

IN THE MATTER OF Sections 2, 3 and 6(3) of the
CONSOLIDATED HEARINGS ACT, 1981, S.O. 1981, C. 20;

- and -

IN THE MATTER OF the undertaking of the Regional Municipality of Halton to provide facilities for the purpose of receiving, dumping and disposing of waste as required by section 137 of the **REGIONAL MUNICIPALITY OF HALTON ACT, R.S.O. 1980, c. 436**, as amended, by acquiring the land for, constructing, operating and maintaining a landfill to contain 7.96 million cubic metres of waste in the Regional Municipality of Halton.

**CURRICULA VITAE OF EXPERT WITNESSES OF THE APPLICANT
THE REGIONAL MUNICIPALITY OF HALTON**

OSLER, HOSKIN & HARCOURT
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Solicitors for the Applicant

CURRICULA VITAE

I N D E X

- ✓ 1. COULTER, John Emerson
2. CRYSLER, Ralph E.
- ✓ 3. HELLAS, Linda
McEnrath
4. HENDERSON, Vicky
5. HIRAISHI, James A.
- ✓ 6. KOCZKUR, Eugene
- ✓ 7. MACKINTOSH, Erven E.
- ✓ 8. MacLEOD, Paul A.
9. NORMAN, J.D.
- ✓ 10. PEARCE, James Robert
11. RINALDO, Joseph L.
- ✓ 12. SCHIFF, Myra
- ✓ 13. SCOTT, Owen R.
14. SOBANSKI, Alfred A.
- ✓ 15. STEVENS, Denis Gordon
16. WALKER, Peter R.
- (1) ✓ 17. WATSON, C.N.
18. WILLES, Robert Frederick
- ✓ 19. WRIGHT, Robert M.

CURRICULUM VITAE

John Emerson Coulter P.Eng B.A.Sc.

Education: University of Toronto, Electrical Eng. 1971

Since 1971, Mr Coulter has held positions in; industrial sales of noise control equipment, 5 years as an engineer in the Noise pollution Control Section of the Ministry of Environment, and 8 years in private acoustics and vibration consulting, the last five as a partner in Barman Coulter Swallow Associates.

Mr. Coulter's consulting practice deals with a considerable amount of environmental noise and vibration work. He is a member of the CSA's Z107 committee on Noise and Vibration and Chairman of the instrumentation subcommittee of that body.

A list of selected environmental noise projects includes the following:

P.C. FORGE

Assessment of drop forge noise and vibration for an OMB hearing. Acting for the applicant.

ALEXANDER CENTRE INDUSTRIES

Noise assessment of a quarry application for an OMB hearing in Sudbury, Ontario. Acting for the applicant.

BARNES INDUSTRIES LIMITED

Noise & vibration of a quarry application in Storrington Township. Acting for Township of Storrington.

CN/MALTON NOISE STUDY

Noise & vibration study of Rail activities in Northern Malton for the City of Mississauga and C.N.

CRESTWOOD NOISE BARRIER REFLECTION STUDY

Study of sound propagation effects and barrier reflections on a rail noise barrier in Vaughan for the Ministry of the Environment.

PETROSAR

- a. Long range sound propagation study of Petrosar refinery, Sarnia.
- b. Environmental noise impact study for Petrosar's plant expansion.

GOODWOOD RACEWAYS

Technical support for Legal Council in a court case prosecuted under Section 14 of the Environmental Protection Act.

CITY OF MISSISSAUGA VS CONDOMINIUM CORPORATION

Technical support of Legal Council in examining evidence involving a civil suit re: the acoustical performance of building components in a multiple family development.

GRAHAM FIBERGLASS

Assessment and mitigation of long distance noise problems of a fiberglass manufacturing plant in Erin, Ontario.

KELLOGG SALADA LIMITED

Environmental Noise Impact Assessment for a major expansion of the London, Ontario Cereal Plant.

GENERAL MOTORS OF CANADA LIMITED

Environmental Noise Impact Assessment of the General Motors Windsor Transmission Plant.

MINISTRY OF THE ENVIRONMENT

While at the Ministry of the Environment, Mr. Coulter assisted in the preparation of the Model Municipal Noise Control Bylaw in general with individual responsibility for the technical content of the instrumentation and measurement procedure sections. Mr. Coulter initiated and supervised the Ministry's special procedures for noise investigations.

CANADIAN NATIONAL EXHIBITION

Study of noise propagation during Rock Concerts and design of mitigation measures to control sound in neighbouring residential areas.

HALTON LANDFILL STUDY

Environmental Assessment of Landfill alternatives in the Halton Region - On going.

CANADIAN NATIONAL RAILWAY

MacMillan Yard Noise Study. Study of CN's Toronto Hump Yard Noise generation support of OMB Hearings.

CANADIAN PACIFIC RAILWAY AGINCOURT ROAD

Study of Hump Yard Noise reduction for City of Scarborough & CP Rail.

TOWN OF SEAFORTH

Landfill site noise impact assessment.

GO ALRT

Noise impact review of transit lines on the Oakville/Burlington/Lakeshore Route & Scarborough/Pickering section of the North Metro Route.

CITY OF BELLEVILLE

Noise impact review of CN's Belleville Yards to support the Stanley Park Secondary Plan.

CURRICULUM VITAE
for
RALPH E. CRYSLER

EDUCATION

Certificate, Environmental Assessment and Land Use Planning
University of Guelph, 1977

Certificate, Environmental Impact Statements
George Washington University, 1975

Bachelor of Applied Science (Hons.) (Civil)
University of Toronto, 1949

MEMBERSHIPS

Member, Association of Professional Engineers of Ontario

Member, Association of Professional Engineers,
Geologists and Geophysicists, Alberta

Designated Consulting Engineer, Ontario

Member, American Society of Civil Engineers

Fellow, Canadian Society for Civil Engineering

Member, Engineering Institute of Canada

Member, Soil Conservation Society of America

PROFESSIONAL OFFICES

Vice-President, Conservation Council of Ontario, 1976-1978

Chairman, Environmental Affairs Committee,
Association of Consulting Engineers of Canada, 1975-1976

Chairman, Professional Development Committee,
Association of Professional Engineers of Ontario, 1969

President, Ontario Chapter,
Soil Conservation Society of America, 1966

PUBLIC OFFICES

Trustee, Ontario Waterfowl Research Foundation, 1975-1981

Director, Canadian National Sportsmen's Shows, 1977-1981, and
Member of the Executive Committee, 1980-1981

Trustee, Canadian National Sportsmen's Fund, 1977-1979

PROFESSIONAL EXPERIENCE

1984 to Present

Trow Hydrology Consultants Ltd., Manager of Environmental Services. Responsible for co-ordinating and directing engineering and hydrogeological investigations and designs relative to active, abandoned and proposed waste management sites. Projects included:

Investigation and design of odour control system of a major municipal landfill including collection and incineration of landfill gas.

Engineering and hydrogeological studies and designs of alternative landfill site as part of the search for a regional landfill site.

Investigation and design of collection and venting systems to prevent migration of landfill gas into buildings.

1980 to 1984

Techman Engineers Limited, Calgary, Manager, Development Projects. Responsible for feasibility studies and environmental studies relative to proposed resource developments. Projects included:

Geological, environmental and hydrologic studies for two proposed open pit coal mines, including preparation for and attendance at regulatory hearings.

Class environmental assessment for coal slurry pipe lines.

Environmental impact assessment of a proposed coal slurry pipe line.

Research for enhanced oil recovery and for heavy oil recovery.

1977 to 1980

Montreal Engineering Company, Limited, Manager, Environmental Division (Ontario). Responsible for the Company's activities in environmental planning and in land and water resource management in Ontario. Projects included:

**Project Manager, Environmental assessment
of a proposed natural gas pipeline in Northern Ontario**

**Environmental Coordinator for
two proposed mines in Nova Scotia**

**Environmental Co-ordinator for
studies of peat mining in Eastern Canada**

**Study of potential damages due to
flooding in a western Canadian city**

**Environmental Coordinator for
industrial waste disposal for a Quebec firm**

**Project Manager for investigations of
industrial waste disposal sites in Southern Ontario**

1971 to 1977

Crysler & Lathem Ltd., Toronto, Principal. Responsible for environmental analyses, inter-disciplinary studies and hydraulic design. Projects included:

**Design of two major recreational areas,
each greater than 50 acres in size,
on land reclaimed from Lake Ontario,
including littoral studies, shoreline protection,
environmental and social concerns**

**Design of a number of flood control dams,
including hydraulic and hydrologic studies;
these usually involved a public recreation aspect**

**River channel improvements, including stream-bank
erosion control, channel realignment, channel dredging,
and small craft docking, together with necessary
hydraulic and hydrologic analyses**

**Regional open space studies to provide
public recreational facilities, wilderness areas
and scenic corridors**

Restoration of historic sites and buildings

1960 to 1970

Crysler, Davis & Jorgensen Ltd., Toronto, Principal. Chief Structural Engineer, responsible for a number of highway and railway bridges, industrial buildings and the restoration of historic buildings and mills. Chief, Resource Management Division, responsible for:

- (a) Land drainage schemes for improved agricultural drainage including hydrologic studies, drainage design, economic analyses and environmental impact studies;
- (b) Flood control schemes including channel improvements, flood control dams and diversion channels;
- (c) Erosion control schemes including both stream banks and lake shores (i.e. river currents, littoral currents and wave action); and
- (d) Recreational planning including urban parks, scenic corridors and marinas.

1957 to 1960

H.A. Babcock and Associates Ltd., Toronto, Associate and Chief Structural Engineer. Responsible for preliminary studies, final design and construction supervision of large and small bridges and industrial buildings.

1952 to 1956

M.M. Dillon and Company Limited, London, Ontario, Structural Designer. Work included highway bridges, industrial buildings and multi-storey residential buildings.

1951 to 1952

Carter Construction Company Limited, Toronto. Estimating Engineer.

1949 to 1951

National Harbours Board, Churchill, Manitoba, Assistant Port Engineer. Work included harbour dredging and maintenance of on-shore buildings and utilities.

ACADEMIC POSITIONS

1973 to 1977

Member of Council, Faculty of Applied Science and Engineering, University of Toronto

1974

Lecturer in Resource Management, Seneca College, Toronto

PUBLISHED PAPERS

Crysler, R.E., "The Drainage Act and the Practitioner: Environmental Considerations". Invited paper presented to the Association of Ontario Land Surveyors, Toronto, 1979.

Crysler, R.E., "The Restoration of Historic Buildings". Invited paper presented at the 1978 Annual Conference of the Canadian Society for Civil Engineering, Toronto, 1978.

Crysler, R.E., "Mechanical Properties of Some Aged Timbers". Report of a Testing Program for the Department of Indian and Northern Affairs, 1978.

Crysler, R.E., "The Consulting Engineer in Environmental Problem Solving: The Ontario Situation". Invited paper presented at Environment III, a seminar sponsored by the Association of Consulting Engineers of Canada, Vancouver, September 1977.

bird and hale

CURRICULUM VITAE

Name: Linda Hellas, B.Sc., M.Eng.

Education: University of Toronto, B.Sc., (Biol) (1978)
University of Toronto, M.Eng., (Civil) (1985)

Memberships: Canadian Water Resources Association
Ontario Association of Remote Sensing
The International Peat Society

PROFESSIONAL EXPERIENCE

Holds a specialist degree in biology and an environmental/
water resources degree in civil engineering.

Initially employed by Bird and Hale Limited in 1972, for two years, at the technician level. Returned to Bird and Hale Limited in 1978, as a resources manager. In 1983, became a partner in the company. In addition, since 1979 has taught courses in biophysical terrain evaluation techniques, and hydrology at Ryerson Polytechnical Institute.

Professional experience has included biophysical data acquisition and analysis, design of study methods and evaluation procedures, coordination and consultation on environmental impact studies, and participation and testimony in public and government hearings.

Studies have included an environmental assessment study related to a vermiculite mine, route location studies, and biophysical inventory, evaluation and mitigation studies related to urban and rural residential developments. Has been involved in biophysical terrain inventories, both terrestrial and aquatic, including wildlife inventories. Helped coordinate the preparation and also provided the biological and water resources input into a manual on remote sensing for Parks Canada; was responsible for the biological component and the methodology of an Initial Environmental Evaluation for an access road in Pukaskwa National Park; and, managed and conducted the biological component of a study in which potential sites were evaluated for a municipal airport. Undertook for Parks Canada the initial synthesis and analysis of existing information, developed the method of analysis, and was

bird and hale

Linda Hellas

responsible for the biological component of a regional analysis of the Western High Arctic Islands and the Central Boreal Uplands. Examined and mapped the biological communities of the Tobermory Islands of Georgian Bay Islands National Park; undertook peatland inventory and evaluation projects for Ontario Geological Survey, Indian Minerals, and private owners; established study design and managed sampling analyses and evaluation program for vermicomposting of sewage sludge. For Metropolitan Toronto Parks, and subsequently for the Ministry of Transportation and Communications, undertook vegetation stress analysis using large scale, colour infrared photography.

Has undertaken lake surveys, lake modeling and capacity studies on over thirty lakes. Has prepared a lake studies manual for use by cottagers' associations, and a lake information booklet for use by municipalities. Frequently gives talks on lake characteristics and processes to municipal councils, planning boards, and cottagers' associations. Completed a state-of-the-art report entitled Measurement of Water Resources Parameters Using Remote Sensing Techniques, for the Ontario Ministry of Transportation and Communications.

Recent projects include a study for Parks Canada which involved the development of a computerized annotated bibliography related to environmental impact prediction and mitigation of linear developments; and, background biophysical information and biological significance and sensitivity categorization for secondary and neighbourhood plans. Currently, is project director for a Feasibility Study of Alternative Sources of Electrical Supply for three communities along James Bay, and is specifically responsible for environmental inventory and evaluation components; study team is multi-firm and multidisciplinary.

bird and hale

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Memberships: Canadian Water Resources Association
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PROFESSIONAL EXPERIENCE

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Professional experience has included biophysical data acquisition and analysis, design of study methods and evaluation procedures, coordination and consultation on environmental impact studies, and participation and testimony in public and government hearings.

Highlights of some of the projects for which she was responsible or in which she participated, and which illustrate the type and scope of projects on which she works, are as follows.

Ministry of Northern Development and Mines: Feasibility Study, Alternative Sources of Electrical Supply for Fort Albany, Kashechewan and Attawapiskat - Project director and responsible for the environmental component of a multi-disciplinary study into the costs and benefits (including environmental) of extending the power grid or utilizing alternative energy sources to provide improved electrical supply to these communities.

Parks Canada: Literature Review of Environmental Impact Prediction and Mitigation of Linear Developments - Development of a computerized annotated bibliography; included an extensive literature search and document review, including contacts with university and private company researchers, and, government agency personnel.

bird and hale

Linda Hellas

Mississauga Indian Band: Peatland Inventory and Evaluation - Evaluation of peat resources of Reserve for type, quantity, quality, and potential for utilization as floral peat.

Prestlake Developments Limited: Preston Lake - Extensive investigations were undertaken to evaluate the present condition of the lake, determine methods whereby the condition could be improved, and evaluate the extent of and locations for development. Information was presented before and accepted by the Ontario Municipal Board.

Municipality of Metropolitan Toronto, Department of Parks and Recreation: Toronto Islands - Early summer and autumn large scale, full format colour infrared photography was acquired and used to map the vegetation communities. Detailed field investigations augmented the airphoto interpretation information and provided floral species data. Study delineated groups of trees which exhibited moderate or high levels of stress to establish priority areas for scheduling of remedial planting and maintenance. Recommendations for suitable species for planting were given.

Ontario Ministry of Transportation and Communications - State-of-the-art report reviewing literature and ongoing studies to determine remote sensing techniques applicable to water resources detection and evaluation.

Vaughan Property, Esquising Township: Biophysical Terrain Evaluation - Detailed site specific investigation into biophysical terrain conditions to ascertain applicability of boundaries on Niagara Escarpment Commission Proposed Plan Map 3. Responsible for biological components. Evidence was presented before and accepted by Commission Board.

Parks Canada: Resource Evaluation, Tobermory Islands - Responsible for biological component; tentative floral and faunal species lists were prepared, and sensitive areas were delineated. Recommendations concerning suitable recreational activities, interpretive opportunities, user potential, and nature of Interim Management Guidelines were given.

Municipality of Galway and Cavendish: Environmental Evaluation - Environmental evaluation into the potential impact of a proposed open pit vermiculite mine. Responsible for biological and water quality components.

bird and hale

Linda Hellas

Parks Canada: Regional Analyses of Natural Regions 38 and 18 - Responsible for study design, evaluation method and biological component of studies that identified Natural Areas of Canadian Significance in the Queen Elizabeth Islands (High Arctic Islands, N.W.T.) and Central Boreal Uplands (north-central Saskatchewan, Manitoba, Ontario, and Quebec).

City of Barrie: Environmental Evaluation - Initial environmental assessment of the site selection for a district municipal airport. Large area was investigated; thirty-one preliminary sites were reduced to thirteen sites, and then four final sites. Responsible for biological components, and provided input into study design and evaluation methods.

Parks Canada: Pukaskwa National Park - Responsible for study design, evaluation method and biological component of Initial Environmental Evaluation, under EARP, of proposed coastal transit route in the Park. Report included environmental assessment, impact prediction, mitigation measures, and monitoring recommendations.

Parks Canada: Handbook on Remote Sensing - Preparation of vegetation, wildlife habitat, ecological land classification, and environmental assessment chapters of manual of remote sensing techniques applicable to the management of natural resources.

Rossland Heights, Region of Durham: Environmental Investigation - Biophysical terrain characteristics were inventoried through airphoto interpretation and field investigations. Information was evaluated to define boundaries of hazard lands and areas suitable for development, and recommendations were given for mitigation measures. Responsible for biological components.

Municipality of Galway and Cavendish: Pencil Lake - Evaluation of biophysical conditions of near shore area, limnological assessment, determination of aquatic communities, to determine the development capacity of the lake, both in terms of water quality characteristics and in terms of user enjoyment and safety.

Urban Engineering: Point Abino, Ontario - Responsible for the biological components; resources were inventoried, with special regard to the rare and sensitive floral and faunal components of the Carolinian Floristic Zone. The sensitivity of the area to residential development was assessed and remedial measures necessary to minimize or eliminate detrimental impacts were recommended.



THE REGIONAL MUNICIPALITY OF HALTON

OFFICE OF THE CHIEF
ADMINISTRATIVE
OFFICER

P.O. BOX 7000
1151 BRONTE ROAD
OAKVILLE, ONTARIO L6J 6E1
416/827-2151

Curriculum Vitae

VICKY HENDERSON

EDUCATION

1981 - 1983 University of Western Ontario

- Graduated with a Bachelor of Arts Degree in Administrative and Commercial Studies. Areas of concentration were Public Administration and Public Policy.
- Graduated from Diploma Program in Public Administration.

1974 - 1977 Fanshawe College, School of Design

- Graduated from three-year diploma program as a Landscape Designer. Specialized in urban renewal and revitalization projects.

