

ONTARIO MUNICIPAL BOARD

Ottawa OPA NO. 76

Urban Boundary – Phase 2A

**JOINT WITNESS STATEMENT
OF**

David L. Charlton, M.Sc. P.Ag., LEED® AP

Stantec Consulting Ltd.
1 – 70 Southgate Drive
Guelph, Ontario N1G 4P5
Telephone: (519) 836-6050, ext. 259

AND

David Hodgson, B.Sc. Agriculture (Soil Science), A.Ag.

DBH Soil Services Inc.
217 Highgate Court
Kitchener Ontario N2N 3N9
Telephone: (519) 578-9226

QUALIFICATIONS: DAVID CHARLTON

1. I have been a Principal of Stantec Consulting since the acquisition of ESG International Inc. by Stantec in June 2003. Prior to the acquisition, I was a Vice-President of ESG International Inc., and a Senior Resource Ecologist/Agrologist, where I was employed from 1984 to 2003.
2. I have earned a Bachelor's of Science degree and a Master's of Science degree in Resources Management from the School of Rural Planning and Development, University of Guelph.
3. I have more than 25 years of experience in agrology, resource ecology and management, watershed planning, and in assisting both private and public sector clients to develop and implement resource management and planning practices.

4. I have completed Agricultural Impact Assessments for urban developments and major transportation and utility proposals, contributed to agricultural policy development in Official Plans, and developed detailed rehabilitation plans for disturbed agricultural lands.
5. I have coordinated multi-year research programs on behalf of the federal government into sustainable agricultural practices aimed at optimizing farm productivity and protecting rural communities and resources.
6. I have participated in the development of more than 15 watershed plans across the province of Ontario dealing with a wide cross section of the major aquatic systems and the management and impacts of rural land uses.
7. I have advised the provincial and federal governments on issues relating to the evaluation and management of agricultural resources, wetlands and fisheries habitat; and the preparation, review and implementation of rural land management strategies.
8. I have provided expert testimony to the Ontario Municipal Board ("OMB"), the Environmental Assessment Board and Ontario Courts of Justice on issues relating to the interactions between agrology, planning and policy, resource management and the rural environment on numerous occasions in my career.
9. My *curriculum vitae* is attached as **Appendix 1** to this Witness Statement.

QUALIFICATIONS: DAVID HODGSON

10. I am President and Senior Agrologist with DBH Soil Services Inc. since its inception in May 2000. Prior to the creation of DBH Soil Services Inc., I was a Senior Pedologist and Agrologist with Ecologistics Limited, where I was employed from February 1992 to April 2000.
11. I have earned a Bachelor's of Science degree in Agriculture, specializing in Soil Science, from the University of Guelph.
12. I have more than 23 years of experience in soil science, soil survey, agrology, and in assisting both private and public sector clients to develop and implement resource management and planning practices in line with applicable policies.
13. I have completed Agricultural Impact Assessments for urban developments, major transportation and utility expansions and route selections, landfill site selection proposals, contributed to agricultural policy development in Official Plans, and developed detailed rehabilitation plans for disturbed agricultural lands (pits and quarries).

14. I have provided expert testimony to the OMB, on issues relating to agrology, planning and policy, soil science/survey and the rural environment on numerous occasions in my career.
15. I have assisted in the Land Evaluation component of a LEAR/Agricultural Resource Assessment, in conjunction with CH2M Gore and Storrie Limited (August 2000) prepared for the Region of Ottawa Carleton in support of ROPA 9.
16. My *curriculum vitae* is attached as **Appendix 2** to this Witness Statement.

NATURE OF RETAINER

17. David Hodgson was originally retained in May 2008 by EnviroPlan Consulting Services for Mattamy Homes to complete an Agricultural Impact Assessment and LEAR Study for an area defined as “*the southern urban boundary of Orleans extending south to Wall Road, West to Mer Bleue Road and east to Trim Road*”.
18. David Hodgson was further retained in November 2011 by Mattamy Homes to assist with the general Agricultural Policy issues raised in the Urban Boundary Phase 2A OMB Hearing.
19. David Charlton was retained in November 2011 by Mattamy Homes to address general Agricultural Policy issues raised in the Urban Boundary Phase 2A OMB Hearing.

ISSUES TO BE ADDRESSED

20. We will address the following issues (as indicated in the Board Order):
 - (a) Issue 5 – (MATTAMY) Should lands designated “Agricultural Resource Area” be considered as candidate areas for inclusion in the City’s Urban Boundary?
 - (b) Issue 6 – (CITY OF OTTAWA) Were there reasonable alternatives, within the meaning of the Provincial Policy Statement, such that further designation of prime agricultural lands for urban purposes was not appropriate?
 - (c) Issue 7 – (CITY OF OTTAWA) Was the exclusion of parcels of prime agricultural land as candidates for urban expansion consistent with the objectives of the Provincial Policy Statement?

Policy Background

21. These three issues are all related to using the best available data, policies and analytical practices to consider the impact of urban expansion on the agricultural resources of Ontario. The following summary of agricultural planning policies and practices will be helpful in considering these issues.
22. The Food Land Guidelines (FLG) released in 1978 represent early formal recognition of the need to plan for long term protection of agricultural lands in Ontario. The intent and function of these Guidelines are reflected in the 2005 Provincial Policy Statement (PPS) and the details of some policies and interpretations have changed over the years. However, the FLG are still a valuable reference tool as they explain the basic principles behind planning for agricultural land protection in Ontario. Important concepts established in the FLG include:
 - (a) Tools for identifying the highest priority lands, such as the Canada Land Inventory (CLI) system, the concept of specialty crops and other areas of viable agriculture which may have reduced soil capability but be important for social, economic and geographic reasons;
 - (b) Guidelines for setting priorities among agricultural lands;
 - (c) Detailed discussion about the Agriculture-Urban boundary and the importance of clearly defined and rational boundary delineations;
 - (d) Recommendations for the use of landscape features to demarcate clearly visible boundaries that will be easier to maintain and most effectively manage the tendency of urban boundaries to “creep”.
23. Provincially, land use planning is directed by the PPS, 2005. The PPS provides guidance for planning for the protection of agriculture in Ontario and identifies priorities for agricultural land. The PPS states:

“2.3.1 *Prime agricultural areas* shall be protected for long-term use for agriculture.’

‘*Prime agricultural areas* are areas where *prime agricultural lands* predominate. *Specialty crop areas* shall be given the highest priority for protection, followed by Classes 1, 2 and 3 soils, in this order of priority.’”

And;

“2.3.5 Removal of Land from Prime Agricultural Areas’

‘2.3.5.1 Planning authorities may only exclude land from *prime agricultural areas* for:’

‘a) expansions of or identification of *settlement areas* in accordance with policy 1.1.3.9; ...’”

And;

“2.3.5.2 Impacts from any new or expanding non-agricultural uses on surrounding agricultural operations and lands should be mitigated to the extent feasible.”

