies are underway. As part of those studies, representatives from SLR Consulting and Keir Corporation would like to interview municipal staff and elected officials. Walker representatives will also attend the interviews as a resource if there are any questions about the Southwestern Landfill EA.

In response to email correspondence between Walker Environmental and the Township of South West Oxford (SWOX) January 31<sup>st</sup>, 2019, please see the list of socio-economic interview questions below. The questions have been supplied by Kier Corporation and SLR Consulting to ensure appropriate personnel are available for the meetings.

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February 1<sup>st</sup>, 2019

William Tigert, CAO  
Town of Ingersoll  
*transmitted via email*

**RE: SWLF EA- Municipal Official Meetings**

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Dear Mr. Tigert,

As part of the Southwestern Landfill Environmental Assessment (EA), the social and economic studies are underway. As part of those studies, representatives from SLR Consulting and Keir Corporation would like to interview municipal staff and elected officials. Walker representatives will also attend the interviews as a resource if there are any questions about the Southwestern Landfill EA.

Please see below for questions that will be asked during the interview. These questions have been supplied by Kier Corporation and SLR Consulting to ensure appropriate personnel are available for the meetings.

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January 28<sup>th</sup>, 2019

Peter Crockett, CAO  
Oxford County  
*transmitted via email*

**RE: Request for Interviews-Oxford County**

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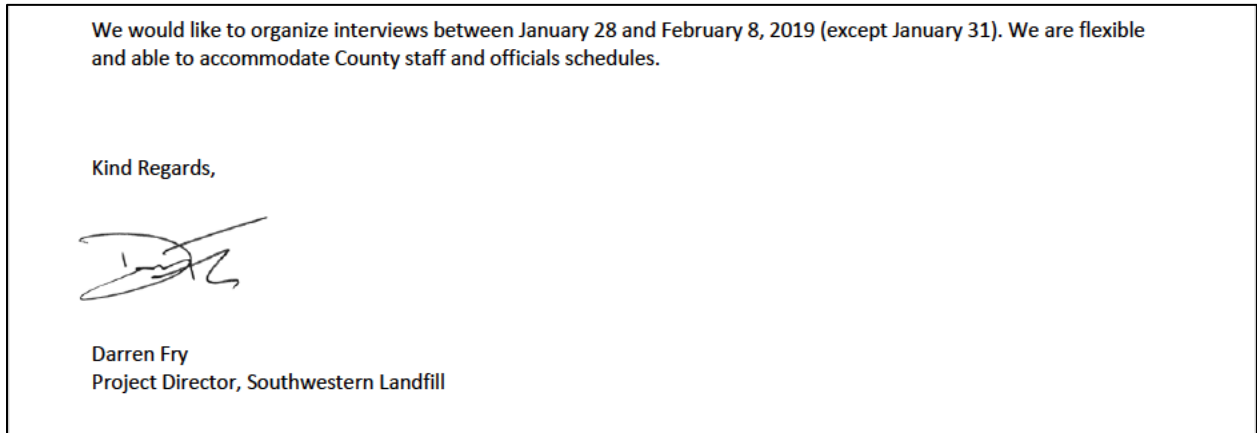
Dear Mr. Crockett,

As part of the Southwestern Landfill Environmental Assessment (EA), the social and economic studies are underway. As part of those studies, representatives from SLR Consulting and Keir Corporation would like to interview municipal staff and elected officials. Walker representatives will also attend the interviews as a resource if there are any questions about the Southwestern Landfill EA.

In response to email correspondence between Walker Environmental and Oxford County January 23<sup>rd</sup>, 2019, please see the list of socio-economic interview questions below. The questions have been supplied by Kier Corporation and SLR Consulting to ensure appropriate personnel are available for the meetings.

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In all cases letters were signed as follows:



In all cases questions asked were as follows:

**1. Economic Development / Public Works (Director, Manager – Waste Management)**

- a) What are key economic trends in the Municipality / County?
- b) What are key issues associated with these trends?
- c) Does the Municipality / County have a slate of priority initiatives?
- d) Does the proposed landfill potentially impact any of the key trends or priority initiatives?
- e) What other issues do you see arising from the landfill?
- f) Does the landfill present any opportunities?
- g) Is the landfill a localized matter or does it have County implications?
- h) If the Southwestern Landfill project were to proceed, what might be the most important thing you would want Walker Environmental Group to know? What is the most important concern or comment you have regarding this project?