EMPLOYMENT

1983 - Present Regional Municipality of Halton

Assistant to Chief Administrative Officer (1985 - Present)

- Managed Corporate and Special Projects
- Provided assistance of an administrative and functional nature to the C.A.O.
- Supervised staff including Emergency Planning Coordinator, Energy Auditor and Special Projects Officer
- Responsible for liaison with Solid Waste Advisory Committee and Emergency Service Agencies
- Prepared and monitored Divisional budgets

Energy from Waste Project Officer (1983 - 1985)

- Coordinated Market and Preliminary Feasibility Studies.
- Liaised with consultants, potential energy customers, citizens, external agencies and Province

BURLINGTON

639-4540

HALTON HILLS
ACTON

853-0501

HALTON HILLS
GEORGETOWN

878-8113

MILTON

878-8113

OAKVILLE

827-2151

- Acted as staff resource person for Citizens' Solid Waste Advisory Committee
- Conducted research and prepared reports in anticipation of Environmental Assessment Hearing

1980 - 1981 **Jean Monteith and Associates Ltd.**
 (Urban and Regional Planning Consultants)

- Part-time researcher
- Assisted in preparation of background studies for development of official plans
- Collected data for annexation hearing, building condition and land use surveys
- Presented reports to Committees of Council and at public meetings

1979 - 1981 **Development Engineering (London)**
 Ltd. (Consulting Engineers & Landscape Architects)

- Responsible for urban planning, preparation of feasibility studies, liaison with municipalities and management of clients
- Negotiated and arbitrated disputes between clients, municipalities and citizens' groups
- Presented evidence and prepared submissions for Council, Committee of Adjustment and Ontario Municipal Board Hearings
- Conducted public meetings
- Assisted in litigation trials, field work and contract administration

1977 - 1979 **Jack Davis Holding Ltd.**
 (Planning Advisor)

- Provided advice to developers with regards to the processing of Re-zoning, Official Plan, Plan of Sub-division and Committee of Adjustment applications
- Negotiated withdrawal of objections to development applications
- Presented evidence to Committees of Council, Committees of Adjustment and Ontario Municipal Board Hearings
- Prepared preliminary site plan designs

CURRICULUM VITAE
for
JAMES A. HIRAISHI, P.Eng.

EDUCATION

B.A.Sc., University of Waterloo, 1971
M.E.S., York University (Waste Management), 1976

PROFESSIONAL AFFILIATION

Association of Professional Engineers of Ontario
Designated Consulting Engineer

PROFESSIONAL EXPERIENCE

1985 to Present

J.A. Hiraishi Consultants Inc.
Independent consultant specializing in solid waste collection and disposal.

1982 to 1985

Proctor and Redfern Limited. Project manager responsible for a variety of projects related to solid and hazardous wastes.

1980 to 1982

M.M. Dillon Limited. Project manager responsible for a variety of projects related to solid and hazardous wastes.

1973 to 1980

Marshall Macklin Monaghan Limited. Senior project engineer responsible for a variety of assignments related to environmental engineering including solid waste management projects.

PROJECT EXPERIENCE

Design and Operations Reports

Region of Halton; study, investigation and preparation of design and operations reports for two proposed landfill sites in the Region.

Guelph Landfill; assistance in the development of an operating plan and conceptual design for continued use.

ESCO Limited; preparation of a design and operations report, currently underway of an on-site monofill for non-hazardous industrial waste disposal.

Town of Huntsville; design and operations report for a proposed landfill including preparations for an Environmental Assessment Board hearing under the Environmental Protection Act. The proposed site was approved and is now operating.

City of Cornwall; design and operations report for a proposed landfill to serve the long-term needs of the City. The proposal went before the Environmental Assessment Board, was approved and is now in operation.

City of Sault Ste. Marie; design and operations report for the continued use of the existing Cherokee landfill site.

→ Quinte Sanitation, Belleville; operations report for the privately operated landfill serving the Trent/Belleville area.

Essex County; operations plan including a leachate control options study for the Maidstone landfill site serving the City of Windsor and the adjacent townships.

Essex County; site improvements advice to the County on the Leamington landfill site.

Town of Elliot Lake; design and operations report for the proposed landfill site to serve the Town.

Pre-design, Detailed Design

401 Waterslide; conceptual design of leachate and gas control methods for a proposed waterslide park located on an abandoned municipal landfill site in the City of Scarborough.

Cherokee landfill; pre-design for a leachate collection and disposal system for the Cherokee landfill site in the City of Sault Ste. Marie.

City of Oshawa; conceptual design of a methane gas interceptor system at a closed landfill site to protect adjacent residential development.

→ Region of Halton; detailed design of site works and facilities for the Oakville and Burlington landfill sites.

Metropolitan Toronto; pre-design report for the conversion of the existing open air Ingram Drive Transfer Station to a fully enclosed operation.

Ontario Waste Management Corporation; conceptual design of a secure landfill site for treated hazardous wastes.

Costain Limited; pre-design report on the methane control options at a proposed residential development adjacent to an abandoned industrial landfill.

Town of Huntsville; development of a leachate contingency plan for the landfill.

- Region of Halton; detailed design of a leachate collection system and a pumping station for the Oakville landfill site.

Waste Management Plans

Towns of Kenora and Keewatin and the Township of Jaffray and Melick waste management master plan study, Stage One; intended to establish the waste management needs of the tri-municipal area for the next 20 years.

City of Sault Ste. Marie landfill site selection and analysis; to establish the preferred site for long-term disposal requirements for the City.

Township of the North Shore; a site selection study intended to locate a new landfill to meet the long-term needs of the municipality.

County of Simcoe, Stage One; County wide study to establish the waste management needs of the area and to identify alternative opportunities.

Town of Elliot Lake; site selection and analysis for a proposed long-term landfill site.

Township of the Spanish River; appraisal study to recommend long-term waste management strategies for the municipality.

Refuse Collection

City of Sarasota Florida; analysis of existing refuse collection system serving the City of 50,000 including recommendations for productivity improvements.

City of Sarasota; implementation, auditing and analysis of a semi-automated system for residential collection. The demonstration project, affecting about 3,000 of 16,000 residences and lasting 4 months showed the system to be widely accepted by both the residences and the collection crews.

City of Sarasota; analysis of commercial collection practices and revision of the rate structure arising from the City-wide implementation of the semi-automated collection system. The new system has been approved and currently is in the final stage of a two-year implementation program.

Borough of East York; analysis of the existing collection system, route balancing and the design of micro-routes using heuristic principles.

City of Niagara Falls; analysis of existing collection system, route balancing and the design of micro-routes using heuristic principles.

City of Sarasota; analysis of commercial refuse collection and feasibility study for containerized roll-offs.

Miscellaneous Projects

Environment Canada; problem assessment and control options for landfilling of hazardous wastes.

{ Region of Halton; site capacities reports for the Oakville and Burlington landfill sites including the analysis of total waste quantities disposed, cover material use, compaction densities and the remaining available volumes.

Environment Canada; development of guidelines for the landfilling of hazardous wastes.

City of Sault Ste. Marie; feasibility report on small-scale waste incineration systems.

Domtar Inc.; assistance in the preparation and submission of a Generator Registration forms in compliance with Regulations 309.

POSITION

Chairman
Director of Air Environment Studies

EDUCATION

B.Sc., Mechanical Engineering, 1957, Queens University
M.A.Sc., Mechanical Engineering, 1960, University of Toronto
H.E.W. Course, 1967, Diffusion of Air Pollution
Ph.D., Mechanical Engineering, 1968, University of Toronto
Mary H. Beatty Fellowship and Engineering Science Fellowship

PROFESSIONAL AFFILIATIONS

Association of Professional Engineers of Ontario
Air Pollution Control Association
Canadian Nuclear Association
American Meteorological Society

EXPERIENCE

1980-date SENES Consultants Limited. Chairman and responsible for all aspects of air environment studies.

Director or manager for a wide variety of projects largely pertaining to meteorology, air quality and assessment of atmospheric emissions. Examples include impact assessments of two thermal generating stations in Manitoba, a monitoring program to quantify emissions from a basic oxygen furnace (BOF) shop at a major U.S. steel-making operation, predictive modelling of the effects of wood burning, and complete air quality impact assessments of coal mine sites in British Columbia and Alberta.

Air quality specialist and technical coordinator for the environmental impact statement for a second nuclear power generating station at Point Lepreau, New Brunswick. Air quality specialist for the site selection and environmental assessment of an LNG storage facility in southern Ontario.

Specialist advisor on matters pertaining to air quality emissions and strategies for complying with regulatory requirements. Examples include advising a foundry on compliance strategies and event implementation of control, assisting a Maritime power utility with applications, licenses, hearings and approvals for a proposed project, contributing to a shutdown and decommissioning study of a uranium mine in Saskatchewan, and advising a midwest U.S. city on the effectiveness of odour controls for a sewage treatment complex. Third-party reviewer of air environment studies often in conjunction with public hearings. Examples include proposed energy-from-waste incineration facilities, the planned construction of a highway through a valley, and the process used to identify possible waste management facilities in southern Ontario.

Eugene Koczur



Provides expert testimony on air quality related matters at public hearings and inquiries. Assisted legal counsel on matters before the Consolidated Hearing Board and Environmental Assessment Board in Ontario, Key Lake Board of Inquiry for a proposed uranium mine and mill in Saskatchewan, and a U.S. Inquiry into the air quality implications of the international export of nuclear power. Appointed by the Environmental Assessment Board as an expert witness on air emissions and related matters pertaining to an energy-from-waste facility.

1971-1980 James F. MacLaren Limited. Vice-President of Air Environmental and Nuclear Studies, 1978-1980. Manager of Air Environment Division, 1971-1978. Corporately responsible for all aspects of air pollution and nuclear work.

Manager for a wide range of air environment and nuclear studies. Examples include the development of a conceptual framework for environmental monitoring management in Canada, air emission and noise assessments of two Ontario petroleum refineries, and odour control reports for pollution control centres in Ontario and Manitoba.

Env-Can was client

Specialist advisor on emission control options and strategies for a petroleum refinery in Newfoundland, a proposed uranium refinery in Ontario, and the design of air quality monitoring networks for power utilities in Newfoundland and New Brunswick.

Provided expert testimony at National Energy Board hearings in Canada and the U.S. regarding emissions from a proposed thermal generating station and an LNG facility, at the Ontario Municipal Board for the assessment of petroleum refinery emissions, and before the Ontario Environmental Assessment Board for the proposed expansion of uranium mining in Elliot Lake.

President, Ontario Section, Air Pollution Control Association, 1978.

Chairman of the Safety and Environment Committee of the Canadian Nuclear Association. Adjunct Associate Professor in the Department of Civil Engineering, University of Toronto, instructing undergraduate and graduate students in Air Pollution Control Engineering during 1976, 1977 and 1978.

1968-1971 Bell Telephone Laboratories. Exploratory studies and research on cooling of multiple heat source arrays in power equipment and experimental work on convective cooling for new power systems.

1965-1968 University of Toronto. Ph.D. program with field research on plume rise and dispersion in a lake breeze at Lakeview Generating Station.

1960-1965 Bell Telephone Laboratories. Developed and designed power equipment ranging from a pocket size charger to large telephone power plants complete with controls and switchgear.

TECHNICAL PAPERS

"Comparison of Environmental Factors Relating to Alternative Sites for a Nuclear Generating Station in New Brunswick". Proceedings of Environment II, Association of Consulting Engineers of Canada, September 1976 (with D.B. Chambers and R.D. Gillespie).

"Environmental Assessment - A Perspective on Methodologies and Procedures". Presented at Air Pollution Control Association 1975 Annual Spring and Technical Meeting (with R.D. Gillespie).

Air Environment Review of Asbestos, Mercury and Lead". Presented at the Twenty-Second Ontario Industrial Waste Conference, Toronto, June 1975.

"Environmental Assessment - A Perspective on Methodology and Procedure". Presented at the Ontario Section of the APCA, Toronto, April 1975.

"Noise In Canada". Presented at the joint meeting of the Ontario and Quebec Sections of APCA, Ottawa, ON, October 1974.

"Stack Testing, Odour Measurements and In-Plant Measurements". Presented at seminar on the Fundamentals of Air Pollution Control, Joint Ministry of the Environment-APCA, Toronto, March 1974.

"Odour Control Systems for Sewage Treatment Plants". Presented at Western Canada Water and Sewage Conference, Winnipeg, MN, September 1973.

"Noise Monitoring and a Sociological Survey In the City of Toronto". APCA Journal, Vol. 23, No. 2, February 1973.

"Inventory of Hazardous Pollutants". Presented at Twenty-Second Chemical Engineering Conference, Toronto, Ontario, 1972.

"Air Pollution In Cities Under Low Wind Conditions". Presented on behalf of the School of Urban Living, New York, NY, as part of "Earth Day Program", April 1970.

"Plume Rise and Dispersion Near Lake Ontario". Presented at Ontario Section Meeting, Toronto, October 1967.

"Plume Rise and Dispersion Near the Shoreline of a Large Lake When Flow Patterns are Dominated by the Lake-Breeze". Proc. of U.S.A.E.C. Meteorological Conference, Chalk River, ON September 1967.



CURRICULUM VITAE

1. NAME ERVEN E. MACKINTOSH

2. EDUCATION:

DEGREE	UNIVERSITY	DEPARTMENT	YEAR
B.S.A.	Saskatchewan	Soil Science	1962
M.Sc.	British Columbia	Soil Science	1964
Ph.D.	Adelaide	Soil Science	1969

3. RELEVANT APPOINTMENTS:

YEAR			
FROM		TO	
1962	-	1964	University of British Columbia Research Assistant
1964	-	1966	Canada Department of Agriculture Research Officer Vancouver
1966	-	1969	Walte Institute, University of Adelaide Research Assistant
1970	-	1984	Department of Land Resource Science, University of Guelph Assistant/Associate Professor
1975	-		Ecological Services for Planning Ltd. Director & President
1978	-	1979	University of Reading, England Visiting Professor



- 2 -

4. HONORS:

Commonwealth Scholar (Australia) 1966 - 1969

5. PROFESSIONAL ACTIVITIES:

Agricultural Institute of Canada

American Society of Agronomy

Canadian Land Reclamation Association

Canadian Society of Soil Science

International Society of Soil Science

Ontario Association for Environmental Managers

Ontario Institute of Professional Agrologists

Soil Conservation Society of America



6. PUBLICATIONS:

A. BOOKS OR CHAPTERS IN BOOKS, REVIEW ARTICLES

- ? 1. Mackintosh, E.E. 1974. The Role of Physical Resources in Rural Land Use Use Planning. Notes on Agriculture, Vol. X, No. 2., p. 1-3.
2. Mackintosh, E.E. 1977. The Hanlon Creek Study: An ecological approach to urban planning. In "Managing Canada's Renewable Resources", (Krueger & B. Mitchell, Editors). Methuen Publications, Toronto.
3. Kendall, S. and E.E. Mackintosh, 1979. Management problems of poly-disciplinary environmental research projects in the University setting. Canada/MAB Report #13 (english/french)
4. Smeck, N.E., Runge, E.C.A. and E.E. Mackintosh. 1983. Dynamics and Genetic Modelling of Soil Systems. In "Soil Taxonomy and Pedogenesis: 1. Concepts and Interactions". (L.P. Wilding et al, Eds.). Elsevier Scientific Publishing Company. p. 51-81.



B. PAPERS IN REFERRED JOURNALS

1. Mackintosh, E.E. and E.H. Gardner, 1966. A mineralogical and chemical study of Lower Valley alluvial sediments. Can. J. Soil Sci. 46:37-46.
2. Murray, J.W. and E.E. Mackintosh, 1968. Occurrence of interstratified Glauconite-Montmorillonoid Pellets, Queen Charlotte Sound, British Columbia. Can. J. Earth Sci. 5:243-247.
3. Mackintosh, E.E. and D.G. Lewis, 1968. Displacement of Potassium from Micas by Dodecylammonium Chloride. Proc. Int. Soc. Soil Sci. (Adelaide), Vol. 11:695-703.
4. Mackintosh, E.E., D.G. Lewis and D.J. Greenland, 1971. Dodecylammonium-mica Complexes I. Factors Affecting the Exchange Reaction. Clays Clay Minerals 19:209-218.
5. Mackintosh, E.E. D.G. Lewis and D.J. Greenland, 1972. Dodecylammonium-mics Complexes II. Characterization of the reaction products. Clays Clay Minerals 20:125-134.
6. Mackintosh, E.E., 1974. The Hanlon Creek Study: An ecological approach to urban planning. J. Soil & Water Conser. 29 (6):277-280. Highway
7. Patterson, G. and Mackintosh, E.E. 1976. The influence of soil capability class on economic returns from grain corn production in south-western Ontario. Can. J. Soil Sci. 56:167-174.
8. Mackintosh, E.E. & J. Van der Hulst, 1978. Soil drainage and soil water table relations in medium and coarse textured soils. Can. J. Soil Sci. 58:287-301.
9. Vilet, L.J.P. Van, Mackintosh, E.E. and D.W. Hoffman, 1979. Effects of land capability on apple production in southern Ontario. Can. J. Soil Sci. 59:163-175.
10. James, T.D.W., Smith, D.W., Mackintosh, E.E., Hoffman, M.K. and P. Monti. 1979. Effects of camping recreation on soil, jack pine, and understory vegetation in a northwestern Ontario Park. Forest Sci. 25 (2): 333-349.



B. PAPERS IN REFERRED JOURNALS - Cont'd

11. Monti, P.W. and E.E. Mackintosh, 1979. Effect of camping on surface soil properties in the Boreal Forest Region of Northwestern Ontario, Canada. Soil Sci. Soc. Am. Jour. 43:1024-1029.
12. McBride, R.A. and E.E. Mackintosh, 1984. Soil survey interpretations from water retention data. I. Development and validation of a water retention model for Ontario soils. Soil Sci. Soc. Am. Jour. 48:1338-1343.
13. McBride, R.A. and E.E. Mackintosh, 1984. Soil survey interpretations from water retention. II. Assessment of soil capability ratings and crop performance indices. Soil Sci. Soc. Am. Jour. 48:1343-1350.



C. PAPERS IN PUBLISHED CONFERENCE PROCEDURES

1. Chisholm, P.S. and E.E. Mackintosh, 1972. Soil Effects and Drainage Design. Proc. Drainage Eng. Conf., Eng. Tech. Publ. #24, Univ. of Guelph. pp. 52-58.
2. Chisholm, P.S., Wm. Stammers and E.E. Mackintosh, 1973. Hydrologic Factors in Predesign Environment Assessment. Proc. National Conf. Urban Engineering Terrain Problems. Tech. Mem. #109, N.R.C., Ottawa.
3. Mackintosh, E.E., 1978. A Methodology for Environmental Impact Analysis in Predesign and Planning Studies. In "Ecological Land Classification" Series #7, Lands Directorate, Environment Canada, (C.D.A. Rubec, Editor). pp. 319-323.
4. Moncrieff, I., Mackintosh, E.E., deVries, L. and M.K. Hoffman, 1983. Agricultural rehabilitation - Dawn to Kerwood Loop pipeline. In "Proceedings of Canada Land Reclamation Association", 1983 Meetings. Waterloo, Ontario. pp. 335-353.