Policy 1.1.3.9 states that:

“1.1.3.9 A planning authority may identify a *settlement area* or allow the expansion of a *settlement area* boundary only at the time of a *comprehensive review* and only where it has been demonstrated that:’

‘a) sufficient opportunities for growth are not available through *intensification, redevelopment* and *designated growth areas* to accommodate the projected needs over the identified planning horizon;’

‘b) the *infrastructure* and *public service facilities* which are planned or available are suitable for the development over the long term and protect public health and safety;’

‘c) in *prime agricultural areas*:’

‘1. the lands do not comprise *specialty crop areas*;’

‘2. there are no reasonable alternatives which avoid *prime agricultural areas*; and’

‘3. there are no reasonable alternatives on lower priority agricultural lands in *prime agricultural areas*; and’

‘d) impacts from new or expanding *settlement areas* on agricultural operations which are adjacent or close to the *settlement area* are mitigated to the extent feasible.’

‘In determining the most appropriate direction for expansions to the boundaries of *settlement areas* or the identification of a *settlement area* by a planning authority, a planning authority shall apply the policies of Section 2: Wise Use and Management of Resources and Section 3: Protecting Public Health and Safety.’”

24. The PPS gives protection of certain agricultural land a high priority, but it also recognises the fact that most urban areas in southern Ontario are effectively surrounded by *prime agricultural lands* and *prime agricultural areas*, such that some consumption of agricultural resources may be necessary and appropriate. The City of Ottawa is no exception. The majority of the current urban boundary is surrounded by *prime agricultural lands* and many of these prime lands could also be considered *prime agricultural areas*.

25. The PPS provides the following definitions:

- (a) **Prime agricultural area:** means areas where *prime agricultural lands* predominate. This includes: areas of *prime agricultural lands* and associated Canada Land Inventory Class 4-7 soils; and additional areas where there is a local concentration of farms which exhibit characteristics of ongoing agriculture. *Prime agricultural areas* may be identified by the Ontario Ministry of Agriculture and Food using evaluation procedures established by the Province as amended from time to time, or may also be identified through an alternative agricultural land evaluation system approved by the Province.
- (b) **Prime agricultural land:** means land that includes *specialty crop areas* and/or Canada Land Inventory Classes 1, 2, and 3 soils, in this order of priority for protection.

The definition for prime agricultural lands is relatively objective as it is based on readily observable physical characteristics of the soil and a structured evaluation system that will not vary across the province. The definition for prime agricultural area is relatively subjective as it requires judgement based on landscape context and even socio-economic conditions. There is some degree of interpretation required regarding the terms “predominate” and “local concentration” and what is considered prime agricultural area in one part of the province may not be considered prime in another.

- 26. Past growth of the City of Ottawa has resulted in the consumption of both *prime agricultural lands* and *prime agricultural areas*. As one notable example, ROPA 9 consumed 209 ha of lands designated by the Regional Municipality of Ottawa-Carleton (now the City of Ottawa) as Agricultural Resource Area (ARA). ROPA 9 is discussed further in point 42 of this witness statement.
- 27. Like all Ontario municipalities facing this challenge, the City of Ottawa has an Official Plan review process and access to a set of tools to assist in determining the locations for future growth that best balance the objectives of the PPS, including the protection of certain agricultural lands for long term agricultural production, among many other considerations. The tools most relevant to the agricultural issues include the tools first identified in the FLG:
 - (a) CLI soils capability for production of common field crops;
 - (b) Consideration of land use and socio-economic conditions;
 - (c) Identification of specialty crop areas;
 - (d) Definition of compact, logical and readily observable urban boundaries marked by landscape features such as drainage, topography, roads and other utilities.

These tools have been updated and refined over the years since the introduction of the FLG.

28. The City of Ottawa has coordinated the first two tools listed above in Land Evaluation and Area Review (LEAR) process.
29. The Province of Ontario has produced guidelines for the use of LEAR in agricultural planning (OMAF, 2002). While LEAR is acknowledged as a useful tool, the OMAF guide strongly emphasizes the following key points to be kept in mind when using LEAR:
 - (a) The system should be applied consistently within a municipality.
 - (b) While the system scoring may be based on an individual property parcel basis the scores must be considered in a broader landscape context and, as a general rule, determination of *prime agricultural areas* should be focussed on identifying contiguous areas of 250 ha or larger.
 - (c) LEAR is intended to be used as part of the comprehensive Official Plan Review Process and it is not intended to be used as a site specific planning tool.
 - (d) The Land Evaluation (LE) component of LEAR is objective and numeric, since it is based on CLI ratings that are objective and scientific.
 - (e) The Area Review (AR) component is not mathematically precise. It is flexible to reflect local conditions and concerns and the factors selected, and the weighting given to the factors are more subjective than factors used in the LE.
 - (f) LEAR scores in a municipality should be analysed and a method for determining a “threshold” score should be selected that reflects local conditions. The threshold score, once determined, is used to determine if an individual property parcel is considered *prime agricultural land*. The threshold scores of individual properties are not to be used to conclude that any particular property is part of a *prime agricultural area*. Determination of *prime agricultural areas* requires a broader landscape analysis focused on identifying contiguous areas of 250 ha or larger.
30. A recent query to OMAFRA regarding the status of the Provincial LEAR Guidelines resulted in the following information. The original Provincial LEAR Guidelines were prepared in 1997 and updated in 2002. These guidelines were posted on the OMAFRA website for a time, but they had to be taken down as they were not in compliance with the language laws. OMAFRA intended to update and repost the guidelines; but, due to an impending PPS review, OMAFRA has decided to postpone any update until after the PPS review.
31. In summary, LEAR is a tool to be used with the application of critical and expert judgement at a broad planning scale, generally in 250 ha or larger blocks of contiguous land that can be identified and managed on a long term

basis. It is to be expected that the broader landscape approach will result in determination of *prime agricultural areas* that may include lands with low LEAR scores, and conversely it is expected that some smaller and isolated lands with high LEAR scores may be excluded from the determined *prime agricultural areas*.

32. LEAR is not a mathematically precise tool for use at a site specific planning level. LEAR threshold scores help suggest lands that may be identified as part of *prime agricultural areas*. LEAR scores are not definitive and the scores are not “frozen in time”. LE scores can be changed by altering land or soil characteristics. Most importantly, AR scores can change relatively rapidly by changing land uses on individual parcels and in surrounding areas.
33. For these reasons the LEAR process should be updated every time an Official Plan review is completed. Lands that were determined to be *prime agricultural areas* the last time the LEAR tool was applied should not be assumed to have the same status in the face of inevitable changes in land use conditions. Conversely, *prime agricultural lands* that were excluded from *prime agricultural areas* in the earlier LEAR analysis should not be assumed to have the same status as changing local concerns and land use patterns may result in a different result when LEAR Scores for individual parcels are considered on a landscape basis.