**2. Municipal Finance**

- a) Are there any major projects requiring Municipal / County funding in the near term or longer term?
- b) Does the Municipality / County currently have any pressing financial issues?
- c) Does the Municipality / County foresee any pressing financial issues in the years ahead?
- d) Will the proposed landfill have any effect on the financial health of the Municipality / County?
- e) Will the proposed landfill have any detrimental effects on major projects contemplated by the Municipality / County?

- f) Is there potential for the landfill to be synergistic with any of the major projects contemplated by the Municipality / County?
- g) If the Southwestern Landfill project were to proceed, what might be the most important thing you would want Walker Environmental Group to know? What is the most important concern or comment you have regarding this project?

### **3. Planning & Development**

- a) From your perspective, in what ways do(es) your department/facilities/services contribute to the overall well-being of the communities you serve?
- b) What are the key things or issues that your department/government considers in planning for future development?
- c) What are the key issues facing your department/community today?
- d) From your perspective, what do you feel is the greatest threat to your community's overall well-being in the next decade and beyond?
- e) From the Planning and Development Department's perspective, what are your concerns regarding the Southwestern Landfill proposal?
- f) In your opinion, would the presence of the potential Southwestern Landfill site, its employees or activities have any effect (positive or negative) on your operations or the provision of planning and development services to the community? If yes, in what ways would the work of your department be changed or affected?
- g) Are there measures that could be put in place by Walkers to alleviate community concerns and your concerns?
- h) From your perspective does the proposed landfill present any opportunities for your constituency and the Municipality / County?
- i) If the Southwestern Landfill project were to proceed, what might be the most important thing you would want Walker Environmental Group to know? What is the most important concern or comment you have regarding this project?

### **4. Tourism**

- a) Could you please describe your department and **provide us with any documents** you may have that provide the following information:
- \_The full range of tourism facilities, services or products available in the County.
  - \_Tourism statistics (e.g., visitation, spending, etc.) that is specific to the County.
  - \_Public attitude research, opinion polling of tourists or Municipal / County residents?
- b) From your perspective, in what ways do(es) tourism contribute to the overall well-being of the communities in Oxford County?
- c) What are the key tourism related issues facing your department/community today?
- d) From your perspective, what do you feel is the greatest threat to your community's overall well-being in the next decade and beyond? Why?
- e) Are there any quantitative objectives that the Municipality / County is attempting to meet in terms of tourism (e.g., visitation). If Yes, Please describe them.
- f) What are the key things or issues that your department/government considers in planning for tourism

growth, programs or service in the future?

g) Please briefly describe any major plans you may have for the future in terms of the range of programs or services you would like to provide or the facilities you wish operate in your community.

h) In your opinion, would the presence of the potential Southwestern Landfill site, its employees or activities have any effect (positive or negative) on your operations or the provision of tourism programs and services to the community? If yes, in what ways would the work of your department be changed or affected?

i) Are there measures that could be put in place by Walkers to alleviate community concerns and your concerns?

j) From your perspective does the proposed landfill present any opportunities for your constituency and the County?

k) If the Southwestern Landfill project were to proceed, what might be the most important thing you would want Walker Environmental Group to know? What is the most important concern or comment you have regarding this project?

##### **5. Council Members**

a) What are the key trends you see in your constituency and the Municipality / County?

b) Landfill aside, what are the key issues facing the Municipality / County?

c) Is the proposed landfill an issue with your constituents?

d) If so, what are their key concerns?

e) What are your concerns?

f) Are there measures that could be put in place by Walkers to alleviate community concerns and your concerns?