D. TECHNICAL REPORTS

1. Mackintosh, E.E., 1966. Relationship of Soil Series to Productivity of Lodgepole Pine (*Pinus contorta*) in the Quesnel Map-area. Unpublished Report 2/66, Canada Department of Agriculture, Vancouver.
2. Mackintosh, E.E., G.G. Runka, M.J. Romaine, D.S. Lacate and J.W.C. Arlidge, 1966. Report on Land Capability for Agriculture and Forestry, Prince George-Quesnel Special Sale Area, B.C. 12 pp. plus maps.
3. Mackintosh, E.E., 1970. Soils and Geomorphology of the Metropolitan Toronto Zoo in relation to Embankment Stability and other Land Use Problems. In "An Ecological Appraisal of the Metropolitan Toronto Zoo Project Site". (R.S. Dorney, Ed.) 41 pp.
4. Mackintosh, E.E., 1970. Soils and Geomorphology of the Crete Development Site, Kitchener. In "Ecological Study of the Crete Development Site, Kitchener". Ecoplans Ltd., Waterloo.
5. Mackintosh, E.E., 1971. Beeton Flats Water Management Study - Drainage Benefits and Soil Capability Ratings. "Beeton Flats Water Management Study", James F. MacLaren Ltd., Toronto.
6. Mackintosh, E.E. and D.W. Hoffman, 1971. Soils and Geomorphology of the Clair Creek Development Site, Waterloo. In "An Economic and Physical Examination of Urban Open Space with Specific Reference to Natural Flood Plain Parks", University of Waterloo.
7. Hanlon Creek Study Team, 1971. Hanlon Creek Ecological Study: Phase A. The Effect of the Hanlon Expressway upon the Ecology of Hanlon Creek. Centre for Resources Development, Publ. #50, 70 pp.
8. Mackintosh, E.E., 1972. Soils and Agricultural Capability of the Speyside Quarry Property. William E. Coates and Assoc. Ltd., Guelph.
- ? 9. Mackintosh, E.E. 1972. Environmental Problems associated with Urban Development of the Sheridan Hills Property, Oakville. G.V. Kleinfeldt and Assoc., Kitchener.



10. Mackintosh, E.E., 1972. **Suitability of soils for Septic Tank Disposal of Wastes - Part of Lot 13, Con. 10, Village of Erin.** Triton Engineering Ltd., Orangeville.
11. Mackintosh, E.E., 1972. **Surficial Geology of the Source Area for the Village of Beeton Water Supply.** Triton Engineering Ltd., Orangeville.
12. Mackintosh, E.E. and P.S. Chisholm, 1972. **Suitability of Soils for Waste Disposal and Urban Development-German Company Tract, Township of Waterloo.** Brian Turnbull and Assoc., Kitchener.
13. Mackintosh, E.E., D.W. Hoffman and W. Chesworth, 1972. **Soils and Related Development Problems for the Proposed Strip-Mining Operations at Onakawana.** Prepared for "Task Force Onakawana, Ministry of Environment. 27 pp. (Published as Working Paper, Ministry of Environment, (1974).
14. Hanlon Creek Study Team, 1972. **Hanlon Creek Ecological Study: Phase B. The possible effect of Long Range Urbanization upon the Hanlon Creek Watershed.** Center for Resource Development, Publ. #51, Vols. 1 and 2, 309 pp.
15. Mackintosh, E.E., 1973. **Soils and Surficial Geology of Lakeside Park and Associated Construction and Erosion Control Problems for a Proposed Highway Alignment.** In "An Environmental Study of Lakeside Park". Ecologistics Ltd., Kitchener.
16. Mackintosh, E.E., 1973. **Suitability of Soils for Estate Lot Development West half, Lot 11, Con. 10, Twp. of East Garafraxa.** Triton Engineering Ltd., Orangeville.
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29. Centre for Resources Development, 1975. Location Hydro: Visual Impacts and their Evaluation. Final Report. (Prepared for Ontario Hydro) 225 pp.
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32. Hagarty, J.M. and E.E. Mackintosh, 1975. Resource capability of the Thornbury Region for apple production. Ecological Services for Planning Ltd. (Prepared for R. Winter and Associates). pp. 25.
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- 7 34. Linde, R. van der, and E.E. Mackintosh, 1975. Preliminary Agricultural Land Use and Development Plan - New Toronto International Airport. Phase III A. Prepared for Toronto Area Airports Project, Ministry of Transport, Canada. 56 pp.
35. Ecological Services for Planning Ltd., 1975. The soils and surficial sediments of the Harmony Creek watershed. pp. 28.
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37. Ecological Services for Planning Ltd., 1975. Natural resource inventory: Mansfield Chalet Development. (Prepared for Triton Engineering Services). pp. 13.
38. Mackintosh, E.E. (Ed.), 1976. Location Hydro. Final Report for Ontario Hydro. pp. 166.
39. Chisholm, P.S., T.J. Gillespie, E.E. Mackintosh, J. Roff and J. Milliken, 1976. Hanlon Creek Monitoring Program. Final Report to Technical Advisory Comm. pp. 138.
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42. Ecological Services for Planning Ltd., 1976. Natural Resource Features of the Thornbury Planning Area. (Prepared for R. Winter and Assoc.) pp. 20.



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45. Ecological Services for Planning Ltd., 1976. Soils and surface hydrology of the Townsend New Townsite. (Prepared for O.M.T.E.I.G.A.). pp. 14.
46. Monti, P., T. James, E.E. Mackintosh and D.W. Smith, 1977. Impact of recreation use on soil and vegetation in Rushing River Provincial Park, Kenora, Ontario. Final Report - Phase B. (Prepared for Canadian Forest Service, Environment Canada). pp. 52.
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52. Ecological Services for Planning Ltd., 1977. Region of Peel: Erosion Inventory and priority study. Prepared for Triton Engineering Services Ltd. pp. 26.
53. Ecological Services for Planning Ltd., 1977. Impacts and Remedial measures concerning acid damage to soils - T.H. & B. Derailment, Welland. Prepared for McCarthy and McCarthy, Barristers & Solicitors.



54. Kendall, S. and E.E. Mackintosh, 1978. Management problems of poly-disciplinary environmental research projects in the University setting. Centre for Resources Development, Publ. #86, University of Guelph. pp. 74.
55. Ecological Services for Planning Ltd., 1978. Agriculture assessment of property for Pigott Investments Ltd., Oakville. Prepared for Pigott Investments Ltd. pp. 23.
- ? 56. Fairles, M.L. and E.E. Mackintosh (Editor), 1978. Agriculture land use and urban sprawl in Wellington County. Ontario Institute of Pedology 78-1. pp. 58.
57. Ecological Services for Planning Ltd., 1978. Feasibility study for the agriculture rehabilitation of a proposed landfill operation, Region of Halton. Prepared for M.M. Dillon Ltd. pp. 57.
58. Ecological Services for Planning Ltd., 1979. Union Gas Pipeline, Lobo-London Loop. Evaluation of agricultural rehabilitation practices. Prepared for Broadwith, Hughes and Assoc. Ltd.
59. Ecological Services for Planning Ltd., 1979. Assessment of fire damage to peat lands and reclamation to an agricultural after use. Prepared for Canadian National Railways.
60. Ecological Services for Planning Ltd., 1979. Assessment of feasibility of reclamation to an agriculture after use: T.C.G. Materials Limited-Fonthill Pit. Prepared for T.C.G. Materials Ltd.
61. Ecological Services for Planning Ltd., 1979. AMOCO Sarnia to Quebec City pipeline: Corridor level analysis-soils and agriculture assessment. Prepared for A. Marsan & Assoc. Inc.
62. Mackintosh, E.E. (Ed.), 1979. Impact of recreation on vegetation and soils in Rushing River Provincial Park, Ontario. Canadian Forest Service, Environment Canada and Provincial Parks Branch, Ontario Ministry of Natural Resources, Publ. #0-X-290. pp. 52.
63. Mackintosh, E.E., Fairles, M.L. and Montgomery, A., 1979. Reclamation of Mine-Aggregate Lands for Agriculture Production. Research Report for Geo-Science Council Grant. G.R.-25.
64. Ecological Services for Planning Ltd., 1980. Development and management guidelines for agricultural restoration-Owen Sound Sanitary Landfill Site. (Prepared for City of Owen Sound).
65. Ecological Services for Planning Ltd., 1980. Evaluation of soil restoration, Lobo-London loop pipeline. Prepared for Union Gas Ltd.



66. Ecological Services for Planning Ltd., 1980. **Rehabilitation of North Slopes, Parliament Hill, Ottawa: Vegetation and soil considerations - Phase 1.** Prepared for Public Works Canada.
67. Mozuraitis, E.J., Worthy, W.E.J. and E.E. Mackintosh, 1981. **Rehabilitation of aggregate extracted lands for agriculture production.** Research Progress Report. Prepared for Industrial Minerals Branch, Ontario. Ministry of Natural Resources. 53 pp.
68. Mackintosh, E.E., Lord, T.M. and Kuurne, R.L.B., 1981. **Soils of the Quesnel Area in British Columbia.** British Columbia Soil Survey Report #31. Agriculture Canada. 93 pp.
69. Ecological Services for Planning Ltd., 1981. Guidelines for **Agriculture Rehabilitation - Fonthill Pit Expansion.** Prepared for T.C.G. Materials Limited.
70. Ecological Services for Planning Ltd., 1981. Agriculture Assessment - Glengowan Dam and Reservoir. Prepared for Upper Thames River Conservation Authority.
71. Mackintosh, E.E., Mozuraitis, E.J., Worthy, W.E.J. and J.W. Ketcheson, 1982. **Agriculture and the aggregate industry.** Final Research Report. Ontario Ministry of Natural Resources, Mineral Resources Branch. 261 pp.
72. Mackintosh, E.E. and E.J. Mozuraitis, 1982. **Agriculture and the Aggregate Aggregate Industry: Rehabilitation of Extracted Sand and Gravel Lands to an Agricultural After-Use.** Ontario Ministry of Natural Resources, Mineral Resources Branch, Industrial Mineral Background Paper 3. 44 pp.
73. Mackintosh, E.E., 1982. Management and reclamation of "salt-affected" soils in Anda County, Heilongjiang Province, Peoples Republic of China. Prepared for Agrodev Ltd. 17 pp.
74. Mackintosh, E.E., 1982. Research program for assessing techniques for improving **alkali soils** on the Hong-Xeng Farm, Anda County, Peoples Republic of China. Prepared for Agrodev Ltd., 18 pp.
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78. Garrett, R.E. and E.E. Mackintosh, 1983. Soil survey Interpretations and their use in land evaluation. Ontario Institute of Pedology Publication #83-2. 44 pp.
79. Ecological Services for Planning Ltd., 1983. Alternate Route Study and Environmental Assessment - Proposed NPS42 Gas Pipeline - Owen Sound Value to Brantford Transmission Station. Prepared for Union Gas Limited.
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82. Ecological Services for Planning Ltd., 1985. Route Selection and Environmental Assessment - Proposed Bentpath-Rosedale Pool Pipeline. Prepared for Union Gas Limited.
83. Ecological Services for Planning Ltd., 1985. Alternative Site Selection and Environmental Impact Assessment - Agricultural Criteria and Assessment. In "Waste Management Master Plan for the Regional Municipality of Waterloo". MacLaren Engineers.
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91. Ecological Services for Planning Ltd., 1986. Southwestern Ontario Transmission Study - Evaluation of Environmental Assessment Methodology and Impact on Agriculture. Prepared for Ontario Ministry of Agriculture and Food. 64 pp. ?
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7. THESIS SUPERVISION

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2. Villet, L.J.P. van, 1974. A Study of Land Productivity for Apple Trees. M.Sc. University of Guelph.
3. Kendall, S., 1974. Management Problems of Polydisciplinary Environmental Research Projects in the University Setting. M.Sc. Thesis, University of Guelph.
4. Patterson, G.T., 1974. The Influence of Soil Capability on Economic Returns to Grain Corn Production. M.Sc. Thesis, University of Guelph.
5. Hoffman, M.K., 1975. Impact of Recreation Use on Soil and Vegetation in Rushing River Provincial Park, Kenora. M.Sc. Thesis, University of Guelph.
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7. Monti, P., 1977. Effects of Recreation on Organic Matter Loss in the Boreal Forest Area. M.Sc. Thesis, University of Guelph.
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11. Montgomery, A.N., 1983. Water Movement in Selected Fine Textured Soils in the Regional Municipality of Haldimand-Norfolk, Southern Ontario. M.Sc. Thesis, University of Guelph.
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13. Lopez, P., 1984. Soil Moisture as a Criterion for Estimating Production of Processing Tomatoes for Land Evaluation Purposes. M.Sc. Thesis, University of Guelph.

PAUL A. MacLEOD, P. Eng.

Project Manager - Transportation & Municipal Division,
Giffels Associates Limited

Education: B.A.Sc. (Civil), University of Toronto, 1972
Specializing in Transportation and Municipal Engineering

Associate Member, Institute of Transportation Engineers

Member of Implementation of Storm Water Management (IMPSWM)
Steering Committee
(University of Ottawa, 1979-1982)

Giffels is a Canadian owned consulting firm averaging approximately 260 people engaged in architectural and engineering planning, design and project management. During his 15 years at Giffels, Mr. MacLeod has managed many large scale, complex transportation projects, particularly in the area of environmental impact assessment and route planning.

The following is a list of typical projects:

Project Manager, route planning and environmental assessment of a 6 km section of the new Metropolitan Toronto Sheppard Avenue subway in Scarborough, Ont. for the Toronto Transit Commission. The study involved the development of corridor alternatives, assessment of station sites and the detailed evaluation of all service, social, natural, land use, traffic, operation and construction impacts. The study concluded with a recommended corridor and the preparation of an environmental assessment report.

Project Manager, route planning and environmental assessment of a 20 km section of a new rapid transit facility (GO-ALRT) in Metropolitan Toronto and the Regional Municipality of Durham, Ont. Study involved development of route alternatives and station sites, detailed assessment of all service, social, natural, land use, engineering and operation impacts along with public participation and environmental assessment report.

Project Manager, preliminary design study of a 17 km section of new Highway 407 from Airport Road to Jane Street, north of Toronto, Ont. Study assessed vertical and horizontal alignments; assessed interchange locations and configurations; lane balance, capacity and traffic flow; cost estimates; environmental impact assessment and report; and public participation.

Project Manager, preliminary design study of a 16 km section of Highway 400 from Highway 401 to Major Mackenzie Drive, north of Toronto, Ont. Study involved finalizing vertical and horizontal alignments; assessing interchange locations and configurations; lane balance, capacity and traffic flow; cost estimates; environmental impact assessment and report; and public participation.

Project Manager, preliminary design study of a 5 km section of new Highway 427 from Finch Avenue to Highway 7, north of Toronto, Ont. Study involved finalizing vertical and horizontal alignments; assessed interchange locations and configurations; lane balance, capacity and traffic flow; cost estimates; environmental impact assessment and report; and public participation.

Project Manager, traffic impact assessment and sitework design for the Ontario Sports Training Centre, Oakville, Ont., for Crange & Boake. Project involved assessment of traffic impact of a major Provincial recreation facility including improvements to adjacent public road systems; design of all site facilities including parking lots, outdoor stadium, drainage and storm water management, internal road network.

Project Manager, McCowan Road and Progress Avenue reconstruction at Scarborough City Centre for joint clients, City of Scarborough and Metropolitan Toronto. Work included planning, design and construction administration of roadwork, bridges, covered pedestrian facilities, utilities and landscaping. Integration with major, new City Centre developments including office towers and the TTC Rapid Transit Station was required.

Project Manager, environmental assessment of Highway 69 - Parry Sound Bypass, Parry Sound, Ont. Project involved impact documentation; preparation of environmental assessment report.

Project Engineer, functional planning study of a 24 km section of the Queen Elizabeth Way from Winston Churchill Boulevard to the Guelph Line, west of Toronto, Ont. Included lane balance, traffic and capacity analysis. Study planned for ultimate road and structure requirements; cost estimating and determination of property requirements.

Project Engineer, route feasibility study for a 32 km section of Highway 69 from Estaire to Sudbury, Ont. Responsible for cost estimates, grading analysis, impact documentation and assessment and report preparation. Study planned ultimate corridor requirements; environmental impact assessments; traffic assignment; route location studies; cost estimating and program scheduling; and public participation.

Project Engineer, route feasibility study of a 37 km section of new Highway 402 from Strathroy to London, Ont. Responsible for development of alternatives; traffic assignment; environmental impact documentation; cost estimating; public participation components; and report preparation.

Project Engineer, route feasibility study for a 40 km section of Highway 3 from St. Thomas to Tillsonburg, Ont. Responsible for development of alternatives; traffic analysis; environmental impact documentation; cost estimating; public participation components; and report preparation.

Project Engineer, site selection and development study for Pickering GO Station Re-development, Pickering, Ont., for the Toronto Area Transit Operating Authority. Responsible for assessment of alternative sites and functional layout for bus and parking facilities, access/egress requirements, traffic impact on adjacent public road system.

Project Manager on the following additional transportation projects:

- o Detailed Design & Preparation of Construction Documents
 - Sunset Boulevard, Whitchurch-Stouffville
 - Wexford Road Bridge, Brampton
 - Bathurst Street, York Region
 - Dufferin Street, York Region
 - McCowan Road, York Region

Project Engineer on the following additional transportation projects:

- o Highway 402 detailed design, London
- o Highway 403 pre-design, Peel Region

In addition to the above transportation projects, Mr. MacLeod has extensive experience in the area of drainage and storm water management. He is responsible for establishing and co-ordinating the storm water management group at Giffels that employs state-of-the-art techniques in assessing rainfall and runoff. He has managed numerous projects in this area including:

- o Master Drainage Plan, Scarborough City Centre
- o Hydraulic Assessment, Wexford Road Bridge at the Etobicoke Creek
- o Master Drainage Plan, Caterpillar Assembly Plant, Brampton
- o Hydraulic Assessment, Skyway Avenue at the Mimico Creek
- o Master Drainage Plan, Highway 407, Town of Vaughan
- o Master Drainage Plan, Hyundai Head Office and Distribution Centre, Markham

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CURRICULUM VITAE: J.D. Norman

Dr. J.D. Norman has been engaged professionally in the pollution control and environmental field in Ontario and in the United States continuously since 1956. He has been the President of Pollutech Limited since 1969. He holds degrees from the University of Manitoba (B.Sc.), University of Wisconsin (M.Sc.), and Rice University (Ph.D.), and has been a registered Professional Engineer in the Province of Ontario since 1957.

Previously Dr. Norman was:

- Seven years on the faculty of Chemical Engineering at McMaster University, the last five as Associate Professor of Chemical Engineering,
- Two years as an Instructor in Environmental Engineering at Rice University, Houston, Texas,
- Five years as an Associate and Department Head in a large Ontario Consulting Engineering firm,
- Two years as an on-site engineer during a construction program.