Status of the City of Ottawa LEAR

34. The ARA and General Rural designations for the City of Ottawa are based on relatively old data (1997) that have not been updated as the OP has been updated. Since the City has not updated LEAR, which is identified as the factual basis for the designations, the designations do not necessarily accurately reflect the current agricultural capability and the future viability of agriculture or the priority of the lands for preservation as “prime agricultural areas” under the PPS.
35. In our opinion, since the ARA no longer reflects the current conditions in all areas, it is inappropriate to use it as the basis for excluding potential urban expansion areas.
36. The City of Ottawa LEAR exercise is broken down into two components:
 - (a) LE- Land evaluation, which is based on the CLI capability of the soils;
and
 - (b) AR- Area Review, which is based on land use, parcel size and the presence of conflicting land uses.
37. Both of these components may have changed since the ranking exercise was last completed by the Regional Municipality of Ottawa-Carleton in 1997.

38. AR scores were calculated in the City of Ottawa based on individual property boundaries and land use conditions including:
- (a) The current use of the property;
 - (b) The presence of conflicting land uses within 305 m of the property; and
 - (c) The size of the property.
39. Land management activities and developments may reduce the CLI capability of lands and alter the parcel structure that the Ottawa LEAR is based on. For example, aggregate extraction, construction of SWM ponds, and drainage alterations for urban development may reduce CLI classification; while utility and infrastructure developments (such as the Terry Fox Drive extension, and Millenium Park Transit facilities) can alter land ownership, parcel size, land uses and land conflicts.
40. It is highly probable that AR factors will change over time and they should be regularly updated.
41. To our knowledge there has been no comprehensive update or reconsideration of the overall LEAR process since 1997. Changes to ARA boundaries have been limited to site specific re-designations of lands from ARA to urban development designations based on site specific studies, such as ROPA 9 (discussed in point 42, below) and the Del-Brookfield lands approved by the OMB in 2005.
42. **ROPA 9 - Corel Centre Lands Agricultural Resource Assessment**

The Council of the Regional Municipality of Ottawa-Carleton requested an amendment to the Regional Official Plan (1997) to expand the urban boundary in the vicinity of the Corel Centre. As part of the ongoing studies, CH2M Gore & Storrie Limited, in association with DBH Soil Services Inc. were retained to conduct an Agricultural Resource Assessment of these lands.

The lands in question represented a combination of General Rural and ARA as defined in the Regional Official Plan.

In an effort to assess the agricultural resource potential for this area, it was necessary to update the LEAR (1997) to more accurately reflect the land use and soil conditions present at that time. A review of the recent aerial photography indicated that there were areas of disturbed soils on some properties. The presence of recently disturbed soil areas would result in a direct loss of soils for agricultural production, hence a reduction in the LE component of the LEAR score for that property. Further, on review of the AR factors (land use, conflicting land use and parcel size) it was recognized that the original LEAR (1997) contained an error on a parcel in the Corel Centre Area. The error was associated with a property that was crossed by the Carp River. The parcel should have been treated as two separate parcels in the

original LEAR (1997). The parcel was re-evaluated to reflect the two parcel status. The re-evaluation of the lands documented a reduction of the LEAR score for various properties in the area affected by ROPA 9.

RESPONSE TO ISSUES

Issue 5 – (MATTAMY) Should lands designated “Agricultural Resource Area” be considered as candidate areas for inclusion in the City’s Urban Boundary?

43. In our opinion, ARA lands adjacent to the current urban boundary of the City of Ottawa should have been considered as candidate areas for inclusion in the Urban Boundary.
44. Exclusion of lands from consideration for inclusion in the urban boundary on the basis of the 1997 LEAR analysis could only be justified under the PPS agricultural policies if each of the following tests can be met:
 - (a) **A current and valid ARA designation** - The ARA designation must reflect current agricultural conditions in the area adjacent to the existing urban boundary. In other words, the ARA designation must only include lands that would be considered part of a *prime agricultural area* if evaluated under the 2005 PPS;
 - (b) **A current and valid GR designation** - The process used to recommend candidate expansion areas must ensure that any lands designated GR do not currently have a higher priority for long term protection for agriculture than any of the lands designated ARA; and
 - (c) **Protection of ARA lands from degradation over time** - The ARA lands must have been adequately protected from impacts beyond any site specific re-designations: i.e. the lands in the ARA designation that are currently adjacent to the urban boundary must have been protected from impacts that may have reduced their long term priority for protection as *prime agricultural areas*.
45. In our opinion current conditions in the City of Ottawa demonstrate that none of these tests can be met. The reasons for this opinion are itemized below.
46. **Current and valid ARA designation** - There are examples of areas that were designated as ARA in 1997 that apparently no longer meet the requirements for designation in 2011. For example, City Staff have recommended the inclusion of areas 5a, 10d and 10e in the urban boundary. All of these areas are/were designated as ARA but were apparently considered for inclusion based on changed circumstances including a change in LEAR scores. By failing to reconsider other ARA areas adjacent to the urban boundary, the City has not applied the evaluation process consistently and objectively. There is the possibility that additional areas that no longer merit designation as *prime agricultural areas* or *prime agricultural lands* may

have been overlooked and these areas may represent preferred alternatives to expansion onto other lands.

47. **A current and valid GR designation** - Staff recommended inclusion of areas 1a, 1b, 1d and 1h. These lands are currently designated GR. However, all of these areas are dominated by *prime agricultural land* (CLI Class 3 with a small area of Class 2) and the vast majority of the recommended lands have LEAR scores ranging from 131-200. Using the City criteria these LEAR scores would qualify these areas as candidates for inclusion in the ARA designation, i.e. "*prime agricultural areas*". In addition, a reconnaissance visit to this area (in November 2011) aided by interpretation of 2008 aerial photography indicate that the areas recommended for inclusion in the urban boundary and the surrounding landscape possess attributes of viable ongoing agricultural activities, including active croplands and maintained agricultural buildings. In other words there may be reasonable alternatives to these lands that avoid "*prime agricultural areas*" or that are on "lower priority agricultural lands in *prime agricultural areas*". By focussing only on the outdated 1997 LEAR exercise the City process in 2009 did not properly explore this possibility.
48. **Protection of ARA lands from degradation over time** - The decision to exclude previously designated ARA lands from consideration by the City seems to be built on the demonstrably false assumption that the ARA designation somehow protects land from changes that can reduce agricultural priority over time. In fact, there are numerous examples of lands designated as ARA that have had their agricultural capability seriously compromised by adjacent land uses over time.
49. One large scale example is the Millenium Park and associated transit facility (Park and Ride). This development is located in an area that is designated ARA. It is located on *prime agricultural lands* (CLI Class 3) and has breached Trim Road which, until construction of this development, was functioning as a clear urban area boundary. The surrounding area still exhibits high potential for long term agricultural productivity; for example there is a large agricultural investment in buildings and silos located just south of this location. The future Frank Kenny Road Extension is another large scale example of a development that will also negatively impact lands currently designated as ARA.
50. During the reconnaissance site visits (November 2011) and review of background information we have noted numerous other, smaller scale, examples of incursions by non-agricultural land uses into ARA lands. We have also noted land management activities that have the potential to degrade agricultural capability such as snow dumps, equipment staging, drainage modifications and stockpiles in proximity to the current urban boundary. Specific examples of the these incursions include:
 - (a) Approved soil stockpiling, grading and drainage works that Mattamy was required to conduct on land outside the urban boundary designated as ARA, adjacent to their Summerside development;

- (b) Snow dumping by the City of Ottawa on lands south of Brian Cobourn Boulevard that are designated ARA; and
- (c) Construction of a SWM pond in Area 10 outside the urban boundary by Minto on lands designated ARA.