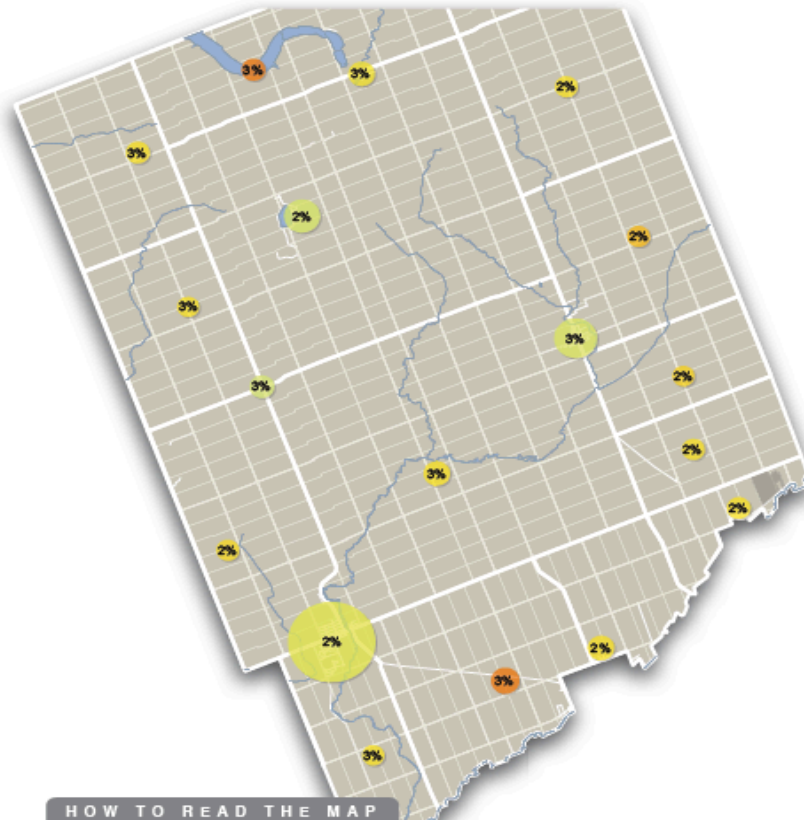
g) From your perspective does the proposed landfill present any opportunities for your constituency and the Municipality / County?

h) If the Southwestern Landfill project were to proceed, what might be the most important thing you would want Walker Environmental Group to know? What is the most important concern or comment you have regarding this project?

# **Appendix G – MPAC – Residential Market Trends**

**Zorra, South-west Oxford Ingersoll and Woodstock**

## Zorra Township



Disclaimer: This map reflects data at the time of Notice mailing (April 18, 2016).  
Final values will be delivered to municipalities by December 2016. ©MPAC

April 2016

### Property values up 2.1% in Zorra Township

Residential property owners will see an average assessment increase of approximately 2.1% in 2017.

### Value of a typical home

The assessed value of a typical residential home in Zorra Township is \$281,000.

### More about Zorra Township

Zorra's location between London and Ingersoll gives it a unique opportunity for people to migrate from the urban centres to a rural community lifestyle. Zorra's residential market maintains steady growth throughout the municipality.

Learn about your assessment, the relationship between property assessment and taxation, and more by visiting [aboutmyproperty.ca](http://aboutmyproperty.ca) or [mpac.ca](http://mpac.ca).

# Ingersoll



**HOW TO READ THE MAP**



The larger the circle, the more properties exist in the area

2%

Percentage of change from 2016 to 2017 tax year

**VALUE OF PROPERTY**



The darker the orange, the higher the overall property values are in that area

Disclaimer: This map reflects data at the time of Notice mailing (April 18, 2016). Final values will be delivered to municipalities by December 2016. © MPAAC

April 2016

**Property values up 1.3% in Ingersoll**

Residential property owners will see an average assessment increase of approximately 1.3% in 2017.

**Value of a typical home**

The assessed value of a typical residential home in Ingersoll is \$220,000.

**Condominium values in Ingersoll**

The assessed value of a typical condominium is \$132,500.

**More about Ingersoll**

Ingersoll is a small community on the banks of the Thames River. Its close proximity to Highway 401 provides many opportunities for residential, commercial and industrial development. Located within easy driving distance of both London and Woodstock, Ingersoll attracts the residential purchasers who want a smaller community lifestyle.

Learn about your assessment, the relationship between property assessment and taxation, and more by visiting [aboutmyproperty.ca](http://aboutmyproperty.ca) or [mpac.ca](http://mpac.ca).



## South-West Oxford Township



### HOW TO READ THE MAP



The larger the circle,  
the more properties  
exist in the area.



Percentage of change from  
2016 to 2017 tax year

#### VALUE OF PROPERTY



The darker the orange, the higher the overall  
property values are in that area.

Disclaimer: This map reflects data at the time of Notice mailing (April 18, 2016).  
Final values will be delivered to municipalities by December 2016. ©MPAC

April 2016

### Property values up 2.2% in South-West Oxford Township

Residential property owners will see an average assessment increase of approximately 2.2% in 2017.