In the past fifteen years he has served or is serving on various advisory boards of professional associations, including:

- Past President of The Pollution Control Association of Ontario,
- Hamilton Region Conservation Authority,
- Conservation Council of Ontario,

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- National Water Committee, American Institute of Chemical Engineers,
- Canadian University Committee on Water Pollution Research,
- Pollution Advisory Board of the City of Hamilton,
- Alberta Advisory Committee on Pollution,
- Speakers Bureau for the American Institute of Chemical Engineers,
- International Committee for Water Pollution Research,
- Governing Board Member, International Association of Water Pollution Research & Control,
- Board of Control, Water Pollution Control Federation,
- Vice Chairman Canadian National Committee of IAWPRC
- Diplomate of The American Academy of Environmental Engineers

He has authored or co-authored ten scientific papers that have been published in major technical journals or texts, including:

- "Advances in Water Pollution Research"
- Journal of the Water Pollution Control Federation
- Canadian Journal of Chemical Engineering
- "Water"
- "Environmental Science Research Series"
- Environmental Science and Technology
- Canadian Research and Development

He has presented twenty-six papers on environmental topics at various technical conferences, including:

- National Meetings of American Institute of Chemical Engineers
- Purdue University Industrial Waste Conferences
- Ontario Industrial Waste Conferences
- Federation of Water Pollution Control Associations

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- Pollution Control Association of Ontario
- Western Canada Water and Sewage Works Association
- Oklahoma Industrial Waste Conference
- South Texas Industrial Water and Waste Conference
- International Conferences on Water Pollution Research
- Canadian Symposiums on Water Pollution Research
- Canadian Institute on Pollution Control

Dr. Norman has addressed numerous associations and conferences of bodies outside the environmental field to inform them on environmental topics including:

- The Society of Agricultural Engineers of Canada
- Calgary Chamber of Commerce Pollution Seminar
- Various Chapters of the Ontario Association of Professional Engineers
- Various Chapters of the Engineering Institute of Canada
- The University of Calgary
- The University of Guelph
- Trent University
- The Chemical Institute of Canada
- The American Chemical Society
- National Council for Jewish Women
- The International Toastmistress Conference
- Various University Women's Clubs
- Canadian Chemical Producers Association
- Ontario Association of Real Estate Boards
- Society of Industrial Accounts
- The International Iron and Steel Institute
- The Canadian Vocational Association
- The Federation of United and Co-operative Development Associations

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- The Soil Conservation Society of America
- The University of Waterloo
- United Nations Association

In addition, he is a frequent speaker at high schools, service clubs, and community organizations.

Since founding Pollutech to scientifically assess and project solutions for various environmental problems, Dr. Norman has been involved with more than 500 projects for industries, municipalities, and Federal and Provincial Governments. His industrial clientele has included industries in the petrochemical, forest products, iron and steel, food canning, chemical specialties, manufacturing, mining, agriculture, shipping, light manufacturing, automotive and heavy chemical fields. This work has been conducted across Canada from Vancouver Island to Newfoundland, and the Northwest Territories into the United States.

As the overall Director of all projects at Pollutech Limited, Dr. Norman remains current with all Government Environmental Regulations (Provincial, Federal, International), and all relevant scientific test methods. Staff supervised by Dr. Norman include chemists, biologists, chemical technologists, and process engineers, utilizing a fully equipped laboratory for analysis of water, waste water, blood, urine, soils, and air by methods such as wet chemistry, atomic adsorption, gas chromatography, light microscopy, isokinetic gas sampling and personnel sampling. Routine tests performed ranged from pH and organics in waste water, to arsenic and lead in urine and blood, to asbestos and silica dust in air.

(July 12/84)

D/7

CURRICULUM VITAE - ROBERT JAMES PEARCE, Ph.D.
Contract Archaeologist, Museum of Indian Archaeology, London

Work Address: Museum of Indian Archaeology (London)
An Affiliate of The University of Western Ontario
Lawson-Jury Building
1600 Attawandaron Road
London, Ontario N6G 3M6
(519) 473-1360

Licence: Licenced annually by Ministry of Citizenship and Culture to conduct archaeological fieldwork, as required by the Ontario Heritage Act.

University Education:

1969-1973 University of Waterloo, General B.A.

1974-1975 Trent University, Honours B.A.

1975-1977 Trent University, M.A. in Anthropology

Thesis Title: "An Eastern Regional Expression of the Pickering Branch"

1980-1984 McGill University, Ph.D. in Anthropology. Thesis Title: Mapping Middleport: A Case Study in Societal Archaeology.

Additional Courses:

1976 Faunal Analysis Course. Ontario Archaeological Society (Dr. Howard Savage). Feb. 5 - Apr. 1. Toronto.

1980 An Introduction to Museum Philosophy and Operation. Correspondence Course, Canadian Museums Association.

1985 Introduction to Micro-Computers. Computing and Communication Services, University of Western Ontario.

1986 Introduction to dBASE III. Computing and Communication Services, University of Western Ontario.

Academic Experience and Employment:

1975-1976 Teaching Assistant, Department of Anthropology, Trent University.

1977-1978 Research Assistant, Museum of Indian Archaeology at The University of Western Ontario.

1978-1980 Staff Archaeologist, Museum of Indian Archaeology at The University of Western Ontario.

- 1978 (Sept. 1 - Dec. 31) Part-time Lecturer, Department of Anthropology, The University of Western Ontario. (Field Methods in Archaeology).
- 1980-1981 Teaching Assistant, Department of Anthropology, McGill University. (Prehistoric Archaeology; Human Evolution).
- 1982 (Sept. 1-Dec. 31) Part-time Lecturer, Department of Anthropology, The University of Western Ontario. (Field Methods in Archaeology)
- 1981-present Contract Archaeologist, Museum of Indian Archaeology, An Affiliate of The University of Western Ontario.

Positions Held:

- 1978-1980 Co-Editor, Research Report Series, Museum of Indian Archaeology.
- 1980-1981 Research Associate, Museum of Indian Archaeology (while attending McGill University).
- 1987 Secretary, London Chapter, Ontario Archaeological Society.
- 1987 Member, City of London Local Architectural Conservation Advisory Committee (LACAC).

Grants and Contracts Held (as Principal Investigator):

- 1976 Excavation of the Richardson Site, near Rice Lake, Ontario. Royal Ontario Museum - \$1,500. Alderville Reserve and Indian Community Secretariat - \$1,000.
- 1978 Public Excavations at the Lawson Site, London, Ontario. Employment and Immigration Canada, Young Canada Works Program - \$24,170.
- 1978 Assessment of the Culture History of Middlesex County and Vicinity (Analysis of the W.W. Jury Collection). Ontario Heritage Foundation - \$17,247.
- 1978-present Served as Project Archaeologist for various archaeological and heritage resource assessment throughout southern Ontario. (see list of Manuscripts and Reports).
- 1979 Reconstruction of the Lawson Prehistoric Village Site, London, Ontario. Employment and Immigration Canada, Young Canada Works Program - \$24,252.
- 1980 Excavation of the Lawson Site, London, Ontario. Ontario Heritage Foundation - \$12,000.
- 1981 Salvage Excavation of the Windermere (AgHh-9), Ronto (AgHh-10) and Smallman (AgHh-14) sites, London, Ontario

(with Dr. W.D. Finlayson). Ronto Development Corporation and Ontario Heritage Foundation - \$15,000.

- 1981 Test Excavations of the Edwards Site (AfHi-23). Ontario Heritage Foundation - \$11,267.00, and McGill University, Faculty of Graduate Studies (Research Fellowship) - \$1,000.
- 1984 Salvage Excavations of the Pincombe 2 (AfHh-24), Pincombe 5 (AfHh-71) and Pincombe 6 (AfHh-72) Sites, London, Ontario (with Dr. W.D. Finlayson). Sifton Properties Ltd. and Ontario Heritage Foundation - \$22,000.
- 1986 Phase 1 Mitigation of Three Archaeological Sites (AfHh-82, 83, and 84) within "Matthews Woods", City of London. Matthews Group Limited.

Field and Laboratory Research:

- 1971 Five weeks. Analysis of material from the Uniwat Site, University of Waterloo.
- 1974-1975 Surface collection, test excavation and analysis of the Smokey Hollow Site.
- 1975 Twelve weeks. Analysis of faunal remains from the Richardson site. Trent University.
- 1975-1976 Five months. Analysis of material from Pickering Branch components in the Rice Lake area. Trent University.
- 1976 Ten weeks. Field director, excavation of the Richardson Site. Trent University.
- 1976-1977 Eight months. Analysis of material from the Richardson Site (M.A. Thesis). Trent University.
- 1977-1978 Twelve months. Analysis of ceramic material from the Draper Site. Museum of Indian Archaeology.
- 1978 Four months. Field director, excavation and reconstruction of the Lawson Site. Museum of Indian Archaeology.
- 978 Four months. Instructor, Field Techniques Course at the Lawson Site. Department of Anthropology, The University of Western Ontario.
- 1978 Eight months. Analysis of material from the Lawson Site. Museum of Indian Archaeology.
- 1978 Five months. Principal Investigator, analysis of the W.W. Jury Collection. Museum of Indian Archaeology.

- 1979 Four months. Field director, excavation and reconstruction of the Lawson Site. Museum of Indian Archaeology.
- 1979 Eight weeks. Principal investigator, archaeological resource assessment of the proposed regional water supply system corridor, Townsend area, Regional Municipality of Haldimand-Norfolk.
- 1979 Three weeks. Archaeological resource assessments in southwestern Ontario.
- 1979 Four months. Analysis of material from the Lawson Site. Museum of Indian Archaeology.
- 1978-1980 Respond to various reports of the recovery of archaeological material through construction throughout southwestern Ontario. Museum of Indian Archaeology.
- 1980 Four months. Field director, excavation of the Lawson Site. Museum of Indian Archaeology.
- 1981 Ph.D. Thesis Research (McGill University); Research Associate, Museum of Indian Archaeology. Direct salvage excavations in the London, Ontario area.
- 1979-present Prepare proposals and conduct archaeological resource assessments of lands threatened by development in Southern Ontario and direct various salvage excavation projects. (See list of Manuscripts and Reports) Museum of Indian Archaeology.

Additional Field Experience:

- 1971 Eight weeks with Dr. William B. Roosa, Department of Anthropology, University of Waterloo (Field Course).
- 1972 Sixteen weeks with Dr. Francis Pryor, Royal Ontario Museum excavation of Fengate Site, Peterborough, England.
- 1975 Fourteen weeks with Dr. William D. Finlayson, Museum of Indian Archaeology excavation of the Draper Site, Pickering, Ontario.

Publications:

- 1978a Archaeological Investigations of the Pickering Phase in the Rice Lake Area. Ontario Archaeology No.29, Pp. 17-24. Toronto.
- 1978b A Preliminary Report on the Draper Site Rim Sherds. Museum of Indian Archaeology, Research Report No. 1. 148 pages. London.

- 1978c A Description of the Miscellaneous Ceramic Artifacts Recovered During the 1975 Field Season at the Draper Site. Museum of Indian Archaeology, Research Report No. 2. 32 pages. London.
- 1978d A Description of the Juvenile Ceramics Recovered During the 1975 Field Season at the Draper Site. Museum of Indian Archaeology, Research Report No. 3. 44 pages. London.
- 1978e Public Excavations at the Lawson Site. Kewa 78(7):4-5. (Newsletter of the London Chapter, Ontario Archaeological Society.) London.
- 1979a Prehistoric Village Rises Again. The Medway Valley News, Spring 1979:3. Arva.
- 1979b Excavations and Reconstruction of the Lawson Site. Museum of Indian Archaeology, Newsletter Vol. 1, No. 3. 4 pages. London.
- 1980 "Well, There's Another Field We Didn't Get To." Museum of Indian Archaeology, Newsletter Vol. 2, No. 2. 4 pages. London.
- 1981 "Houses, houses, houses...old houses, new houses". Museum of Indian Archaeology, Newsletter Vol. 5. 4 pages.
- 1983a The Edwards and Drumholm Sites. Museum of Indian Archaeology, Newsletter, Vol. 5. 4 pages.
- 1983b The Winderemere, Ronto, and Smallman Sites: Salvage Excavations of Prehistoric Iroquoian Hamlets. Museum of Indian Archaeology, Research Report No. 13. 65 pages. London.
- 1983c Hamlets of the Lawson Site. KEWA 83(5): 2-8. (Newsletter of the London Chapter, Ontario Archaeological Society.) London.
- 1985a (with B.G. Trigger, L. Yaffe, D. Dautet; and H. Marshall) Parker Festooned Pottery at the Lawson Site: Trace Element Analysis. Ontario Archaeology No. 42. Toronto.
- 1985b Salvage Excavations at the Pincombe Sites. The Palisade Post 7(2):1-4. Newsletter of the Museum of Indian Archaeology (London).
- 1985c (with Joni Catsburg)
Report on the Salvage Excavations at Pincombe 2, Pincombe 5 and Pincombe 6. Museum of Indian Archaeology, Research Report No. 14. London.
- 1985d Draper Site Ground Stone Artifacts. Museum of Indian Archaeology, Research Report No. 17. London.

- 1985e Draper Site Miscellaneous Ceramic Artifacts. Museum of Indian Archaeology, Research Report No. 18. London.
- 1986 Cultural Resource Management at the Federal, Provincial, Municipal and Corporate Levels in Southern Ontario, Canada. In: Public Archaeology and Cultural Resource Management, Section B, edited by Henry Cleere. Papers of the World Archaeological Congress, Sept. 1-7, 1986, Southampton. Allen and Unwin Publishers, London, England.
- in press Lawson Site (AgHh-1) Excavations, 1976-1979. Museum of Indian Archaeology, Research Report. 90 pages. London.
- in press An Assessment of the Culture History of Middlesex County and Vicinity. Museum of Indian Archaeology Research Report series. 237 pages. London.
- in press Mapping Middleport: A Case Study in Societal Archaeology. Museum of Indian Archaeology, Bulletin 15. London.

Manuscripts and Reports

- 1975a The Richardson Site - Analysis of Material excavated in 1968-1969. Department of Anthropology, Trent University, Peterborough. Photocopy.
- 1975b The Smokey Hollow Site (AfHa-2): A Preliminary Report. Manuscript on file, Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation Queen's Park, Toronto.
- 1975c Analysis of the Richardson Site Faunal Remains. Department of Anthropology, Trent University, Peterborough.
- 1976 A Preliminary Report on the 1976 Excavations at the Richardson Site (BbGl-4). Manuscript on file, Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, Queen's Park, Toronto.
- 1977 An Eastern Regional Expression of the Pickering Branch, M.A. Thesis, Department of Anthropology, Trent University, Peterborough.
- 1978 A Report on Field Work Carried Out Under Licence 78-D-0255. Manuscript on file, Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, Queen's Park, Toronto.
- 1979a Assessment of the Archaeological Resources within the proposed Regional Water Supply System Corridor, Regional Municipality of Halldimand-Norfolk. Report prepared and submitted under the terms of the 1979 agreement between The

Ministry of the Environment, M.M. Dillon Ltd. and the Museum of Indian Archaeology.

- 1979b Report on Field Work Carried Out Under Licence 79-E-0319. Manuscript on file, Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, Queen's Park, Toronto.
- 1979c Report on Field Work Carried Out Under Licence 79-E-0322. Manuscript on file, Historical Planning and Research Branch, Ontario Ministry of Culture and Recreation, Queen's Park, Toronto.
- 1979d An Archaeological Resource Assessment of the Proposed Browning-Ferris Industries Solidification Facility, Harwich Township, Kent County. Report prepared and submitted under the terms of the 1979 agreement between The Ministry of The Environment, M.M. Dillon Ltd. and The Museum of Indian Archaeology.
- 1979e Report on an Archaeological Survey of Lot 19, Concession 4, London Township, Middlesex County. Report prepared and submitted under the terms of the 1979 agreement between Sifton Properties Ltd. and the Museum of Indian Archaeology.
- 1981a Report on an Archaeological Resource Assessment of Areas of Cooksville Creek Bottomlands to be Affected by Channel Improvements. Report submitted to M.M. Dillon Ltd. (Toronto) and Credit River Conservation Authority.
- 1981b Report on an Archaeological Resource Assessment of Selected Areas to be Affected by the Upgrading of the 230 Kilovolt Transmission Line from the Buchanan Transformer Station (London) to the Chatham Transformer Station. Report submitted to Ontario Hydro.
- 1981c Preliminary Report on the Archaeological Resource Assessment of Proposed Revisions and Deviations to the North Bay Shortcut. Report submitted to D.H. Duncan and Company Ltd. and TransCanada Pipelines.
- 1982a Report on Licence 81-58: 1981 Field Season at the Lawson Site (AgHh-1). Report submitted to the Archaeology and Heritage Planning Branch, Ontario Ministry of Citizenship and Culture.
- 1982b Final Report on An Archaeological Resource Assessment of the Brantford Southern Access Road (Park Road North Reconstruction). Report submitted to M.M. Dillon Ltd. (Toronto) and the Ministry of Transportation and Communications (Cambridge).
- 1982c Report on Mitigative Excavations at Towers 78 and 203. Report submitted to Ontario Hydro.

- 1982d The Edwards (AfHi-23) and Drumholm (AfHi-22) Sites. Report submitted to the Archaeology and Heritage Planning Branch, Ontario Ministry of Citizenship and Culture.
- 1982e (with Ian Badgley) Preliminary Report on an Archaeological and Historical Resource Assessment of the Proposed Ottawa Lateral Extension. Report submitted to MacLaren PlanSearch (Toronto) and TransCanada PipeLines.
- 1982f Report on Phase I of an Archaeological Resource Assessment of Lots 17 and 18, Concession 5, London Township. Report submitted to Alcor Investments Ltd.
- 1982g Report on an Archaeological Resource Assessment of the Proposed Power Plant for the Westminster South Campus, Victoria Hospital Corporation. Report submitted to The Proctor and Redfern Group (London).
- 1982h Report on a Preliminary Assessment of the Archaeological Potential of the Proposed Expansion to a Landfill Site North of Sault Ste. Marie. Report submitted to M.M. Dillon Ltd.
- 1982i Final Report on an Archaeological Resource Assessment of Portions of the Snake Creek Valley and Medway Creek Valley. Report submitted to the Department of the City Engineer, City of London, Ronto Development Corporation, and Sifton Properties Ltd.
- 1982j Final Report on an Archaeological Resource Assessment of those Lands to be Affected by the Proposed Cadillac-Fairview Development of Lots 15 and 16, Concession 4, London Township, Middlesex County. Report submitted to Cadillac-Fairview Corporation Ltd.
- 1982k Report on Phase I of an Archaeological Resource Assessment along Proposed Water Pipeline Corridors from Victoria Harbour to Port McNicoll. Report submitted to the Proctor and Redfern Group.
- 1982l Background Study on the Archaeological Resources of the Region of Halton. Report submitted to Walker, Wright, Young Associates, Toronto.
- 1982m An Overview of the Archaeological Resources Present between the Credit River and Rouge-Duffins Creek Drainages. Report submitted to Gartner-Lee Associates, Markham.
- 1982n The Windermere, Ronto, and Smallman Sites: Salvage Excavations of Prehistoric Neutral Hamlets. Report submitted to the Archaeology and Heritage Planning Branch, Ontario Ministry of Citizenship and Culture, Toronto.