This last example of degradation was used to support the staff recommendation to include adjacent areas 10d and 10e in the urban boundary despite current designation as ARA.

51. This issue of impacts on agricultural lands adjacent to urban areas is greatly increased when the boundary between Urban Lands and ARA traverses agricultural fields with no discernible features such as a road, a creek, a change in topography or a woodlot to mark the boundary. This is one of the reasons that the original FLG in 1978 recognized the importance of landscape based boundaries such as watercourses or roads. It is likely that any area where the current urban boundary is not well defined by an on-the-ground feature will be subject to the same types of impacts and alterations that reduce CLI capability. Reduced CLI capability could result in areas that are no longer *prime agricultural lands* and that might represent reasonable alternatives to expansion into areas which include *prime agricultural lands*. The City decision to ignore ARA lands without updating current conditions prevents them from fully considering such possible reasonable alternatives.
52. For the reasons outlined above it is our opinion that the City did, in fact, selectively consider some lands designated ARA as candidate areas for inclusion in the City's urban boundary. It is also our opinion that the City should have considered other ARA lands adjacent to the urban boundary as candidates.

Issue 6 – (CITY OF OTTAWA) Were there reasonable alternatives, within the meaning of the Provincial Policy Statement, such that further designation of prime agricultural lands for urban purposes was not appropriate?

53. Policy 1.1.3.9 requires consideration of alternatives that “avoid *prime agricultural areas*” or that make use of “lower priority agricultural lands in *prime agricultural areas*”. The process used by the City of Ottawa relied on an outdated ARA designation that was assumed, apparently, to protect the “*prime agricultural areas*” in the City and direct urban development to GR. It was also apparently assumed by the City that the GR designation included lands that either: are not “*prime agricultural areas*” under the definition of the PPS; or, can be assumed to be dominated by lands that have lower priority for agriculture. There is no indication in the material we have reviewed that the City process included a consistent approach to validate these assumptions or to comprehensively update data which is approximately 15 years old and predates the current PPS. A relatively simple process of considering current conditions could have, and should have, been applied to ensure that the historic designations still adequately identified areas that would be considered *prime agricultural areas* under the current PPS and to revise the designations where appropriate.

54. In several instances the City staff recommended inclusion of both “*prime agricultural lands*” and “*prime agricultural areas*” in the urban expansion boundary, and there is no indication in the material available to us that reasonable alternatives of lower priority were systematically considered.
55. The following areas recommended by staff are dominated by *prime agricultural lands* (CLI Classes 2 and 3): Areas 1a, 1b, 1d and 1h; 5a; and 5b; 6a and 6b; 7d; 9a; 10a and 10b and 11a, 11c and 11d.
56. The following areas recommended by staff were designated as ARA in the 2006 consolidated Official Plan: 5a, and 10d and 10e.
57. For the reasons outlined above it is our opinion that the majority of lands recommended by City staff for inclusion within the urban boundary include “*prime agricultural lands*” as defined in the PPS (2005). Some of these lands might also be considered *prime agricultural areas* as defined in the PPS (2005). As a result the exercise conducted by the City did not include adequate consideration of reasonable alternatives within the meaning of the PPS.

Issue 7 – (CITY OF OTTAWA) Was the exclusion of parcels of prime agricultural land as candidates for urban expansion consistent with the objectives of the Provincial Policy Statement?

58. A review of the areas considered and recommended for inclusion in the urban boundary (as summarized in point 55) clearly indicates that parcels of *prime agricultural land* were not consistently excluded as candidates for urban expansion.
59. The PPS Policy 2.3.5 allows for exclusion of land from prime agricultural areas in accordance with policy 1.1.3.9. The PPS does not require “exclusion of parcels of prime agricultural lands”. Given that most settlements in southern Ontario, including the City of Ottawa, are surrounded by *prime agricultural land* such a policy requirement would be impossible to meet. The objectives of the PPS are reflected in the individual policies but they are also laid out in “Part IV: Vision for Ontario’s Land Use System”. The objectives are well summarized in the statement “*Land use must be carefully managed to accommodate appropriate development to meet the full range of current and future needs, while achieving efficient development patterns.*”
60. For the reasons outlined above it is our opinion that the exclusion of some parcels of *prime agricultural land* as candidates for urban expansion, while other parcels of *prime agricultural land* were considered as candidates for expansion is not consistent with the agricultural objectives of the Provincial Policy Statement.

Implications of including ARA lands as Candidate Areas

61. To simply consider lands designated as ARA as potential areas for urban expansion in no way prejudices the outcome of that consideration. Lands that

exhibit a high priority for agricultural protection can continue to be protected and lands that currently exhibit relatively low agricultural priority for protection may be considered further. Whether such lower priority lands are actually added to the urban boundary can be based on a full consideration of all the relevant planning objectives identified in the PPS.

62. Given the age of the data and the lack of any recent updates or reviews, the 1997 LEAR scores and the Official Plan designations resulting from 1997 LEAR scores cannot be relied on to properly reflect current “prime agricultural areas” and should not be used as the only agricultural basis for determining potential areas of land that might be included in the City urban boundaries.

CONCLUSIONS

63. When areas are excluded based on old data and analysis, without any review to determine current conditions, there is a risk of protecting an area that does not merit protection for agricultural reasons at the expense of urban expansion onto lands that may have a higher current priority for protection for agriculture.
64. The risk expressed above is not appropriate under the agricultural policies of the PPS (2005).

REPORTS AND DOCUMENTS REFERRED TO OR RELIED UPON

- CH2M Gore & Storrie Limited in association with DBH Soil Services Inc. 2000. Corel Centre Lands Agricultural Resource Assessment. Prepared for Ottawa-Carleton Department of Planning and Development Approvals. August 2000.
- City of Ottawa Official Plan, 2007 Consolidation.
- City of Ottawa. 2007. Staff report re Official Plan Amendment 58. Agricultural Resource Area and Rural Housekeeping.
- City of Ottawa. Various. Official Plan Amendment 76 staff reports and background documents.
- EnviroPlan Consulting Services. 2008. Agricultural Impact Assessment For the area defined by the southern urban boundary of Orleans extending south to Wall Road, west to Mer Bleue Road and east to Trim Road. Prepared for Mattamy Homes. November 7, 2008.
- EnviroPlan Consulting Services. 2008. Agricultural Impact Assessment For the area defined by the southern urban boundary of Orleans extending south to Wall Road, west to Mer Bleue Road and east to Trim Road. Prepared for Mattamy Homes. June 30, 2008.