### Value of a typical home

The assessed value of a typical residential home in South-West Oxford Township is \$270,000.

### More about South-West Oxford Township

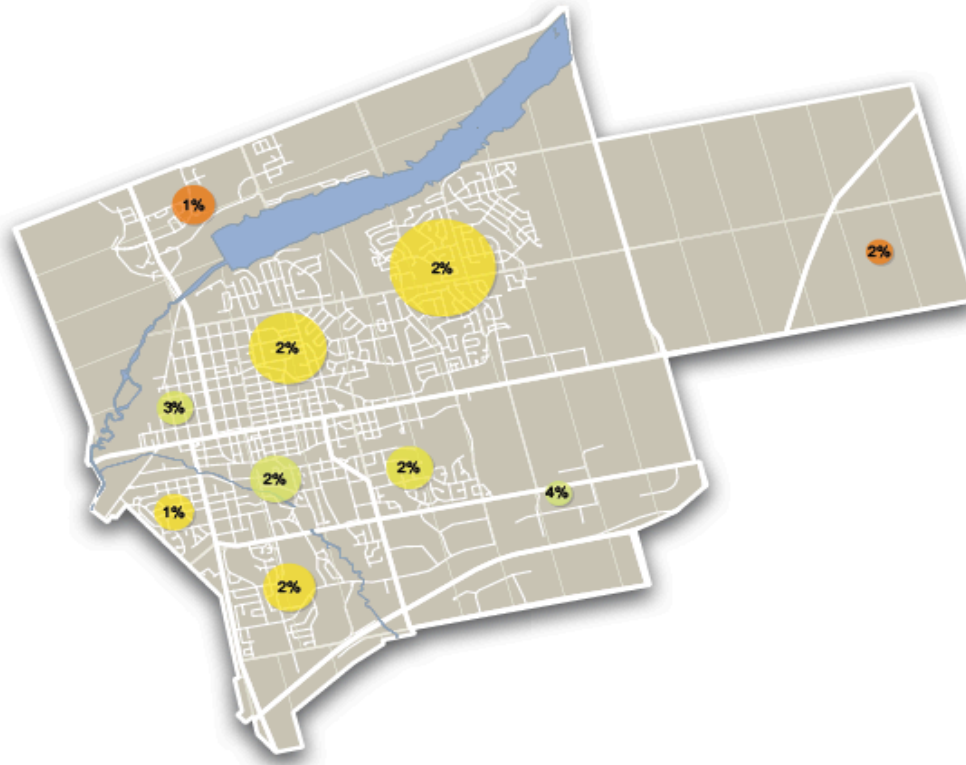
South-West Oxford is a rural community with large dairy and hog farms. South-West Oxford's residential market is experiencing moderate increases in the northeast along the Highway 401 corridor and in the southeast above Tillsonburg. South-West Oxford appeals to commuters seeking a "country feel" home.

Learn about your assessment, the relationship between property assessment and taxation, and more by visiting [aboutmyproperty.ca](http://aboutmyproperty.ca) or [mpac.ca](http://mpac.ca).



MUNICIPAL  
PROPERTY  
ASSESSMENT  
CORPORATION

# Woodstock



### HOW TO READ THE MAP



The larger the circle, the more properties exist in the area.



Percentage of change from 2016 to 2017 tax year

### VALUE OF PROPERTY



The darker the orange, the higher the overall property values are in that area.

Disclaimer: This map reflects data at the time of Notice mailing (April 18, 2016). Final values will be delivered to municipalities by December 2016. ©MPAC

April 2016

### Property values up 1.8% in Woodstock

Residential property owners will see an average assessment increase of approximately 1.8% in 2017.

### Value of a typical home

The assessed value of a typical residential home in Woodstock is \$233,000.

### Condominium values in Woodstock

The assessed value of a typical condominium is \$128,000.

### More about Woodstock

Woodstock was selected as one of the top 100 Neighbourhoods for Investment in 2016. Woodstock continues to be a very active and robust residential market with current demand outweighing supply. The proximity to Highway 401 and multitude of employment opportunities, including Toyota, continue to drive the strong housing market.

Learn about your assessment, the relationship between property assessment and taxation, and more by visiting [aboutmyproperty.ca](http://aboutmyproperty.ca) or [mpac.ca](http://mpac.ca).



MUNICIPAL  
PROPERTY  
ASSESSMENT  
CORPORATION