- 1982o Draper Site Miscellaneous Ceramic Artifacts. Manuscript on file, Museum of Indian Archaeology (London).
- 1982p Draper Site Ground and Rough Stone Artifacts. Manuscript on file, Museum of Indian Archaeology (London).
- 1982 (with the Museum of Indian Archaeology (London)). A Review of Archaeological Resources as they Effect the Facilities Development Process, Ontario Waste Management Corporation. Report submitted to Gartner-Lee Associates, Markham. (95 pages).
- 1983a (with the Museum of Indian Archaeology (London))
A Review of Archaeological Resources for Ontario Hydro's Southwest Study. Draft report submitted to Ontario Hydro, Toronto.
- 1983b Report on a Background Study of Heritage Resources for the GO A.L.R.T. Extension (Whitby to Oshawa). Report submitted to M.M. Dillon Ltd., Toronto.
- 1983c Report on an Archaeological Resource Assessment of a Proposed Subdivision in Westmount, City of London. Report submitted to Sifton Properties Ltd., London.
- 1983d Background Research on Heritage Resources for the Northern Alternate of the Niagara Line Loop through the Fruit-Belt Area (MLV 213A + 4.5 km to the Niagara River). Report submitted to TransCanada Pipelines Ltd., Toronto.
- 1983e Report on Phase 2 of an Archaeological Resource Assessment of Lots 17 and 18, Concession 5, London Township. Report submitted to Alcor Investments Ltd., London.
- 1983f Report on the Phase 2 Archaeological Investigation of Selected AREas on the GO A.L.R.T. Extension (Whitby to Oshawa): Western Section, Henry Street East to Thornton Road. Report submitted to M.M. Dillon Ltd., Toronto.
- 1983g (with Museum of Indian Archaeology (London))
OWMC Phase 3 Site Selection Process. Archaeological Background Study of Heritage Resources, Part 1: Native Archaeological Sites (pre 1650). Draft report submitted to Gartner Lee Associates Ltd., Markham.
- 1983h (with Tom Arnold)
Investigations at Five Prehistoric Neutral Sites in North London. Report on file, Museum of Indian Archaeology, London.
- 1984a Report on an Archaeological Survey of Reported Site ALGv-6, and of a Proposed Maintenance Facility for the Proposed GO ALRT Corridor, Whitby to Oshawa. Report submitted to M.M. Dillon Ltd., Toronto.

- 1984b Report on an Archaeological Resource Assessment of the Proposed Interprovincial Pipe Line Clarkson Transfer Line. Report submitted to MacLaren Plansearch, Toronto.
- 1984c Report on a Background Study of Known Archaeological Sites Along the Union Gas Transmission/Distribution Laterals for Forest and Surrounding Areas. Submitted to Smith, Hoffman Associates Ltd., Guelph.
- 1984d Background Study on Known Archaeological Resources in the Study Area of the Proposed Union Gas Sarnia Reinforcement/NPS20 Pool Line. Submitted to MacLaren Plansearch Inc. Toronto.
- 1984e Report on a Background Study of Heritage Resources Within the Indian/McGregor Creek Flood Control Project Area. Submitted to MacLaren Engineers Inc., London.
- 1984f Background Study on Known Archaeological Sites in the Study Area of the Proposed Union Gas Beechville to Bright Line. Submitted to MacLaren Plansearch Inc., Toronto.
- 1984g Background Study on Heritage Resources for the Region of Waterloo Waste Management Site Selection Study. Submitted to MacLaren Engineers Inc., Waterloo.
- 1984h Report on a Background Study of Archaeological Resources in the Vicinity of the Burlington Landfill Site. Submitted to M.M. Dillon Ltd., Toronto.
- 1984i Report on an Archaeological Resource Assessment of the Proposed Northbrook Subdivision (Lot 13, Concession 5, London Township). Submitted to the Matthews Group, London.
- 1984j Report on an Archaeological Investigation of Two Selected Areas on the Tip of Point Pelee. Submitted to The Landplan Collaborative Ltd., Guelph and Parks Canada, Cornwall.
- 1984k An Archaeological Resource Assessment of Gatesbury Development Limited's Proposed Phase B Development. Submitted to R.E. Winter and Associates Ltd., Mississauga and Con-Drain Co. Ltd., Mississauga.
- 1984l Report on an Archaeological Resource Assessment of the Proposed Westport Extension Subdivision in Port Dalhousie (St. Catharines), Ontario. Submitted to Kerry T. Howe Ltd., St. Catharines and Fairview Land Developments Ltd., St. Catharines.
- 1984m Report on an Archaeological Resource Assessment of the Proposed 230/115 KV Transmission Line from Holland Road Junction to Louth Junction. Submitted to Ontario Hydro, Toronto.

- 1984n Salvage Excavation of the Westport Site (AhGt-1).
- 1984o Report on Licence 84-73. Submitted to Archaeology Unit, Heritage Branch, Ministry of Citizenship and Culture. Toronto.
- 1985a Background Report on Known Archaeological and Historical Sites Within the Study Area of the Don Mills Road Widening Environmental and Needs Assessment Study. Submitted to Fenco Engineers Inc., Toronto.
- 1985b Report on Known Archaeological and Historical Sites On and Adjacent to Seven Areas Selected as Potential Locations for a Municipal Landfill Facility in the City of Brampton, Regional Municipality of Peel. Submitted to MacLaren Plansearch Inc., Toronto.
- 1985c Report on the Phase 1 Archaeological Resource Assessment of the Proposed Union Gas Nanticoke Line: Hamilton Gate Station to Nanticoke. Submitted to MacLaren Plansearch Inc., Toronto.
- 1985d Report on an Archaeological Resource Assessment of the Proposed 9.25 Km Union Gas Bentpath/Rosedale Pool Pipeline, Lambton County. Submitted to Ecological Services for Planning Ltd., Guelph.
- 1985e Report on an Archaeological Resource Assessment of the Proposed Union Gas Transmission/Distribution Laterals for Forest and Surrounding Areas. Submitted to Union Gas, Chatham.
- 1985f Final Report on an Archaeological Resource Assessment of Part of Lot 2, B.F. Concession, City of St. Catharines (formerly Township of Louth). Submitted to McGrew and Associates Ltd., St. Catharines.
- 1985g Archaeological Resource Assessment of a 26 Acre (10.5 ha) Development in St. Catharines Proposed by Landcorp Developments. Submitted to Kerry T. Howe Ltd., St. Catharines.
- 1985h Archaeological Resource Assessment of a 20 Acre (8.1 ha) Development in St. Catharines Proposed by Taro Properties Inc. Submitted to Kerry T. Howe Ltd., St. Catharines.
- 1985i Report on the Fall 1985 Archaeological Investigations on OWMC's Preferred Site for an Industrial Waste Treatment and Disposal Facility: LF-9C, Township of West Lincoln. Submitted to the Ontario Waste Management Corporation (OWMC), Toronto.

- 1985j Final Report on an Archaeological Resource Assessment of a Proposed Industrial Subdivision (30T-85009) in the City of Waterloo. Submitted to Magna International Inc., Markham.
- 1985k Interim Report on an Archaeological Resource Assessment of Phase 1 of the Proposed Bayview Hill Subdivision, Richmond Hill. Submitted to Metrus Management - Land Development, Concord.
- 1985l Delimitation of the Southern Portion of the Keffer Site (AkGvi-14). Submitted to the Town of Vaughan (Planning Department).
- 1985m Licence Report 85-38. Submitted to Archaeology Unit, Heritage Branch, Ministry of Citizenship and Culture, Toronto.
- 1985n Halton Region Environmental Assessment, Landfill Component of Solid Waste Management: Archaeological Assessment. Phase 2 Stage 2C Selection of Preferred Site, Final Technical Report No. 8. Regional Municipality of Halton.
- 1986a Archaeological Assessment of Draft Plan of Subdivision 19T-84080, Town of Richmond Hill. Submitted to Fred Schaeffer and Associates Ltd., Downsview.
- 1986b Archaeological Assessment of Draft Plan of Subdivision 19T-85008, Town of Richmond Hill. Submitted to Fred Schaeffer and Associates Ltd., Downsview.
- 1986c Archaeological Assessment of Draft Plan of Subdivision 19T-84055, Town of Richmond Hill. Submitted to Fred Schaeffer and Associates Ltd., Downsview.
- 1986d Archaeological Assessment of Draft Plan of Subdivision 19T-85030, Town of Richmond Hill. Submitted to First City Development Corporation, Toronto.
- 1986e Archaeological Assessment of Draft Plan of Subdivision 19T-85018, Town of Richmond Hill. Submitted to Constellation Developments Inc., North York.
- 1986f Archaeological Assessment of Lot 7, Registered Plan 3642, Town of Richmond Hill. Submitted to Celora Investments and Macroplan Ltd., Toronto.
- 1986g Archaeological Assessment of Draft Plan of Subdivision 19T-84065, Town of Richmond Hill. Submitted to Captain Developments Ltd., Scarborough.
- 1986h Archaeological Assessment of Lot 2, Registered Plan 3642, Town of Richmond Hill. Submitted to Premier Plaza Developments Inc., Thornhill.

- 1986i Archaeological Assessment of Draft Plan of Subdivision 19T-85043, Town of Richmond Hill. Submitted to Premier Plaza Developments Inc., Thornhill.
- 1986j Archaeological Assessment of Draft Plan of Subdivision 26T-86004 (Martindale Heights), St. Catharines. Submitted to Landtrac Holdings Ltd., St. Catharines.
- 1986k Archaeological Assessment of Draft Plan of Subdivision 30T-85019, Township of Woolwich, Regional Municipality of Waterloo. Submitted to Kappeler DaHard Holdings Ltd., Conestogo.
- 1986l Final Report on an Archaeological Assessment of Part of the Kuttis Subdivision, Cambridge. Submitted to Business Development Department, City of Cambridge.
- 1986m Investigation of the New Site (AlGt-36). Submitted to John Bousfield Associates Limited, Toronto.
- 1986n Preliminary Report on Archival Research Concerning the Scott Site Ossuary (AlGu-25), Markham Township. Submitted to Metrus Management - Land Development, Concord.
- 1986o Archaeological Assessment of Draft Plan of Subdivision 25T-85005, Vineland. Submitted to Upper Canada Consultants, St. Catharines.
- 1986p Archaeological Assessment of the Proposed Grapeview Estates Subdivision, St. Catharines. Submitted to Upper Canada Consultants, St. Catharines.
- 1986q Archaeological Assessment of the Proposed Erion Estates Residential Subdivision, St. Catharines. Submitted to D.W. Norman Holdings Ltd., St. Catharines.
- 1986r Heritage Resource Assessment of the Proposed Bayview Hill Subdivision, Richmond Hill (Draft Plan 19T-85047). Submitted to Metrus Management - Land Development, Concord.
- 1986s Report on an Archaeological Survey and Documentation of Archaeological Potential for Selected Areas in the Western Portions of Ontario Hydro's Proposed 500 KV Transmission Corridors in Bruce and Greenock Townships, Bruce County. Submitted to Ontario Hydro.
- 1986t Archaeological Assessment of the Proposed Sanitary Sewage Works Area for the Village of Lucknow (Kinloss Township, Bruce County). Submitted to B.M. Ross and Associates Limited, Goderich.
- 1986u Archaeological Assessment of the Proposed Sanitary Sewage Works Area for the Village of Ripley (Huron Township, Bruce

County). Submitted to B.M. Ross and Associates Limited, Goderich.

- 1986v An Archaeological Assessment of a Proposed Subdivision in the Township of Flamborough (Draft Plan 25T-86005). Submitted to R.E. Winter and Associates Ltd., Mississauga, Ontario.
- 1986w Known Archaeological Sites, and Archaeological Potential, Within Certain Union Gas "Pool Areas" in Dawn, Sombra, Enniskillen and Moore Townships, Lambton County. Submitted to Union Gas.
- 1986x Archaeological Assessment of a Proposed Sand and Gravel Pit, Lot 11, Concession 1, West Nissouri Township, Middlesex County. Submitted to Upper Thames River Conservation Authority, London.
- 1986aa Archaeological Assessment of the Proposed Brockview Estates Subdivision, St. Catharines. Submitted to Upper Canada Consultants, St. Catharines.
- 1986bb Archaeological Assessment of a Proposed Subdivision in the Town of Ingersoll (Oxford County). Submitted to Matthews Group Limited, London.
- 1986cc Archaeological Assessment of a Proposed Union Gas Pipeline Realignment at the GM-Suzuki Plant, Ingersoll (Oxford County). Submitted to Union Gas Limited, Chatham.
- 1986dd Addendum to: Report on Known Archaeological and Historic Sites On and Adjacent to Seven Areas Selected as Potential Locations for a Municipal Landfill Facility in the City of Brampton, Regional Municipality of Peel. Submitted to MacLaren Plansearch Inc.
- 1986ee Archaeological Assessments of Draft Plans of Subdivision 30T-80022 and 30T-86028, City of Kitchener. Submitted to The Proctor and Redfern Group, Kitchener.
- 1986ff Archaeological Assessment of the Proposed Highland Green Subdivision, Highland Road West, Kitchener (Draft Plan of Subdivision 30T-85023). Submitted to The Proctor and Redfern Group, Kitchener.
- 1986gg Investigation of Archaeological Site AiHd-46 (Nineteenth Century Homestead) on Highland Green Subdivision (Draft Plan 30T-85023) in Kitchener. Submitted to Arris Glen Developments Ltd., c/o Proctor and Redfern Limited.
- 1986hh Archaeological Assessment of the Proposed Freure/Ritzer Subdivision, Westvale Community, Waterloo (Draft Plan of Subdivision 30T-85022). Submitted to The Proctor and Redfern Group and Freure Homes.

- 1986ii Final Report on an Archaeological Assessment of Certain Areas Along the Union Gas Owen Sound Pipeline Near the Woolwich Reservoir, Woolwich Township, Regional Municipality of Waterloo. Submitted to Union Gas Limited.
- 1986jj Archaeological Assessment of Draft Plans of Subdivision 19T-86032 and 19T-86033, Town of Markham. Submitted to Metrus Management - Land Development.
- 1986kk Interim Report on an Archaeological Assessment of Parts of Lots 18, 19, and 20, Concession 3, Town of Markham. Submitted to MI Developments.
- 1986ll The Search for the Wise Family Cemetery on Lot 17, Concession 2, Markham Township. Submitted to The Glen Group, Don Mills.
- 1986mm Archaeological Assessment of Part of Lot 16, Concession 3, Town of Richmond Hill. Submitted to MI Developments, Markham.
- 1986nn Archaeological Assessment of Draft Plan of Subdivision 19T-80002, Kleinburg, Town of Vaughan. Submitted to East Woodbridge Developments Ltd., Concord.
- 1986oo Interim Report on an Archaeological Assessment of Part of Lot 12, Concession 3, Town of Vaughan. Submitted to Villarboit Holdings Ltd.
- 1986pp Licence Report 86-25: Report on the Completion of Archaeological Investigations Outside the Keffer Iroquoian Village, Lot 13, Concession 3, Town of Vaughan. Submitted to MI Realty and Ontario Ministry of Citizenship and Culture.
- in preparation Report on the Phase 1 Mitigation of Three Prehistoric Archaeological Sites (AfHh-82, AfHh-83, and AfHh-84) Within "Matthews Woods", City of London. To be submitted to Matthews Group Ltd. (London) and Ontario Ministry of Citizenship and Culture.
- in preparation Phase 4B Site Assessment Programme: Archaeology and Early History of Site LF-9C. To be submitted to the Ontario Waste Management Corporation, Toronto.

Professional Papers Presented

- 1976 Archaeological Investigations of the Pickering Phase in the Rice Lake Area. 3rd Annual Symposium of the Ontario Archaeological Society. Toronto.
- 1978 (with Dr. Wm. D. Finlayson)
A Consideration of Sampling Procedures for Iroquoian

Villages in Ontario - Examples from the 1975 Excavations at the Draper Site. McMaster University Anthropology Society Symposium. Hamilton.

- 1979a The 1978 Excavations at the Lawson Site. 12th Annual Meeting of the Canadian Archaeological Association. Vancouver.
- 1979b Recreating the Lawson Site. 6th Annual Symposium of the Ontario Archaeological Society. Toronto.
- 1979c (with R. Williamson, D. Smith, and R. Fecteau)
The Longhouse Experiment: An Experience in Iroquoian Archaeology. 6th Annual Symposium of the Ontario Archaeological Society. Toronto.
- 1980a Recreating the Lawson Site. January meeting of the London and Middlesex Historical Society. London.
- 1980b (with David G. Smith)
The Longhouse and Iroquoian Defensive Strategy. 13th Annual Meeting of the Canadian Archaeological Association. Saskatoon.
- 1980c The Lawson Site: Fifteenth Century Fortress in the Thames River Drainage Area. 7th Annual Symposium of the Ontario Archaeological Society. London.
- 1980d (with David G. Smith)
Iroquoian Societies Along the North Shore of Lake Erie. 7th Annual Symposium of the Ontario Archaeological Society. London.
- 1981 A History of Iroquoian Cultural Classification in Ontario and the Northeast. Paper presented in Anthropology 670D, McGill University.
- 1982a The Classification of Ontario Iroquoian Groups. Paper Presented at the McMaster Anthropology Society Symposium "The Ontario Iroquois Tradition Revisited". Hamilton.
- 1982b Prehistoric Neutral Cabin Sites. Paper presented at the 15th Annual Meeting of the Canadian Archaeological Association, Hamilton.
- 1983 Iroquoian Prehistory in the London, Ontario Area. Paper presented at the Annual Conference on Iroquois Research, Institute on Man and Science, Rensselaerville, New York.
- 1984a Hamlets of the Lawson Site. Paper presented to the London Chapter, Ontario Archaeological Society. London.

- 1984b Native Heritage of Southwestern Ontario. Paper presented in the "Our Heritage" Lecture Series, London Public Library. London.
- 1984c The Lawson Site and Its Hamlets: Determining Prehistoric Neutral Social Organization. Paper presented at the 17th Annual Meeting of the Canadian Archaeological Association, Victoria, British Columbia.
- 1986a Middleport: Past, Present and Future. Paper presented at the 18th Annual Meeting of the Canadian Archaeological Association, Toronto.
- 1986b Cultural Resource Management at the Federal, Provincial, Municipal and Corporate Levels in Southern Ontario, Canada. Paper presented at the World Archaeological Congress, Southampton, England, 1-7 September 1986.

Areas of Research Interest:

Investigation of the late prehistoric Iroquoian development in southwestern Ontario; the interpretation of archaeology to the general public; museum operations; statistical techniques; use of computers in archaeology; history of Ontario archaeology.

References:

Dr. Wm. D. Finlayson, Executive Director, Museum of Indian Archaeology, London.

Dr. Michael Spence, Department of Anthropology, The University of Western Ontario, London.

Dr. Bruce G. Trigger, Department of Anthropology, McGill University, Montreal.

January 29, 1987



THE REGIONAL MUNICIPALITY OF HALTON

DEPARTMENT OF
FINANCE

P.O. BOX 7000
1151 BRONTE ROAD
OAKVILLE, ONTARIO L6J 6E1
416/827-2151

CURRICULUM VITAE

JOSEPH L. RINALDO, C.M.A.

Director of Finance and Regional Treasurer,
Regional Municipality of Halton

Education:

- Society of Management Accountants - Professional Designation (C.M.A.).
- Advanced Enrichment in Municipal Finance and Management Science at Mohawk College.

Work Experience:

- Since December 1982, Mr. Rinaldo has been Director of Finance and Regional Treasurer for the Regional Municipality of Halton.
- During the period February 1982 to September 1982, Mr. Rinaldo was acting Commissioner of Finance for the Regional Municipality of Hamilton-Wentworth.
- From 1975 to 1982, Mr. Rinaldo was Director of Revenues for the Regional Municipality of Hamilton-Wentworth.
- From 1974 to 1975, Mr. Rinaldo was the Supervisor of Grants for the Regional Municipality of Hamilton-Wentworth.
- From 1967 to 1974, Mr. Rinaldo held several positions of increasing responsibility including Paymaster and ultimately Treasury Officer for The Corporation Of the City Of Hamilton.