- Food Land Guidelines. A Policy Statement of the Government of Ontario on Planning for Agriculture. 1978.
- Marshall, I.B., J. Dumanski, E.C. Huffman, and P.G. Lajoie. 1979. Soils, capability and land use in the Ottawa Urban Fringe, Report No. 47, Ontario Soil Survey. Land Resource Research Institute, Research Branch, Agriculture Canada and the Ontario Ministry of Agriculture and Food (OMAF).
- Ontario Ministry of Agriculture and Food (OMAF). 2002. A Guide to the Land Evaluation and Area Review (LEAR) System for Agriculture. Agricultural Land Use Unit, Resource Management Branch. Draft Revised June 2002.
- Ontario Ministry of Municipal Affairs and Housing (MMAH). 2005. Provincial Policy Statement (the “PPS”).
- Ontario Ministry of Municipal Affairs and Housing (MMAH). 2005. The Greenbelt Plan.
- Ontario Ministry of Municipal Affairs and Housing (MMAH). 2008. Building a Greenbelt (MMAH, 2008 – updated 2010).
- Ontario Ministry of Natural Resources Land Information Ontario. 201, Canada Land Inventory Soil capability for common field crop production – updated in 2008.
- Regional Municipality of Ottawa-Carleton. 1997. Ottawa-Carleton Land Evaluation and Area Review (LEAR) and associated mapping.
- Region of York LEAR Summary Report. Planscape. Final Draft August 28, 2009.
- Schut, L.W. and E.A. Wilson. 1987. The Soils of the Regional Municipality of Ottawa-Carleton (excluding the Ottawa Urban Fringe) Volume 1, Report No. 58 of the Ontario Institute of Pedology.

Signed on this 9th day of December, 2011.



David L. Charlton, M.Sc., P.Ag., LEED® AP



David Hodgson, B. Sc. Agriculture (Soil Science), A. Ag.

LIST OF APPENDICES

Appendix 1 - *Curriculum Vitae* of David Charlton

Appendix 2 - *Curriculum Vitae* of Dave Hodgson

APPENDIX 1

Curriculum Vitae of David Charlton

David is a LEED® Accredited Professional, who has been contributing to sustainable resource management practices since 1982. He has developed a practical approach to impact assessment and conflict resolution through his central role in a number of Environmental Assessments and watershed management plans dealing with the protection, restoration and management of a range of ecosystems.

David has written more than 200 impact assessments, and has been cited for his work by the Ontario Provincial Planning Institute and the Ontario Municipal Board, among others. He has provided planning and management services to a range of industrial resource sectors including aggregate, forestry and agriculture. He has conducted pure and applied scientific research for federal governments on topics ranging from wetland management to agricultural land stewardship. He has worked closely with all interests, ranging from development proponents to public interest groups, to solve difficult resource management issues. David has served on several advisory committees, such as the City of Guelph Environmental Advisory Committee, and has appeared as an expert witness in front of Boards and Tribunals including the Ontario Municipal Board, the Consolidated Hearings Board and the Ontario Court of Justice.

EDUCATION

M.Sc, Resources Development, University of Guelph, Guelph, Ontario, 1986

B.Sc., Agriculture, University of Guelph, Guelph, Ontario, 1982

Ontario Wetland Evaluation System, Southern Manual, (3rd Edition) and Ontario Wetland Evaluation System, Northern Manual, (1st Edition), Ontario Ministry of Natural Resources, Lowville, Ontario, 1995

Temperate Wetland Restoration Training Course, Ontario Ministry of Natural Resources, Peterborough, Ontario, 2004

Fisheries Assessment Specialist and Fisheries Contracts Specialist, MTO/DFO/OMNR Fisheries Protocol Course, Downsview, Ontario, 2010

Qualified Electrofishing Operator (Class 2), Ontario Ministry of Natural Resources, Guelph, Ontario, 2010

REGISTRATIONS

LEED Accredited Professional, Canada Green Building Council

MEMBERSHIPS

Professional Agrologist, Agricultural Institute of Canada

PROJECT EXPERIENCE

Natural Sciences and Heritage Resources

Technology Evaluation and Development Subprogram of Soil and Water Environmental Enhancement Program, Province of Ontario (Project Manager)

On behalf of Agriculture Canada, planned and managed \$3.5 million of research into technologies for farm level control of soil erosion and sediment and chemical transport to waters in south western Ontario; coordinated a team responsible for identifying research needs, planning and implementing research program; multi-disciplinary workshops, statements of work, evaluating proposals, quality control and trouble shooting for research projects, control of a large budget and an ambitious communications program

Environmental Impact Studies Guidelines and Training, Province of Ontario (Trainer)

Assisted Ontario Ministry of Natural Resources in designing and delivering training programs on how to prepare environmental impact studies in compliance with Provincial Policies; established minimum standards, developed case studies; designed model mitigation measures; delivered nine, two-day training sessions to more than 400 people

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Management

Credit Valley Secondary Plan, City of Brampton, Ontario (Project Director, Environmental Sciences)

Planned, implemented and managed the multidisciplinary natural science inputs to a Subwatershed study done in support of this Secondary Plan, completed for the City of Brampton. Coordinated data collection, analysis and mapping for the terrestrial ecology and aquatic ecology components of the study; worked with other team members to integrate ecological issues with water quality and quantity analyses and policy formation; responsible for natural science input to the public participation process and participated in technical meetings with government agencies. The project and the ultimate policy recommendations were controversial, and the scientific basis for recommendations as well as the validity and interpretation of data were challenged by many interests. David's scientific credibility and his firm focus on objective interpretation of data were instrumental in helping arrive at an appropriate balance between competing interests, and provided the City with practical and effective ecological policies.

Torrance Creek Subwatershed Study, City of Guelph, Ontario (Project Director, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, guidelines for recreational trail location and design in provincially significant wetlands, resource management and land use policies and implementation guidelines, invasive species control and fisheries enhancement recommendations.

The Effect of Lake Levels on Great Lakes Coastal Wetlands (Project Director)

Detailed historic air photo and GIS analysis of wetland community dynamics in response to lake level fluctuations, input to management responses

Terrestrial Effects of Acid Rain, Province of Ontario (Project Manager)

Managed crews evaluating the impact of acid rain on the tolerant hardwood forests of Ontario, involved visual assessment of trees, tissue sampling and soil sampling, data analysis

Laurel Creek Subwatershed Study, City of Waterloo, Ontario (Project Manager, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, resource management and land use policies and implementation guidelines, integrated modeling of water quality and quantity and fish habitat, GIS mapping and extensive public involvement and consultation

Fletcher's Creek Subwatershed Study, City of Brampton, Ontario (Project Manager, Environmental Sciences)

Directed ecological inventory, analysis and policy formation, resource management and land use policies and implementation guidelines, intermittent headwater tributary and swale management

Aggregate Services

Staff Seminars, Toronto, Ontario (Restoration Advisor)

Researched and presented staff seminars at the Ontario Ministry of Agriculture regarding rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils.

Walker Aggregates Inc. Duntroon Quarry Expansion, Collingwood, Ontario (Project Director)

Completing Natural Environment Technical Reports for extension of a Category 2 Aggregate License; issues include Niagara Escarpment, ANSI, provincially significant wetlands, rare species, brook trout habitat, water balance, agricultural impacts and quarry rehabilitation

Fonthill Pit, Fonthill, Ontario (Restoration Advisor)

Assisted in design and implementation of rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils.