BURLINGTON

639-4540

HALTON HILLS
ACTON

853-0501

HALTON HILLS
GEORGETOWN

878-8113

MILTON

878-8113

OAKVILLE

827-2151

Current Responsibilities:

The Managerial responsibilities include:

- Role as Chief Financial Officer of the Regional Corporation
- Carry out Statutory Duties of Treasurer
- Advise Council regarding the financial stewardship of the Regional Corporation.
- Ensure that the state of the Region's resources adequately meets the existing and future needs of the Regional Services
- Provide timely and effective advice to Regional Council on all pertinent matters having financial implications.
- Preserve access to Bond Markets by maintaining Halton's 'AAA' Credit Rating.

The Program responsibilities include:

- Controllershship/Internal Audit
- Financial Services
- Information Systems
- Cash and Debt Management
- Insurance and Risk Management
- Co-operative and Centralized Purchasing
- Fiscal Planning and Corporate Financial Reporting

Myra Schiff Consultants Limited

491 Eglinton Ave. West, Suite 403
Toronto, Ontario M5N 1A8
(416) 487-3781

MYRA SCHIFF

Education

B.A. Wheaton College, Norton, Mass., 1965 (Mathematics)
M.A. Syracuse University, Syracuse, N.Y., 1967 (Psychology)
Ph.D. Syracuse University, Syracuse, N.Y., 1970 (Psychology)

Work History

1977 - present Principal, Myra Schiff Consultants Ltd., a firm
 specializing in behavioural aspects of design and
 environment, and in social research.

1972 - 1977 Assistant Professor, Department of Urban and
 Regional Planning, University of Toronto.

1971 - 1971 Assistant Professor, Department of Geography,
 University of Toronto.

1969 - 1971 Post-Doctoral Fellow, Natural Hazards Research
 Project, University of Toronto

Memberships

Canadian Association on Gerontology
Ontario Gerontology Association
Environmental Design Research Association
Canadian Psychological Association
Ontario Society for Environmental Management
American Psychological Association

Selected Consulting Projects

- * ¹ Public participation program and ² ~~social impact analysis for sanitary landfill component of solid waste management system~~ in association with Walker, Wright, Young Associates (Halton Region)
- * Designed and carried out a public participation program for a road reconstruction (City of Windsor)
- * Exit survey of drivers' attitudes and behaviour along the route of proposed road reconstruction (City of Windsor)
- * Assessed the social impact of a proposed condominium apartment development in preparation for an Ontario Municipal Board hearing (Peel Elder Developments)
- * Served as environmental psychologist on a team preparing the plan for the Main Central Area (Town of Pickering)
- * Study of residents' attitudes and behaviour with respect to environmental quality in the Junction Triangle, as part of a comprehensive environmental audit, in association with Senes Consultants (Ministry of Environment)
- * Survey to determine preference of Band members about changes in the school system (Oneida of the Thames Band)
- * User participation component of feasibility study on future school needs (Six Nations Indian Band)
- * Developed the study design and terms of reference for a study of non-market benefits of pollution control (Ontario Ministry of the Environment)
- * Carried out a review of the literature on behavioural issues in assessing amenity values (Ontario Ministry of the Environment)
- * Feasibility study for new community centre in rural Ontario (duToit Associates Limited)
- * Evaluated effects of introduction of regional government on the delivery of parks and recreation services in the Regional Municipality of Hamilton-Wentworth (Stewart Commission)
- * Carried out an evaluation of housing co-operatives in Ottawa, Toronto and Montreal (Co-operative Housing Foundation)

- * Developed a profile on numbers and housing needs and preferences among "empty nester" households (Canada Mortgage and Housing Corporation)
- * Carried out a planning study for the location of a new city hall in Thunder Bay (Graham, Bacon & Welter, Architects and Engineers)
- * Produced a manual to enable small communities to assess their recreation services for older adults (Ministry of Culture and Recreation)
- * Developed policy to encourage increased use of provincial parks by senior citizens (Ontario Ministry of Natural Resources)
- * Advising on design of new 80 bed Home for the Aged, in association with Stinson, Montgomery, Sisam Architects (Niagara Region)
- * User participation program for identifying renovation needs and priorities in two Homes for the Aged (Hamilton-Wentworth Region)
- * Designing a post-occupancy evaluation method for acute care hospitals and developing data base management system for utilizing evaluation findings (Health and Welfare Canada)
- * Design of post-occupancy evaluation of four nursing homes in the Atlantic Provinces (Canada Mortgage and Housing Corporation)
- * Designed a post-occupancy evaluation of a senior citizens' apartment building (Peel Non-Profit Housing Corporation)
- * Prepared the social management policy for Region's first senior citizens' building (Peel Non-Profit Housing Corporation)

R E S U M E

OWEN R. SCOTT

Landscape Architect, Horticulturist

Education:

Bachelor of Science in Agriculture (Landscape Horticulture), (B.S.A.)
University of Guelph, 1965.

Master of Landscape Architecture (M.L.A.), University of Michigan,
1967.

Professional Experience:

- 1977 - President:
The Landplan Collaborative Ltd.
Landscape Architects, Environmental Scientists
319 Woolwich Street, Guelph, Ontario N1H 3W4
and
344 Second Avenue South, Saskatoon, Saskatchewan
S7K 1L1
- 1977-1985 Director:
The Pacific Landplan Collaborative Ltd.
Vancouver and Nanaimo, British Columbia
- 1965 - President:
Canadian Horticultural Consulting Co. Ltd.
Guelph, Ontario
- 1975-1981 Editor and Publisher:
Landscape Architecture Canada
Guelph, Ontario
- 1969-1981 Associate Professor:
School of Landscape Architecture
University of Guelph, Guelph, Ontario
- 1975-1979 Director:
Ecological Services for Planning Ltd.
Guelph, Ontario
- 1964-1969 Landscape Architect:
Project Planning Associates Limited
Toronto, Ontario

Sustained Professional Memberships

Canadian Society of Landscape Architects	1968-
Ontario Association of Landscape Architects	1969-
International Federation of Landscape Architects	1969-
American Society of Landscape Architects	1970-
Association for Preservation Technology	1972-
Alliance for Historic Landscape Preservation	1973-
Architectural Conservancy of Ontario	1976-
Heritage Canada	1980-
Ontario Historical Society	1981-
American Society of Consulting Arborists	1984-
ICOMOS (International Council on Monuments and Sites)	1985-

Boards, Committees and Memberships:

President, Ontario Association of Landscape Architects	1973-1975
Founding Member, Alliance for Historic Landscape Preservation	1973
President, Canadian Society of Landscape Architects	1976-1978
Chairman, Archives Committee, CSLA	1976-
Advisory Board Member, Architectural Conservancy of Ontario	1981-
President, Ontario Chapter, American Society of Landscape Architects	1983-1984
Advisory Board Member, Centre for Canadian Historical Studies (CCHHS) (RBG)	1984 -

Awards and Honours:

Investiture as Fellow of the Canadian Society of Landscape Architects	1977
Excellence Award for Communications, Canadian Society of Landscape Architects	1980
Ontario Renews Award for Millside in Guelph	1982

Recent Publications:

Scott, O. R. CSLA/AAPC Archives. Landscape Architecture Canada, Vol. 3, No. 3, 1977.

Scott, O. R. The Evaluation of the Upper Canadian Landscape. Department of Landscape Architecture, University of Manitoba. 1978. (Colour video-tape).

Scott, O. R. Changing Rural Landscape in Southern Ontario. Third Annual Proceedings Agricultural History of Ontario Seminar (1978). June 1979. 20 p.

Scott, O. R., Grimwood, P., Watson, M. George Laing - Landscape Gardener, Hamilton, Canada West 1808-1871. Bulletin, The Association for Preservation Technology, Vol IX, No. 3, 1977, 13 p (also published in Landscape Architecture Canada, Vol. 4, No. 1, 1978).

Scott, O. R. Utilizing History to Establish Cultural and Physical Identity in the Rural Landscape. Landscape Planning, Elsevier Scientific Press, Amsterdam, 1979. Vol. 6, No. 2, pp. 179-203.

Scott, O. R. and Wickett, B., Suburban Streetscapes. Landscape Architecture Canada 5(2): 16-23, 1979. Ariss, Ontario.

Scott, O. R. Gardening in Keeping with the Heritage Residence or What do I do with the Gooseberries? Art Gallery of Ontario (1981).

Scott, O. R. Canada West Landscapes. Fifth Annual Proceedings Niagara Peninsula History Conference (1983). 22p.

Scott, O. R. Victorian Landscape Gardening. Ontario Bicentennial History Conference, McMaster University, 1984.

Scott, Owen R. Tipperary Creek Conservation Area, Wanuskewin Heritage Park. Landscape Architectural Review, May 1986, p.5-9

Many articles in conservation bulletins, housing magazines, landscape architectural journals.

Biography

Owen R. Scott was born in Bowmanville, Ontario and "grew-up" in the nursery business. He has had a long-time interest in horticulture and landscape architecture with a special interest in the conservation of historic landscapes.

He is a Founding Member of the Alliance for Historic Landscape Preservation, an international group of landscape architects, historians, geographers, social scientists whose aim is to research and disseminate information on landscape preservation and conservation matters. He has studied at the Universities of Guelph and Michigan, and has attended seminars and workshops provided by the Association for Preservation Technology, the Ontario Museum Association, and the Ontario Historical Society.

He was employed as a landscape architect for a major Toronto-based consulting firm, taught at the University level for 13 years, published and edited a national landscape architectural journal, has managed a horticultural and arboricultural consulting practice since 1965 and has managed a major landscape architectural/environmental science firm with offices in Guelph, Saskatoon, Vancouver, and Nanaimo since 1977.

Mr. Scott has presented numerous papers, seminars, and workshops to many local history societies, the Ontario Museum Association, the Ontario Historical Society, the Canadian Society of Landscape Architects, the Universities of Guelph, Toronto, Manitoba, and McMaster. This experience, coupled with teaching landscape architecture and landscape history has been applied to hundreds of projects over the past 22 years. In co-operation with others in his firm and other consultants, he has developed and employed inventory, analysis techniques and research methods to landscape heritage features and structures conservation and restoration.

A selection of some of the heritage landscape projects undertaken by Owen Scott as a principal of Landplan over the past several years follows:

REGIONAL MUSEUM (Region of Waterloo, Ontario).

Feasibility study for the development of a regional museum and focus for all heritage features of the Region of Waterloo. An examination of seven alternative sites to provide the best location and site design for the regional tourist attraction.

WOODSIDE NATIONAL HISTORIC PARK (Kitchener, Ontario)

Preparation of a comprehensive landscape restoration plan for the 14 acre park, boyhood home of W. L. Mackenzie King. The plan involved extensive archival and on-site research to determine the original fabric of the grounds and gardens.

RIDGE HOUSE MUSEUM LANDSCAPE PLAN, (Ridgetown, Ontario)

Preparation of a landscape plan for an 1860's residence converted to a municipal museum.

TIPPERARY CREEK HERITAGE CONSERVATION AREA MASTER PLAN (Saskatoon, Saskatchewan)

Feasibility study and master plan for a unique 140 acre site of international archaeological significance. The plan includes conservation techniques for the archaeological resources, interpretive trails, interpretive centre, and infrastructure. Landplan received Canadian Society of Landscape Architects regional and national awards in 1985 for this plan.

VICTORIAN GARDEN, ST. JAMES PARK (Toronto, Ontario)

Design of an 1860's re-creation of a Victorian Garden for the City of Toronto in the historic district of St. Lawrence Market in Toronto. This garden was designed to incorporate historic plant materials, furniture, and fountain, all researched and documented by the Garden Club of Toronto and Landplan. The garden won both Canadian Society and Ontario Association of Landscape Architects awards in 1983 and 1984.

GOVERNMENT OF ONTARIO LIGHT RAIL TRANSIT ROUTE SELECTION (Burlington, Hamilton, Ontario)

Conducted a complete heritage and archaeological survey for a linear corridor of eight miles in the historic Royal Botanical Gardens and War of 1812 areas of Burlington and Hamilton. An inventory, analysis and mitigative recommendations report was formulated as part of the required Environmental Assessment for the Ministry of Transportation and Communications.

LANDFILL SITE SELECTION (Region of Halton, Ontario)

Conducted a heritage inventory and analysis of six candidate sites for a major regional landfill proposal. Mitigative recommendations for screening, landform alteration, re-location of heritage structures and conservation of heritage landscape features were formulated as part of the required Environmental Assessment.

DOON PIONEER VILLAGE/DOON HERITAGE CROSSROADS (Kitchener, Ontario)

Creation of a master plan for the Village and subsequent site plans and re-construction/conservation plans for the landscapes of each of the structures in the Village, for the Village Main Street and for the parking/circulation/entrance infrastructure.

JOSEPH SCHNEIDER HAUS (Kitchener, Ontario)

Development of a Master Plan for the house and its environs, the placement of numerous outbuildings, a bridge, gardens and other functions, to separate the museum from a City Park and provide a complimentary setting for the historic complex.

QUEEN STREET & VILLAGE SQUARE, (Paisley, Ontario).

A development plan for the conservation of the historic downtown core of the Village of Paisley included reclamation of a parking lot in the downtown for a Village Square, signage for the entrances and for all streets in the village, lighting, pedestrian paving and tree planting for the entire length of the main street.

QUEEN/PICTON STREETS (Niagara-on-the-Lake)

A development plan for the creation of an historic streetscape and park for downtown Niagara-on-the-Lake included street and pedestrian paving, tree and shrub planting, street furniture, lighting, and land use analysis.

MILLCROFT GARDEN (Alton, Ontario)

Restoration plan of a 1920's garden. A restoration feasibility study of an 1880's mill owner's residential garden of approximately 2 acres determined that a date of 1928 would be most appropriate. Landscape restoration plans were prepared for 1986 construction commencement.

DUNDURN CASTLE (Hamilton, Ontario)

This 1820's Italianate villa, designated as a national historic property, has received much attention in the past. In 1986, Landplan was commissioned to provide a landscape restoration feasibility study for the extensive, and extensively modified grounds. The plan will return the landscape to its 19th century splendour and utilize the grounds as an extension of the museum.

ONE VICTORIA SQUARE (Milton, Ontario)

Conceptual master plan to develop the 3 acre open space fronting the municipal buildings as a Victorian Park consistent with the character and quality of the extensive building restoration.

MAGNET SCHOOL/THE PARADE (Buffalo, New York)

Landplan was selected by the Buffalo School Board and the New York State architectural firm, Stieglitz, Stieglitz, Tries P.C. to re-design the historic Frederick Law Olmsted park, The Parade, in concert with the development of a new "magnet school" attached to the historic Museum of Natural History in Buffalo. The site planning and design must be sensitive to the needs of the neighbourhood, the Museum, the school, and the historic qualities of the park. Work was initiated in September, 1986.

CURRICULUM VITAE
for
JIM BEECHINOR

EDUCATION

M.A.Sc., Management Science, Faculty of Engineering,
University of Waterloo, Convocation in Fall, 1987
(Thesis involves the incorporation of Environmental Risk
Assessment into Waste Disposal Decision-Making)
B.A.S., Economics, York University, 1982
B.Sc., Honours Earth Sciences, University of Waterloo, 1977,
including undergraduate and graduate courses
in Hydrogeology and Water Resources Management

WORKSHOPS AND SHORT COURSES

MS753 - Risk in the Technological Society, University of Waterloo, 1987
Municipal Landfill Regulations, Ministry of the Environment, 1987
Risk Analysis for Waste Management, University of Toronto, 1987
Hazardous Wastes: Corrective Action Policy and Management
Waste Tech., Chicago, Illinois, 1986
Design and Construction of Municipal and Industrial Waste Disposal Facilities
Consulting Engineers of Ontario, 1984

MEMBERSHIPS

Fellow, Geological Association of Canada
Member, International Association of Hydrogeologists
Member, Canadian Water Resources Association

PROFESSIONAL EXPERIENCE

1986 to Present

Trow Hydrology Consultants Ltd. Head, Environmental Planning
Section and Senior Hydrogeologist. Responsible for the
management, coordination and study design of multi-disciplinary
projects and environmental assessments dealing with water
resource and waste disposal management. Recently, Mr.
Beechinor was Project Manager for Hydrogeological,
Environmental and Engineering studies in connection with an
approval to expand the West Gwillimbury Landfill in Bradford.
The study was undertaken to fulfill requirements set out by the
Ministry of the Environment for continued use of the landfill. Mr.
Beechinor was Trow's Project Coordinator for the Regional
Municipality of Halton's waste management system study. This
study was carried out under the provisions of the Environmental
Assessment Act and the Environmental Protection Act.

1982 to 1986

Trow Ltd., Hydrogeologist, Environmental Hydrogeology Section. Duties focused on the suitable location of waste disposal sites, assessment of their environmental effects and recommendation of necessary remedial measures. Some specific responsibilities include, study design, client liaison, supervision of test drilling programs and report and proposal preparation. Noteworthy projects include, Environmental Assessment of the Landfill Component of Halton's Solid Waste Management System; design of specific measures to minimize adverse impact to water resources, Violet landfill, near Kingston; Hydrogeologic Studies and Impact Assessment of Landfills in Uxbridge, Peterborough, Metro Toronto, Hamilton, Brantford; Methane Gas extraction tests for Toronto centered Sanitary Landfills. Mr. Beechinor supervised the test drilling program for the assessment and subsequent approval of Tricil Limited's Liquid Disposal Site near Sarnia.

1980-1982

Geo-tecnic Inc. (Toronto). Formed this company while a full time student at York University and the University of Waterloo to carry out hydrogeologic and terrain Investigations. Noteworthy works include, Water Basin Management Study for the South Lake Simcoe Conservation Authority, and technical advisor for a documentary on Waste Management for National Film Board of Canada, Tahl Commercial Film Limited.

1977 to 1980

Ecologistics Limited (Kitchener), Hydrogeologist/Environmental Planner. Responsible for Geologic and Hydrogeologic Assessments and technical guidance of the firm's Land Resources Section. Mr. Beechinor was Project Manager for a wide range of projects. Projects included, Environmental Assessment of existing sanitary Landfills for various Municipalities; Geologic Interpretation for National Park Selection, Parks Canada; Assessment of Groundwater and the potential after-use of gravel pits, City of Brampton; Groundwater impact of dewatering in a Quarry, Town of Brockville; Soil Survey and Development plans for Dalles Indian Reserve, Kenora, For Indian and Northern Affairs; various water supply and septic suitability studies.

Mr. Beechinor provided expert testimony before the Ontario Municipal Board in connection with the aforementioned Quarry in the Town of Brockville.

CURRICULUM VITAE
for
ALFRED A. SOBANSKI

EDUCATION

University of Toronto, Geological Engineering
B.A.Sc. 1960

Exploitation Engineering - Petrophysics
Production Geology, Reservoir Engineering,
Shell Development Company, Houston, Texas,
1961-1964

Principles of Hydrology -IHD- Dalhousie University, 1968

University of Waterloo, Hydrogeology -
Post Graduate Course, 1968

MEMBERSHIPS

Professional Engineer, Association of
Professional Engineers of Ontario

Designated Consulting Engineer, Association
of Professional Engineers of Ontario

Member, National Water Well Association

Member, International Association of
Hydrogeologists

PROFESSIONAL EXPERIENCE

1974 to Present

Hydrology Consultants Limited and Trow Hydrology Consultants Ltd., Senior Hydrogeologist. Duties involve the overall supervision of assessment, design and planning services related to groundwater exploration and development, toxic waste disposal on land and into disposal wells, disposal of solid wastes on land, including client liaison, budget control, design of drilling programs and wells, formation and water sampling, attenuation analyses, evaluation of test results and report preparation. Providing expert testimony at public hearings. Recent projects have included environmental assessments of proposed landfill sites for the Region of Halton, environmental impact

assessments of large existing sanitary landfill such as Beare Road and Brock West, the assessment and conceptual design of Tricil Limited's liquid disposal site near Sarnia, the design of leachate control systems for sanitary landfills, the supervision of the engineering and construction of control works at a radioactive waste disposal site for Eldorado Nuclear Limited.

1970-1973

Ontario Ministry of the Environment, Program Engineer. Duties involved the planning, supervision and co-ordination of technical studies and investigations related to municipal and regional groundwater assessment, municipal groundwater supply and development, groundwater quality protection and municipal well maintenance throughout the province, which included the scheduling of projects, the provision of technical guidance, the review of work progress, and final approval of complex or politically sensitive reports prepared by eleven professional and support staff; providing consulting services to other government ministries and branches, the public, and investigating critical water supply and groundwater pollution problems; and developing and implementing program and procedure modifications.

1967-1969

Ontario Water Resources Commission. Project Hydrogeologist. Duties included local and regional hydrogeologic assessment to locate high-yield aquifers for the development of municipal water supplies by wells and collector system, and for future water resources planning purposes; the supervision of municipal test-drilling and well-construction projects, including contract-preparation, well design, work site management, formation and water-quality sampling, aquifer and well-capacity test pumping, determination of perennial aquifer and well-yields and interference potential; the investigation of groundwater pollution problems, including the source and extent of pollution through flow-time evaluations and chemical analyses, and the development of corrective procedures.

1965-1966

Shell Canada Limited, Project Engineer. Supervision of collection assembly and interpretation of data from sub-surface thermal recovery experiments by steam drive and in-situ combustion methods in the Peace River Tar Sands area. Interpretation and assessment of geophysical logs. Reservoir engineering studies and profitability analyses for oil field development, lease purchases and sales and unitizations.

1964

Shell Canada Limited. Exploitation Engineer. Laboratory determinations of reservoir coefficients of porosity and permeability, pore entry pressures. Multiphase fluid flow studies in porous media for the secondary recovery of oil by water flooding.

1962-1963

Shell Canada Limited. Exploitation Engineer. Field engineering in the Peace River and Athabaska Tar Sands areas related to the extraction of heavy hydrocarbons by in-situ flooding with chemicals and steam including test drilling, formation coring, formation fracturing, geophysical logging and interpretation, assembly and interpretation of data from subsurface thermal recovery experiments.

1960-1961

Shell Canada Limited, Exploitation Engineer. - Training program, field engineering related to the drilling, assessment and completion of deep oil and gas test wells and production wells.

R E S U M E

DENIS GORDON STEVENS, B.A., B.Sc., M.Sc.,

Denis Stevens is an ecologist and environmental planner. He is a senior principal and director of The Landplan Collaborative Ltd. of Guelph, Ontario, and Saskatoon, Saskatchewan which offers consulting services in landscape architecture and the environmental sciences and planning. Mr. Stevens is also a member of the associate graduate faculty at the School of Landscape Architecture, University of Guelph. He has qualified as an expert witness before a variety of boards and tribunals and the Ontario Divisional Court and has extensive project experience throughout Canada including Ontario, the western provinces and the Northwest Territories.

EDUCATION

- . Bachelor of Arts (1971) University of Guelph, College of Social Science
- . Bachelor of Science (1973) University of Guelph, College of Biological Science
- . Master of Science (1978) University of Guelph, Department of Botany and the Centre for Resources Development
- . Diploma (1979) Harvard University, Graduate School of Design (Site Selection)
- . Ontario Diploma in Agriculture, (currently in progress) University of Guelph, Ontario Agricultural College
- . Graduate course in planning law, Planning 630, (aud.) at Waterloo University, School of Urban and Regional Planning.

EMPLOYMENT HISTORY

- | | |
|----------------|---|
| 1984 - present | Senior Principal, Director; The Landplan Collaborative Ltd., Guelph and Saskatoon |
| 1984 - present | Associate Graduate Faculty, School of Landscape Architecture, University of Guelph |
| 1979 - 1984 | Head Ecology,
Head Environmental Assessment, Associate,
M. M. Dillon Limited |
| 1973 - 1978 | Principal and Director
Biosystems Environmental Consultants, Guelph |
| 1975 - 1977 | Instructor (Sessional), Environmental and Resource
Studies Program, Trent University, Peterborough |

- 1973 - 1974 Ecologist, Research Associate, Department of Botany/Centre for Resources Development
- 1973- 1976 Teaching Assistant, College of Biological Science, University of Guelph
- 1968 - 1969 Seasonal employment, Ministry of Natural Resources, Parry Sound District, Swastika District.

MEMBERSHIPS AND AFFILIATIONS

Ecological Society of America
 Long Point Bird Observatory
 Ottawa Field Naturalist Club
 Canadian Land Reclamation Association

PROJECT EXPERIENCE

Environmental Assessment:

- . Regional Municipality of Halton, Regional Landfill Environmental Assessment - project manager for Visual, Heritage and After-use Concept components
- . Federal Department of Indian Affairs and Northern Development, Environmental Screening Workshop - 3 day workshop and training presentation to agency staff
- . Township of Puslinch, Environmental Assessment Advisory Services - on-going advice to Council on intervention for protection of groundwater resources
- . Ministry of Transportation and Communications, Highway 410 (Brampton) Environmental Assessment - project coordinator for route selection and screening phases
- . Ontario Hydro Environmental Monitoring Study - review and advisory services, Environmental Assessment Hearing on Hydro environmental monitoring, agricultural compensation and construction and mitigative measures.
- . Royal Canadian Golf Association, Intervention on Dorval Drive/Upper Middle Road Environmental Assessment - review and critique of route selection and Environmental Assessment documentation.

- . GO-Advanced Light Rail Transit Environmental Assessment, Northern Route, Scarborough to Pickering Segment - project manager of natural environment studies; route selection team member.
- . Regional Municipality of Waterloo, Master Water Supply Study Class Environmental Assessment - environmental assessment coordinator, Stage 1.
- . Oxford County Landfill Environmental Assessment - environmental coordinator; expert witness on natural environment analysis and impact assessment.
- . GO-Advanced Light Rail Transit Environmental Assessment, Route Selection, Lakeshore-Oshawa to Whitby Segment - natural environment coordinator
- . Go-Advanced Light Rail Transit Environmental Assessment, Route Selection, Northern Route, Harbour east Segment - natural environment coordinator.
- . Credit Valley Conservation Authority, Cooksville Creek Improvement Program Environmental Assessment - environmental impact analysis of channelization and flood control measures
- . TransCanada Pipelines Eastern Contingency Routes Environmental Assessment - Route selection, natural environmental and social impact assessment for bulk gas transmission option east of Toronto.
- . Giant Yellowknife Goldmines Salmita Mine Initial Environmental Evaluation - coordinator, environmental analysis.
- . Ministry of Transportation and Communications, Highway 404 Type II Environmental Assessment - environmental coordinator for natural environment and social impact assessments.
- . Ministry of the Environment, Haldimand Norfolk Regional Water System analysis to fulfill conditions of Environmental Assessment Act Exemption Order.
- . Ministry of Transportation and Communications, East Metro Transportation Corridor Type I Environmental Assessment - route selection and impact evaluation on natural systems, the Rouge River and agriculture.
- . Ministry of Transportation and Communications, Highway 406 (Welland) Environmental Assessment:
 - . Type I Environmental Assessment
 - . Single Stage, Submission Environmental Assessment
 natural systems, coordinator for Welland bypass route selection Environmental Assessment.

- . Metropolitan Toronto and Region Conservation Authority, Boyd Conservation Area Master Plan Environmental Assessment - Environmental assessment, natural environment coordinator for 842 ha open space and recreation complex.
- . Nickel District Conservation Authority, Coniston Flood Control Environmental Assessment - assessment of social and environmental impacts of proposed flood control options.
- . Ministry of Transportation and Communications, Beach Strip Arterial Environmental Assessment - Assessments of impacts on Beach Strip Community and lakeshore environments of proposed arterial road.
- . Metropolitan Toronto, Ingram Transfer Station Environmental Assessment Review - critique of draft city submission on behalf of Public Works Department
- . Ministry of Transportation and Communications, E. C. Rowe Expressway, (Windsor) - preparation of Environmental Status Statement in lieu of Type I Environmental Assessment
- . Ministry of Transportation and Communications, Highway 8 Cambridge By-pass Environmental Assessment - evaluation of route alternatives, social and natural environment impacts.
- . City of Windsor, Lauzon Parkway Environmental Evaluation - natural environment coordinator for detailed design impact analysis and mitigation of 5 km parkway.
- . Metropolitan Toronto Bayview Widening Study - impact of proposed widening on urban environments, air quality
- . City of Windsor, Tecumseh Road Environmental Evaluation - route selection and public participation components.
- . Regional Municipality of Ottawa - Carleton, Transportation Design Guidelines, Environmental Evaluation - environmental guidelines for routing and planning of transit system segment.
- . Regional Municipality of Niagara Welland Canal Crossing - environmental screening report on the effects of major highway on Welland Canal (under FEARO mandate)
- . Metropolitan Toronto, Metrogreen Environmental Assessment Framework Study - appendix study for Metrogreen Report.
- . Ministry of Transportation and Communications, Kenora By-pass Environmental Assessment - analysis of the impact of route on wildlife and water quality.

- Browning Ferris Industries/Ministry of the Environment Liquid Waste Solidification Facility Environmental Assessment - natural environment impacts of proposed landfill and solidification facility.

MUNICIPAL WASTE MANAGEMENT PROJECTS

- *existing regional landfill* Burlington Landfill Site Extension Certificate of Approval, Hearing before the Environmental Assessment Board - coordinated the natural environment impact evaluation, design mitigation, after-use; expert witness. *NB*
- Sasso Bros. Ltd. Ridge Landfill Environmental Evaluation - environmental coordinator for evaluation under Environmental Protection Act requirements. E.A.B. Hearing expert testimony.
- Town of Huntsville, Landfill Certificate of Approval - supervised natural environment inventory and analysis for Design and Operations Report for Stisted Landfill.
- City of Sault Ste. Marie, Landfill Site Selection and Application for Certificate of Approval - coordinated environmental analysis; public participation (presubmission).
- Burlington Landfill Application for Continued Use - prepared and gave evidence, Design and Operations report, natural systems analysis, E.A.B. Hearing
- Burlington Landfill After-use Plan - project manager for preparation of after-use plan, revegetation program
- Regional Municipality of Halton, (1978/79) Sanitary Landfill Investigations - environmental evaluations, review of sub-consultants reports for site selection studies (pre-Environmental Assessment Act Designation); original Site F, Oakville Sites.
- Township of Maidstone, Landfill - supervised screening and revegetation planting design; environmental evaluation.
- City of Regina Waste Master Plan Phase 1 - coordinator of environmental analysis, site selection study under guidelines from the Environmental Assessment Secretariate.
- Indian and Northern Affairs, Yellowknife, Feasibility Study for Ocean Dumpsites, Beaufort Sea - project manager for constraint mapping study for potential solid waste dump sites.
- South Simcoe Area Waste Management Plan - advisory services for natural environment concerns.

- . District of Muskoka Waste Management Study - technical specialist review, natural environment.

HAZARDOUS AND INDUSTRIAL WASTE MANAGEMENT

- . Ministry of the Environment PCB Interim Storage Facilities, - deputy site selection coordinator; natural environment component impact assessment supervisor for site selection, design and operations of proposed facilities.
- . Ontario Waste Management Corporation, Hazardous Waste Management Facilities Site Selection - deputy project manager, interim coordinator for risk assessment, (Phases 2 and 3). NB
- . TransCanada Pipelines, Investigation of Phosphate Ester. Lubricants Contamination - natural environmental impact coordinator, assessment and contaminant study.
- . Browning Ferris Industries Waste Solidification Facilities (see under, Environmental Assessment Projects)
- . Environment Canada, Guidelines for Landfilling Hazardous Waste - specialist technical advice on ecological impacts.
- . McCains Foods Limited, Portage La Prairie Plant Odour and Air Containment Study - environmental coordinator for environmental regulations assessment, Clean Air Act (Sask.)
- . TransCanada Pipelines Triaryl Phosphate Hay Contamination Study - design and sampling of vegetation contamination, Compressor Station 127.

ENVIRONMENTAL INSPECTION

- . TransCanada Pipelines, Eastern Area Pipe Replacement Environmental Inspection - project manager for National Energy Board regulated project.
- . TransCanada Pipelines, Western Area Pipe Replacements Environmental Inspection - project manager for National Energy Board regulated project.
- . Ministry of the Environment, Haldimand Norfolk Regional Water System Environmental Inspection - project manager for provisions under Environmental Assessment Act Exemption.
- . TransCanada Pipelines, Northern Loop-line Construction Environmental Inspection - project manager under National Energy Board Guidelines.
- . TransCanada Pipelines, Kenora and Jellico Pipe Replacements - project manager under National Energy Board Guidelines.

- . Regional Municipality of Halton - Project Manager for Landfill Revegetation Monitoring Program.

BIOPHYSICAL AND ECOLOGICAL EVALUATION

- . Ministry of Transportation and Communications, Highway 404 Wetlands Study - project manager of preliminary inventory and evaluation potential changes to 6 wetlands from freeway construction.
- . Environment Canada, Canadian Climate Centre - project manager (Phases I, II, III, IV) of literature review on the affects of changes in CO₂ concentration on Canadian climate.
- . Transport Canada - Air, Central Ontario Area Air Master Plan - project manager for inventory and assessment of biophysical features for Central Ontario Region airports expansion plan.
- . Ministry of Natural Resources, Mineral Aggregate Transportation study - examined potential impacts of development strategy on natural environment features.
- . Transport Canada/Ministry of Transportation and Communications, Ontario Ports Study - evaluation of impacts of development scenarios for Ontario's ports on shoreline and aquatic environment impacts.
- . Canadian Wildlife Service, Gull Monitoring Project - field assistance for hazardous contaminant monitoring of Herring Gulls on Lake Erie.
- . St. Clair Region Conservation Authority, Northern Sydenham Walleye Monitoring Survey - project manager for netting and electrofishing survey of fish to establish spawning behaviour.
- . Ministry of Environment, Rare Plant Survey - project coordinator for rare plant survey associated with Haldimand-Norfolk Region Water System construction.
- . Parks Canada, Smith Falls/Poonamalie Wetlands Evaluation - project manager for characterization and evaluation of Rideau Canal wetlands and shoreline ecosystems.
- . Ontario Breeding Bird Atlas Project - volunteer field work (North Hastings) for Atlas survey of nesting birds.

AGRICULTURAL PLANNING AND ASSESSMENT

- . First Line Truck Maintenance Ltd. - project manager for agricultural impact assessment of proposed commercial development in Halton Hills; presentations to Halton Agricultural Advisory Committee.

- . Topson Holdings Ltd. - project manager for initial agricultural evaluation in support of re-zoning application for property in the Town of Vaughan.
- . Township of Puslinch, Cox Construction, Aggregate Proposal, Ontario Municipal Hearing - advice on agricultural rehabilitation proposals.
- . Montague Pound and Associates, Newmarket Downs Development - project manager for agricultural impact assessment of mixed commercial residential development on farmland in Town of Newmarket.
- . Dove Hill Estates, Queenville - project manager for agricultural and environmental assessment of subdivision proposal at Holland Landing.
- . Agricultural Planning and Assessment was a significant component of a number of multi-disciplinary environmental impact and land development projects including:
 - Highway 410 Route Selection and Environmental Assessment
 - GO-ALRT Route Selections and Environmental Assessments
 - East Metro Transportation Corridor Type 1 Environmental Assessment
 - Site Selection for Interim Storage Facilities for PCB wastes
 - Runnymede Corporation land development projects.

WATER RESOURCES; AQUATIC ECOSYSTEMS

- . Nickel District Conservation Authority, Nickeldale Dam and Reservoir - technical specialist for assessment of impacts from Dam on water quality (heavy metals), reclamation.
- . Ministry of Natural Resources, Liard River Hydrology Study - assessment of changes to natural channel to enhance spawning potential for sport fisheries.
- . Mini Lakes Waste Water Assimilation Study - project manager for assessment and mitigation strategy to correct waste water impacts on Galt Creek.
- . Maxwellton Braes Estate, Ontario Municipal Board Hearing Advisory - project manager for assessment of impact of adjacent gravel pit proposal on pond and trout fisheries; testimony before OMB.
- . Katie Land Developments - expert witness for changes under the Fisheries Act, Public Lands Act, regarding impacts on water quality, shoreland ecosystems.
- . Environment Canada, Liard River Hydrology Study - technical review of study on culvert construction on fisheries migration.

- . City of Cambridge, Groff Mill Creek Channelization - environmental coordinator for evaluation of impacts, and design advice on channelization for suburban stream biota and water quality.
- . National Health and Welfare, Criteria for Canadian Drinking water standards - project manager for literature review and source document evaluation for 12 heavy metals, NO₂/NO₃, and sodium in support of national drinking water standards.
- . St. Clair Region Conservation Authority, W. Darcy McKeough Dam and Diversion - project coordinator, Environmental Criteria Report on dam impacts and diversion channel.
- . City of Welland/Regional Municipality of Niagara, Welland Canal Crossing Screening Report - identification and evaluation of Canal crossing on water quality of abandoned canal (under FEARO Guidelines).
- . Onakawana Project, River Diversion Scheme - project manager for assessment of aquatic impacts on Onakawana River of planned diversion.
- . GO Advanced Light Rail Transit, Northern Route, Scarborough to Pickering Segment - impact on Rouge River water quality and fisheries of proposed transit route.

LAND DEVELOPMENT PLANNING

Mr. Stevens has undertaken a number of land development projects in both a project management and technical capacity. Major clients and representative project examples include:

- . The Runnymede Development Corporation Limited:
 - Dumbarton Neighbourhood Shopping Centre Environmental Assessment
 - Assessment of physical constraints on shorelines and landscape features Ajax Lakefront Subdivision
 - Hermitage Farm Environmental Appraisal
 - Spring Farm Environmental Appraisal
- . Captain Developments Limited:
 - Analysis of the Raymerville Woodland Environmental Study (Markham).
- . John Boddy Developments Ltd.
 - Hess property environmental evaluation
 - Environmental evaluation; Pickering Residential Subdivision

- . The Georgian Building Group, Bonneventure Farm environmental appraisal.
- . UCCI/Browning Limited
 - Environmental Evaluation Oakville industrial subdivision for environmental planning approval.
- . Eaglebrook Developments
 - Town of Markham Residential Subdivision vegetation and tree preservation survey.

MASTER PLANNING

- . Metropolitan Toronto Conservation Authority, Boyd Conservation Area Master Plan - supervisor biophysical analysis; open space master planning; Environmental Assessment requirements.
- . Ministry of Natural Resources, Minesing Swamp Master Plan - biophysical inventory and analysis (phase 1) with Raymond Moriyama and Assoc. Architects.
- . Ministry of Natural Resources, Rondeau Park Master Plan - coordinated vegetation analysis and constraints for W. E. Coates and Associates
- . Credit Valley Conservation Authority, Silvercreek Conservation Area Master Plan - inventory and analysis biophysical features.
- . Parks Canada, Point Pelee National Park Tip Area Development Plan.
- . Department of Indian Affairs and Northern Development, Wabanun Reserve Physical Development Plan - project coordinator for biophysical analysis and planning of core area.
- . Harbourfront Park Master Plan - development of physical and biological constraints analysis for master plan.