Seeley and Arnill Aggregates Drysdale Pit Rehabilitation, Meaford Township, Ontario (Restoration Advisor)

Designed rehabilitation guidelines for gravel pit restoration to specialty crop production, microclimate and soils.

CBM Godfrey Pit (Senior Ecologist)

Provided senior direction concerning site design with reference to critical natural environmental features (i.e., coldwater stream and Butternut specimens).

CBM Olszowka Pit (Senior Ecologist)

Directed project and contributed to design of mitigation and rehabilitation plan to protect coldwater stream.

Walker Aggregates Inc. Orillia Quarry License, Orillia, Ontario (Project Manager)

Managed environmental reports in support of Official Plan Amendment and Aggregate License; rare species management plan, water balance to maintain streams and wetlands, heronry impacts and monitoring, wetland policy application, Ontario Municipal Board hearing

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Management

Carden Quarry Aggregates License, Brechin, Ontario (Project Director)

Natural Environment Technical Reports and Feasibility Study for a Category 2 Aggregate License; alvar ecology, rare species, significant wildlife habitat issues, water balance, quarry rehabilitation

Capital Paving Proposed Montrose Pit, County of Wellington, Ontario (Senior Ecologist)

Senior project direction and report review.

Capital Paving Aikensville Pit (Senior Ecologist)

Directed project and provided senior input to wetland assessment.

Craig Pit Expansion, Mono Centre, Ontario (Project Director)

Natural Environment Technical Reports for gravel pit expansion, impacts on adjacent wetlands and fish habitat, cross watershed boundary issues, recreational impacts.

CBM Bromberg Pit (Senior Ecologist)

Natural heritage features assessment and senior report review.

CBM Neubauer Pit (Senior Ecologist)

Senior project direction and report review.

Multi-Unit / Family Residential

The Neighbourhoods of Sunningdale, London, Ontario (Project Director)

Coordinated all environmental input for the design and approval of The Neighbourhoods of Sunningdale; project started with a Secondary Plan, progressing through alternative servicing analyses, plans of subdivision and detailed design exercises; was responsible for all environmental components of the project approval included extensive public input, negotiations with Conservation Authorities and an Ontario Municipal Board hearing. Located adjacent to the Medway Valley Environmentally Sensitive Area, The Neighbourhoods of Sunningdale was designed to take advantage of the natural beauty of the valley while protecting and enhancing the significant ecological resources in the ESA. The location and market thrust presented significant design and approval challenges that David helped overcome. His involvement continued into the marketing phase of the project as he contributed to the production of a Community Environmental Guide, which won the London Homebuilder's Association award for Best Brochure in 2002.

Jackson's Landing, Sutton, Ontario (Project Director)

Environmental policies, approvals and design - Secondary Plan to Master Site Plan, site design and impact mitigation for high water table and sensitive vegetation, natural corridor functions and forest edges, Ontario Municipal Board

Huron Road Subdivision, Kitchener, Ontario (Project Director)

Environmental approvals and design - Plan of subdivision, forest and wetland buffers, tree preservation, naturalized stormwater management, cold-water stream protection

Aberfoyle Creek Estates: Phases 2 and 3, Puslinch, Ontario (Project Director)

Environmental policies, approvals and design - wetland buffer, site plan control, naturalized stormwater management, protection of trout habitat, groundwater and fisheries interactions

Brentwood Subdivision, Aurora, Ontario (Project Director)

Environmental policies, approvals and design - Secondary Plan and plan of subdivision, recreational and aquatic corridor, forest and ravine buffers, naturalized stormwater management

Waste Management

Interim Waste Authority Metro-York and Durham EAs, Province of Ontario (Project Director)

Peer reviewed biological and agricultural components of the IWA process on behalf of Municipalities with identified sites (Vaughan and Pickering); evaluated the study process, data, analysis techniques and final decisions for appropriateness, comprehensiveness, consistency, accuracy, reliability and comprehensibility; worked with legal counsel to prepare interrogatories and witness statements; met with proponent representatives, recommended process improvements and modifications.

Various Projects and Clients Across Southern Ontario, Counties of Grey, Wellington, Elgin and Lambton (Agrologist)

Evaluated the site selection criteria and process, evaluated agricultural impacts and mitigation measures, attended open houses and public meetings, made presentations to Municipal councils, and negotiated pre-hearing issues settlement and/or provided expert testimony in front of the Consolidated Hearings Board for landfills on behalf of public and private proponents as well as affected landowners. Focused on positive, proactive solutions to outstanding issues and represented all parties objectively and responsibly.

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Management

Environmental Assessment

Medway Valley Trunk Sewer Schedule C Class EA, London, Ontario (Project Director, Environmental Sciences)

Coordinated data collection, analysis and mapping for the terrestrial ecology and aquatic ecology components of the study; worked with other team members to integrate ecological issues with servicing and cost concerns; responsible for natural science input to the public participation process; led technical meetings with government agencies and public on environmental issues; developed mitigation and rehabilitation plans, supervised applications for DFO and CA permits, replanting of disturbed areas, and performance monitoring for stream crossings and ecological restoration

Kingston Master Drainage Plan and Class EAs for stormwater Retrofit, Kingston, Ontario (Project Director, Environmental Sciences)

Part of a multidisciplinary team reviewing stormwater management policies and practices for the City of Kingston; reviewed background information; met with agencies, conducted field work and mapping; set priorities on a Subwatershed basis; identified and evaluated alternative stormwater retrofit locations, recommended policy changes and management protocols, contributed to public participation process

Environmental Assessment Training Activities Canadian Forces Base Borden (Technical Advisor)

Advised on ecological inventories, application of Valued Ecosystem Components approaches, impacts and impact mitigation, ongoing forest resource management

Highway 10 Widening and Turning Lane Improvements, Orangeville, Ontario (Project Director)

Supervised ecological data collection and analysis; recommended mitigation measures to protect cold water stream and terrestrial habitat; provided sediment control and site restoration guidelines

Environmental Assessment Training Activities Canadian Forces Base Petawawa (Project Manager)

Managed ecological inventories, GIS, Valued Ecosystem Component identification, impacts and impact mitigation analysis, forest, fish and wildlife and recreational resource management

Environmental Assessment Training Activities Canadian Forces Base Val Cartier (Project Manager)

Managed ecological inventories, Valued Ecosystem Component identification, impacts and impact mitigation analysis, recommended a forest, fish and wildlife and recreational resource management program

Transportation Planning

Train Derailment Wetland Restoration, Parry Sound, Ontario (Director of Ecological Restoration)

A freight train derailment in February 2003 resulted in the release of chemicals and grain into an approximately 2 hectare wetland area situated approximately 500 metres upstream of a lake in rural northern Ontario. David Charlton provided project guidance to Stantec's ecological restoration team of terrestrial and aquatic specialists. The wetland restoration plan involved the use of regionally common plant species, where locally-sourced material was transplanted directly at the site from nearby sources, or propagated at the Royal Botanical Gardens' Burlington Wetland Nursery for transplantation following the winter. The selected wetland restoration technique successfully capitalized on natural succession processes, while avoiding the introduction of invasive species, and has resulted in the transformation of a damaged landscape into a naturalized one.

DFO Approvals, Compensation and Mitigation Plans for the Construction of a New Road Network and Associated New Culverts in Muskoka Commercial Park, Huntsville, Ontario (Senior Reviewer)

Senior report review of habitat assessments and fisheries inventories on Haynes Creek, the site of a proposed new commercial park. Review of agency correspondence and compensation designs.

MTO Retainer Assignment #3006-E-0009 (Senior Reviewer)

Served as senior reviewer of reporting related to fluvial geomorphology, post-construction monitoring, fisheries assessment, terrestrial assessment, impact assessment, site rehabilitation and DFO approvals related to 'No HADD'.

Sports, Recreation & Leisure

York Major Golf Club, Vaughan, Ontario (Project Director)

Environmental design and Approvals - forest buffers, tree preservation, naturalized stormwater management, turf and water management, ESA and ANSI impacts, cold water stream protection, restoration of an aggregate operation.

* denotes projects completed with other firms

David L. Charlton M.Sc., P.Ag., LEED® AP

Senior Principal, Environmental Management

Cardinal Golf Course, King Township, Ontario (Project Director)

Impacts of construction and expansion, wetland and forest preservation and buffers, turf and water management, Oak Ridges Moraine policies, restoration of an aggregate operation.

Sandhills Golf and Residential Community, Uxbridge, Ontario (Project Director)

Environmental design and Approvals - Plan of subdivision, forest and wetland buffers, tree preservation, naturalized stormwater management, cold water stream protection, Oak Ridges Moraine policies, Ontario Municipal Board

Maskinonge Waterfront Development, Georgina, Ontario (Project Director)

Environmental feasibility studies for recreational development on Lake Simcoe, wetland, shoreline and fish habitat impact and mitigation studies

Lake Fanshawe Rowing Centre Course Upgrades - London, Ontario (Project Director)

Directed staff in evaluating fish habitat impacts of course improvements, designing mitigation measures and obtaining all necessary work permits

Emerald Hills Golf Course, Whitchurch-Stouffville, Ontario (Project Director)

Impacts of course changes, wetland and forest buffers, turf and water management, compliance with Oak Ridges Moraine policies

Dallaire Golf Course - Orillia, Ontario (Project Director)

Environmental design and Approvals - forest buffers, tree preservation, significant wildlife habitat, wild turkey management, naturalized stormwater management, turf and water management, cold water stream protection

Aikers Marina - Long Point, Ontario (Project Director)

Environmental impacts and mitigation for marina expansion: waterfowl staging, fish habitat, shoreline stability, World Biosphere Reserve, Ontario Municipal Board

APPENDIX 2

Curriculum Vitae of David Hodgson



DAVID B. HODGSON, B.Sc. SENIOR PEDOLOGIST/PRESIDENT

- EDUCATION**
- B.Sc. (Agriculture), 1983-1987; University of Guelph, Major in Soil Science
 - Agricultural Engineering, 1982-1983; University of Guelph.
 - Materials Science Technology, 1981-1982; Northern Alberta Institute of Technology (NAIT), Edmonton, Alberta.

AREAS OF PROFESSIONAL EXPERIENCE

- 2000 to Present **Senior Pedologist/President. DBH Soil Services Inc., Kitchener, Ontario.**
Mr. Hodgson provides expertise in the investigation, assessment and resource evaluation of agricultural operations/facilities and soil materials. Dave is directly responsible for the field and office operations of DBH Soil Services and for providing advanced problem solving skills as required on an individual client/project basis. Dave is skilled at assessing soil and agricultural resources and is responsible for providing the analysis of and recommendations for the remediation of impacts to soil/agricultural/environmental systems.
- 1992 to 2000 **Pedologist/Project Scientist. Ecologistics Limited, Waterloo, Ontario.**
As pedologist, Mr. Hodgson provided expertise in the morphological, chemical and physical characterization of insitu soils. As such, Mr. Hodgson was involved in a variety of environmental assessment, waste management, agricultural research and site/route selection studies. Dave was directly responsible for compiling, analysis and management of the environmental resource information. Dave is skilled at evaluating the resource information utilizing both traditional mapping and Geographic Information System (GIS) applications. Dave was also involved the firms Environmental Audit and Remediation Division in the capacity of: asbestos identification; an inspector for the remediation of a pesticide contaminated site; and an investigator for Phase I and Phase II Audits.
- 1988 to 1992 **Project Manager/Soils Specialist. Ecological Services for Planning Limited, Guelph, Ontario.**
As project manager/soils specialist, Mr. Hodgson provided expertise in the management and technical aspects of pedological studies. As well, Dave was involved with the technical inputs to a variety of planning, environmental assessment, agricultural research, waste management, linear transmission and site selection studies. These studies involved co-ordination of resources, logistics concerns and the management of multidisciplinary teams.
- 1987 to 1988 **Assistant Pedologist. Ontario Ministry of Agriculture and Food, Ontario Institute of Pedology, Guelph, Ontario.**
As assistant pedologist, Mr. Hodgson provided support to the Ontario Institute of Pedology personnel. Dave's responsibilities included landowner contacts, aerial photograph and data interpretation, data input and assistance with the soil surveys of Elgin and Middlesex Counties.



SELECTED PROJECT EXPERIENCE

Environmental Assessment

- Agricultural Component of the Clean Harbors Hazardous Waste Landfill Lambton County 2009 – ongoing.
- Agricultural Component of the Highway 401 widening Cambridge to Halton Region 2009 – ongoing.
- Agricultural Component of the Greater Toronto Area West Corridor Environmental Assessment Study 2007 – ongoing.
- Agricultural Component of the Niagara to GTA Planning and Environmental Assessment Study, 2007 – 2011.
- Agricultural Component of the Highway 401 widening, Chatham, 2006 - 2007.
- Peer Review Agricultural Component of the Union Gas Dawn Corridor Expansion, 2006.
- Agricultural Component of the Trafalgar Road study, Halton Region, 2005.
- Agricultural Component of the Highway 404 Extension North, 2004.
- Agricultural Component of the Highway 404 – 400 Bradford Bypass, 2004.
- Peer Review of Agricultural Component of the Bondhead – Bradford Planning Area, 2003 – ongoing.
- Agricultural Component of the Highway 407 East Extension, 2002 – 2010.
- Peer Review of the Environmental Assessment for the Richmond Landfill Expansion, Napanee Ontario, 2001 - 2006.
- Agricultural Component of the Canadian National Railway Intermodal Facility Halton Region, 2001.
- Agricultural Component for Linear Transmission Facility, TransCanada PipeLine Natural Gas Pipeline Hamilton to Fort Erie, 2000 - 2001.
- Agricultural Component of the Environmental Assessment for a Landfill Site Search for Durham Region; Interim Waste Authority Limited 1992-1994.
- Agricultural Component of the Environmental Assessment for a Landfill Site Search for Peel Region; Interim Waste Authority Limited 1992-1994
- Environmental Assessment for a Proposed Rotary Kiln Incinerator in Lambton County; Laidlaw Environmental Limited.

Agricultural Impact Studies

- City of Barrie Secondary Plan, 2010 – ongoing.
- Township of Oro-Medonte, County of Simcoe, 2010 – 2011 (including MDS).
- Township of Adjala-Tosorontio, County of Simcoe, 2010 – 2011 (including MDS).
- Town of Caledon, Region of Peel, 2010 – ongoing (including MDS).
- Township of South Frontenac, County of Frontenac, 2010.
- Town of South Dumfries, Brant County, 2010 – ongoing (including MDS).
- Cambridge Concrete, North Dumfries Township, Region of Waterloo, 2008 – 2011.
- Upper North York Sewer Study, 2008 – ongoing.
- Town of Orleans, City of Ottawa. Mattamy Homes, 2008 – 2009 (including MDS).
- Town of Dorchester, Middlesex County, 2007 (including MDS).
- Humber Station Villages, Bolton, Region of Peel, 2007 (including MDS).
- Dufferin Glen Golf Course, Orangeville, 2007.
- Niagara to GTA Corridor Planning and Environmental Assessment Study, January 2007 – 2011.
- GTA West Corridor Planning and Environmental Assessment Study, January 2007 – ongoing.
- Winston Churchill Estates - Clipsham Engineering Ltd, Georgetown, 2006 - 2007.
- Enviroplan Consulting, Innisfill Township, 2005 (including MDS).
- Jack MacLaren, Ottawa-Carleton, 2004 – 2005 (including MDS).
- Reid Heritage Homes, Guelph, 2004 – 2005 (including MDS).
- Cambridge Concrete, North Dumfries Township, Region of Waterloo, 2003 – 2005.
- King-Vaughan Agricultural Impact Assessment, Region of York, 2002 (including MDS).
- Grimsby Agricultural Impact Assessment, Regional Municipality of Niagara, 2001 (including MDS).
- Gordon Forth Farms Agricultural Review, Flamborough Township, Regional Municipality of Hamilton-Wentworth, 2000 - 2001

Soil Surveys/Soil Evaluations

- Soil Survey and Canada Land Inventory Evaluation, Newmarket, 2011.
- Soil Survey and Canada Land Inventory Evaluation, Drayton, 2010.



- Soil Survey and Canada Land Inventory Evaluation, Beaverton, FIT Program Study, 2010.
- Soil Survey and Canada Land Inventory Evaluation, Gravel Pit, Dufferin County, 2009 – 2010.
- Soil Survey and Canada Land Inventory Evaluation, Aylmer, FIT Program Study, 2009.
- Soil Survey and Canada Land Inventory Evaluation, Eight Sites Southern Ontario, FIT Program Studies, 2009.
- Surficial Soils Assessment, Cambridge Concrete, Region of Waterloo, 2009 – ongoing.
- Soil Survey and Canada Land Inventory Evaluation, Bloomingdale, Region of Waterloo, 2009.
- Surficial Soils Assessment, Norval Shale Quarry Brampton Brick, Region of Peel, 2008 - ongoing.
- Soil Survey and Canada Land Inventory Evaluation, Elmvalle, County of Simcoe, 2008.
- Surficial Soils Assessment, Aggregate Pit, Strada Aggregates, Dufferin County, 2007 - 2008.
- Soil Survey and Canada Land Inventory Evaluation, Mulmur Township, Dufferin County, 2008.
- Soil Survey and Canada Land Inventory Evaluation, Arkel, Wellington County, 2007 – ongoing.
- Soil Evaluation/Classification, two properties, Orangeville, Dufferin County, 2006.
- Peer Review of an Agricultural Impact Assessment, for City of Pickering, 2005.
- Soil Evaluation/Classification, Waterdown Wetland Survey, City of Hamilton, 2004 – 2005.
- Peer Review for City of Ottawa Soil Survey Report, 2003.
- Soil Evaluation, Ottawa – Carleton, 2003.
- Soil Review and CLI Opinion, Crowland Township, Regional Municipality of Niagara, 2002
- Soil Review, Crowland Township, Regional Municipality of Niagara, 2001- 2002.
- Soil Survey and Canada Land Inventory Evaluation, Bayfield, Huron County, 2001.
- Soil Evaluation, Ecologistics Research Services, County of Middlesex, 2001.
- Soil Survey and Canada Land Inventory Evaluation, Miller Road, Regional Municipality of Niagara, 2001.
- Soil Survey and Canada Land Inventory Evaluation, Shakespeare, Perth County, 2000.
- Soil Survey for East Garafraxa Golf Course Proposal, 2000.

Land Evaluation Area Review Studies (LEAR)

- Land Evaluation Area Review, Mattamy Homes, City of Ottawa. 2008.
- GIS for Manitoba Environmental Goods and Services (EG&S) Study. 2007 – 2008.
- GIS and LE component of Land Evaluation Area Review, Halton Region 2007 - 2008.
- GIS and LE component of Land Evaluation Area Review, City of Hamilton, 2003 – 2005.
- Evaluation of Soil Resources - Land Evaluation Area Review, City of Sudbury, 2003 - 2004.
- Evaluation of Soil Resources – Land Evaluation Area Review (LEAR), Regional Municipality of Ottawa Carleton, City of Kanata, 2001, in association with CH2M Hill/Gore & Storrie.
- Evaluation of Soil Resources – Land Evaluation Area Review (LEAR), Regional Municipality of Ottawa Carleton, Corel Centre, 2000, in association with CH2M Hill/Gore & Storrie.

Expert Witness

- Ontario Municipal Board (OMB) Hearing, Town of Colgan, Simcoe County, 2010.
- Presentation to Planning Staff on behalf of Mr. MacLaren, City of Ottawa, 2005.
- Ontario Municipal Board (OMB) Hearing, Flamborough Severance, 2002.
- Preparation for an Ontario Municipal Board Hearing, Flamborough Golf Course, 2001.
- Ontario Municipal Board (OMB) Hearing, Stratford RV Resort and Campground – Wetland Delineation Assessment, 2000.
- Ontario Municipal Board (OMB) Hearing, Watcha Farms, Grey County, Agricultural Impact Assessment – Land Use Zoning Change, 1999-2000.
- Ontario Municipal Board (OMB) Hearing, Town of St. Vincent Agricultural Impact Assessment – Land Use Zoning Change, 1999 – 2000.
- Halton Agricultural Advisory Committee (HAAC), Halton Joint Venture Golf Course Proposal - Agricultural Impact Assessment for Zoning Change, 1999-2000
- Halton Agricultural Advisory Committee (HAAC), Sixteen Mile Creek Golf Course Proposal – Agricultural Impact Assessment for Zoning Change, 1999.
- Ontario Municipal Board (OMB) Hearing, Town of Flamborough, Environs Agricultural Impact Assessment for Zoning Change – Golf Course Proposal, 1999.
- Ontario Municipal Board (OMB) Hearing, Stratford RV Resort and Campground – Agricultural Impact Assessment, 1998.