EROSION CONTROL

- . Regional Municipality of Halton, Falcon Creek Slopes Revegetation - project manager of revegetation program.
- . Intergovernmental Urban Drainage Sub-Committee, International Joint Commission, Erosion Control Manual - project coordinator, co-author for manual of erosion control techniques for construction projects.
- . TransCanada Pipelines Limited - erosion control, revegetation components of pipeline construction projects in Northern Ontario (see above).

ENVIRONMENTAL RESEARCH

- . Ontario Hydro, High Voltage Transmission Line Environmental Impact Methodology - research associate for multi-disciplinary research on route selection methods and evaluation.
- . Parks Canada, Ecological Status Indices Study - project manager for developing ecological indices to indicate the stress status of wetland and terrestrial ecosystems.
- . Region of Halton - Landfill Revegetation Test Planting - project manager for experimental planting of 15 woody species/cultivars replicated on closed landfill.

TECHNICAL PAPERS

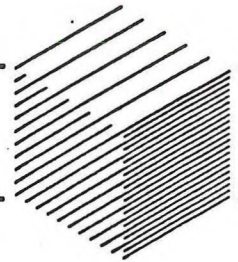
Criteria for Development, Canadian Drinking Water Standards, Health and Welfare, Canada 1977, in collaboration with R. W. Steel and L. Hermanutz.

Locate Hydro. Centre for Resources Development, University of Guelph. 1975, with J. M. Haggarty, R. MacDonald, E. C. Gray, J. D. Milliken, D. W. Smith, and L. M. Wester.

Ecological Planning and Location Criteria for Minimizing Environmental Impact for Ontario Hydro, Centre for Resources Development, 1974, with D. W. Smith, T. S. Dai, and R. Suffling. 88 pp.

Plant Community Age as a Measure of Sensitivity of Ecosystems to Disturbance, J. Environmental Management, 1975, with D. W. Smith, R. Suffling, and T. S. Dai.

Species Diversity of Selected Ecosystems in Southern Ontario. Paper presented at the Canadian Botanical Association Conference, 1980, Vancouver.



PETER R. WALKER B.A., M.Sc.(Pl.), M.C.I.P.

EDUCATION:

M.Sc. (Pl.), University of Toronto - Urban and
Regional Planning - 1969

B.A. (Honour), University of Toronto - Geography -
1966

PROFESSIONAL AFFILIATIONS:

- . Member, Canadian Institute of Planners' (1970),
(former Director of the Central Ontario Chapter,
Chairman of the Chapter Membership Committee,
Member and Chairman of the Chapter Disciplinary
Committee, former Director of Ontario
Association of Planners)
- . Member, Ontario Professional Planners Institute
- . Chairman, Ontario Professional Planners
Institute, Disciplinary Committee
- . Member, Urban Land Institute
- . Member, Ontario Expropriation Association
- . Member, Canadian Association of Geographers
- . Member, Canadian Association of Housing and
Renewal Officials
- . Member, Heritage Canada
- . Associate Member, Institute of Noise Control
Engineering
- . Member of International Council of Shopping
Centres
- . Member, President's Joint Council on Urban and
Regional Planning, University of Toronto
- . Member, Advisory Council of the University of
Guelph's School of Rural Planning & Development

EXPERIENCE:

Mr. Walker is President of Walker, Wright, Young Associates Limited, Planning Consultants. His professional experience ranges from Consultant to municipal, county, provincial and federal governments; policy planning for urban, rural, regional and county areas; consulting on commercial, residential, industrial and institutional projects; and, consulting on development, redevelopment, revitalization and rehabilitation projects; consulting on environmental and lease arbitration matters.

EXPERIENCE
(Continued)

- Development and Redevelopment projects (offices, industries, mixed uses, residential, commercial in the Metropolitan Toronto area);
- Chief Planner for a private shopping centre developer, Brantford Annexation Hearings;
- Chief Planner for a private residential development client, Barrie Annexation Hearing;
- Chief Planner for the Town of Pickering, for the Hamlet of Claremont Secondary Plan;
- Participation as one of four principals, major management consulting study for the Province of Ontario, Ministry of Housing, investigating and recommending ways of re-organizing its component functions and field systems;
- Director of land use (community relationship) studies associated with a federal study of Small Craft Harbours, Maritime Provinces;
- involvement in studies for Government of Canada to determine the need for major housing area in the Metropolitan Area of St. John's, Newfoundland; this led to designation of the area near Mount Pearl for a new town and its current development;
- involvement for Government of Canada in the Halifax Harbour and Harbour Related Industrial Study to analyze the future needs for industrial land, Nova Scotia;
- involvement for Government of Canada in a study of industrial land needs, St. John's, Newfoundland;
- Consulting Services for the Township of Sombra;
- Consulting Services for the Township of Michipicoten;
- involvement for Government of Canada in a study of the relationship between deteriorated housing and socio-economic conditions;

EXPERIENCE
(Continued)

- Consulting Services for City of Toronto;
- Consulting Services for CP Rail;
- Chief Planner for Town of Halton Hills Official Plan;
- Consulting Services for City of London;
- Chief Planner of the Town of Halton Hills Secondary Plan (Georgetown Urban Area);
- Consulting Services for City of Windsor;
- Chief Planner for the City of St. Catharines, Urban Boundary (O.M.B.) Hearing;
- Chief Planner for the Windsor Arms Hotel expansion;
- Chief Planner for Bank of Nova Scotia's major revitalization development project for downtown St. John's, Newfoundland;
- Project Co-ordinator and Chief Planner for the Town of Pickering, planning and design study to provide a Town Centre for Pickering;
- Chief Planner for the Town of Pickering, implementation of the Town Centre Plan;
- Chief Planner for a private development consortium, Highway 401 Industrial Corridor Study in the Town of Halton Hills;
- Chief Planner for YWCA Head Office (Jarvis Street) (City of Toronto);
- Chief Planner for the Town of Whitby, Planning Appraisal of Dundas-Thickson Commercial Sub-Central Area;
- Chief Planner for the Town of Richmond Hill Rural Land Use Study;
- Chief Planner for the Town of Richmond Hill, Headford Industrial Area Secondary Plan;
- Chief Planner for the Town of Whitby, Port Whitby Secondary Plan;

EXPERIENCE
(Continued)

- Chief Planner for a private developer, Woodbine (Regional Shopping) Centre, City of Etobicoke;
- Chief Planner for a private developer, Georgian Mall (Regional Shopping) Centre, County of Simcoe (Ontario);
- Consulting Services for Cadillac-Fairview Shopping Centres;
- Consulting Services for Dominion Stores Limited;
- Chief Planner for C.N. Realty, City of Toronto Belt Line Redevelopment Plan;
- Consulting Services for the Dodge Group (Chatham, St. Thomas);
- Chief Planner for a private developer, Community Shopping Centre Proposal, Town of Huntsville;
- Chief Planner for a private developer, major retail commercial centre, as prime component of Proposed Downtown Revitalization, City of North Bay;
- Chief Planner for Shopping Centre interests in Brockville, Ontario;
- Chief Planner for a private developer, retail commercial centre, Downtown Revitalization Project, Town of Port Hope;
- Chief Planner, Consulting Services for John Galt Centre, Cambridge, Ontario;
- Chief Planner for the Town of Port Hope in an Ontario Municipal Board hearing concerning the impact on the downtown of a proposed new suburban shopping centre in Cobourg;
- Project Director and Chief Planner for the Town of Halton Hills, commercial and land use policies for core area redevelopment, Acton and Georgetown Urban Areas;
- Project Director and Chief Planner for the Town of Halton Hills, Business Improvement Area Study for Acton and Georgetown Urban Areas;

EXPERIENCE
(Continued)

- . Chief Planner for a private developer regarding residential development in proximity to major railway lines, in the City of Etobicoke;
- . Consulting Services for the Royal Bank of Canada - Real Estate Division;
- . Chief Planner for the City of Niagara Falls, Neighbourhood Development Plan for River Road Area;
- . Chief Planner for Toronto Trust Cemeteries, Regional Planning Appraisal Study for Need and Location of Major Cemetery Facilities;
- . Consulting Planning and Development Services for Toronto Trust Cemeteries;
- . Chief Planner, Lease Arbitration Hearing, City of Toronto for Loblaw's Companies Limited;
- . Chief Planner for a private consortium, Rail-Serviced Industrial Park, Acton Urban Area;
- . Chief Planner for private industrial clients, Cambridge Industrial Park;
- . Project Co-ordinator and Chief Planner for the County of Northumberland, major planning study and county-wide Development Strategy;
- . Consulting Services for Northumberland County to assist in the implementation of the Development Strategy;
- . Chief Planner for private industrial clients, City of Port Colborne Industrial Park;
- . Project Director and Chief Planner for the County of Northumberland, preparation of Secondary Plan study for the Colborne urban growth area;
- . Project Director and Chief Planner for the Town of Alliston, Urban Strategy Study;
- . Special Consulting Services for the Town of Alliston;

EXPERIENCE
(Continued)

In the course of gaining his experience in the above-noted types of projects, Mr. Walker has appeared before numerous agencies, committees, Councils, and tribunals, and brings to each project this associated experience.

A representative outline of the types of his consulting experience and professional responsibilities is provided by the following:

- Project Director and Chief Planner for the Region of Halton Environmental Assessment for Landfill Component of the Solid Waste Management System;
- Chief Planning Advisor to the Township of Haldimand in its consideration of the Consumers' Gas LNG Project;
- Chief Planner and Project Director, Seaton (New Town) Community Secondary and Tertiary Plans, for the Town of Pickering;
- Chief Planner for the Town of Richmond Hill Official Plan;
- Chief Planner of the Town of Richmond Hill Secondary Plan for the Elgin West Urban Area;
- Chief Planner of the Town of Richmond Hill Secondary Plan for the Urban-Rural Fringe Area;
- Chief Planner for Review of Parkway Belt designation, for Town of Markham (S. Unionville Area);
- Chief Planner, Expropriation Proceedings, Toronto Brickyards for the Metropolitan Toronto and Region Conservation Authority.
- Chief Planner for Town of Paris, Industrial Park Development in Depleted Aggregate Pits;
- Chief Planner for the City of Brantford Official Plan;
- Consulting Services for the Re-use of Surplus School Property, City of North York Board of Education;

EXPERIENCE
(Continued)

- Heritage Inventory Studies (partner responsible for a program to obtain designation under Part V of the Heritage Act in Don Vale Area of Toronto, Hamlets of Claremont and Colborne);
- Housing Policy Studies for municipal governments.
- Chief Planner, Land Compensation Board Hearing on Highway Expropriation, Township of Medonte for a private land owner.

C.N. Watson and Associates Ltd.

CURRICULUM VITAE

FOR MR. C. N. WATSON, CMC

C.N. Watson and Associates Ltd.

CAMERON N. WATSON, CMC - DIRECTOR

EDUCATION

- | | |
|------|--|
| 1965 | Received Bachelor of Commerce degree - University of Toronto |
| 1966 | Received Master of Business Administration - University of Toronto |

EMPLOYMENT HISTORY

- | | |
|-------------|--|
| 1982 - | Principal, C.N. Watson and Associates Ltd., whose accomplishments and areas of specialization are outlined herein. |
| 1975 - 1982 | Vice President of a major consulting engineering organization and founder of its twelve person Economics and Management Consulting Division. This group consulted to municipalities and developers in economics, to governments in facilities programming, and to industry in physical distribution. |
| 1973 - 1975 | Established Strategic Planning Services Inc., a consulting organization which worked closely with Paterson Planning and Research Limited and provided services to a number of ministries, municipalities and companies. The Firm was purchased by a major consulting engineering organization in 1975. |
| 1969 - 1973 | Director of Planning and Capital Budgeting, Ministry of Government Services - involved in obtaining funding approvals for new Provincial facilities, program budgeting, accommodation policy development, project management, and facilities masterplanning. |
| 1968 - 1969 | Management Consultant, Price Waterhouse Associates - involved in corporate planning and real estate strategy assignments. |
| 1966 - 1968 | Administrative Trainee with various departments and Planner with the Ontario Department of Public Works - prepared a long range masterplan for Provincial offices in Toronto and presented recommendations to Cabinet and Management Board. |

Cam Watson has fifteen years' experience as an economic consultant and a further five years' experience as a program analyst and manager in the public service. His experience has been focussed on all three levels of government and includes a number of significant assignments for the private sector. [Virtually all of this experience relates to market, financial and economic impacts of real estate development and capital construction.]

He has been active in professional associations over the years, having served as President of the 300 member Toronto Chapter of the North American Society for Corporate Planning and as member of Planning and other Committees for the Institute of Management Consultants of Ontario. He is also an Ontario Land Economist and a member of the Institute of Municipal Assessors of Ontario.

Mr. Watson has given expert witness testimony before the Ontario Municipal Board, as an Economist, on many occasions since 1978. He has also given addresses on the municipal financial implications of growth to a number of groups in recent years, including the Canadian Bar Association, A.M.O., the Municipal Finance Conference, U.D.I., and a Community Planning Branch Workshop. Recently authored articles in "Municipal World" include: "To Debenture or Not to Debenture", "Municipal Lot Levies", "The Equalization Factor and Its Importance to Municipalities", "OMB Amends Apportionment of Brant County Board of Education Levy" and "Economic Issues and the Wimpey/Durham Case".

EXPERIENCE IN WASTE DISPOSAL ENVIRONMENTAL ASSESSMENT

° Region of Halton, 1982-87

Preparation of long range waste forecasts, financial and economic comparison of area and site alternatives at various stages and input into a number of related policy areas.

*has he ever done
a long range
waste
forecast
before?*

° Region of Peel, 1986-87

Preparation of an Economic Impact Assessment re eight Brampton landfill alternatives.

*was this a
long range
waste forecast*

° Municipality of Metropolitan Toronto, 1986

Advisory role in preparation of a strategy to achieve a program for managing Metropolitan Toronto's solid waste.

° Township of West Lincoln, 1987

Review of all economic concerns re Ontario Waste Management toxic waste facility proposal (pending).

*} not
domestic
waste
but
toxic
or
hazardous
waste*

*was any
of these
long
range
waste
forecasts?*

EXPERIENCE IN ENVIRONMENTAL IMPACT ASSESSMENTS

*these are not long range
waste forecasts*

This work involves participation in formal environmental assessments under the Act, relative to consideration of the financial and economic consequences of the undertaking and alternatives thereto. It also involves examining the municipal finance and economic implications of Official Plan changes and other municipal policy decisions.

Commercial Projects

- Brantford's Downtown Revitalization
- Campeau Corporation's Scotia Plaza and Waterpark Place
- East York Shopping Centre
- Review of the Ontario Downtown Revitalization Program

Annexations

- Brantford Annexation Arbit. Report
- Vespra Commercial Core

Residential Development

- Caledon Official Plan urban area extension
- Georgetown Secondary Plans major urban area designation
- Guelph Urban Fringe (re Townships of Guelph, Eramosa and Puslinch, County of Wellington and City of Guelph)
- Hemlo Mining Impact (re Marathon, Manitouwadge, White River, Schreiber, Terrace Bay and Wawa)
- Puslinch Official Plan
- Seaton New Town
- See also Lot Levy Studies
- Major condominium project in Westminster Township

Sanitary Landfills

- Halton Region (Financial and Economic Implications of Siting Options)
- Peel Region (Community Economic Impact)
- Metro Toronto
- Meaford/St. Vincent (Property Value Impact)

Misc. Projects

- Redesignation of Industrial site in Ajax
- Establishment of Liquified Natural Gas Plant in Haldimand Township
- Scarborough Transportation Corridor Redesignation
- Purchase of School sites in Mississauga
- Rural use of Niagara Water Mains
- Major resort condominium expansion at Deerhurst (Huntsville)

EXPERIENCE IN MUNICIPAL FINANCE POLICY STUDIES

*relates to
econ. analysis*

This work involves the analysis of municipal financial plans and policies which are community-wide in their application and relate to more than a single project or area, e.g.:

- Comprehensive review of the effectiveness of the property assessment and taxation system used throughout the Northwest Territories;
- Review of the municipal equalization factors for the City of Ottawa, Town of Parry Sound and Township of Harwich;
- Review of county and school board requisition apportionments relative to the City of Brantford, Township of Onondaga, and other municipalities in Brant County in 1984, 1985 and 1986 (including O.M.B. testimony thereon);
- Review of the basis for the City of Brantford and Brant County's share of social service costs (based on caseload and assessment) as part of Provincial conciliation concerning cost sharing;
- Review of compensation options for potential off-site nuisance impacts of landfill for both Halton and Peel Regional Municipalities;
- For the Department of Indian and Northern Affairs:
 - Determination of the principles and guidelines which need to be incorporated in a complete system of Indian property taxation;
 - Analysis of the economic feasibility of a proposed new Indian Equity Foundation;
 - Input to submissions concerning Indian land claims;
- Performance budgeting pilot project in Sudbury, Essex and St. Thomas for the Public Library Boards of Ontario.
- Capital planning and budgeting assistance in Stoney Creek and throughout Haldimand-Norfolk, including the region, area municipalities and school boards;
- Development charge policy studies in numerous municipalities, as outlined under "Lot Levy and Development Charge Reviews".

EXPERIENCE IN LOT LEVY AND DEVELOPMENT CHARGE POLICY REVIEWS

Lot levy studies involve establishing municipal policy with respect to the capital contributions to be made to assist in financing the full range of growth-related municipal works, by those subdividing, severing or otherwise developing land for residential or other purposes.

Studies Completed on Behalf of:

- Town of Collingwood
- Region of Durham
- Township of Georgina
- Town of Halton Hills
- Region of Hamilton-Wentworth
- Town of Oakville
- Town of Richmond Hill
- City of Stoney Creek
- City of Woodstock
- Region of York (incl. update)

**Studies Currently Underway
On Behalf of:**

- Town of Bradford
- Town of Collingwood (update)
- Region of Halton
- City of Oshawa
- Region of Ottawa-Carleton
- Township of Westminster

Independent Evaluations Conducted in:

- City of Burlington
- City of Cambridge
- City of Chatham
- City of Mississauga
- Township of Mulmur
- Ministry of Municipal Affairs/
AMO/UDI Policy Committee

Major Seminars Organized in:

- January, 1981 (with Giffels Assoc.)
- June, 1985

Addresses/Articles:

- Canadian Bar Association, Sept./83
- A.M.O., Oct./83
- "Municipal World", Nov./83
- "Municipal World", Aug./85
- Municipal Finance Conf., Sept./85
- U.D.I., Jan./86
- Community Planning Br. Workshop, Sept./86
- Middlesex County Municipalities, Jan./87

EXPERIENCE IN DEMOGRAPHIC AND MARKET FORECASTING

Demographic and market forecasting involves investigating potential demand, defining an appropriate "market area", the share which can be captured by a facility and the way in which the population involved is expected to evolve and alter demand over time. We have undertaken this work for residential, office, tourism, industrial, commercial and institutional projects, including site selection, capacity analysis, and land requirements, e.g.:

- Employment impact of two major proposed Campeau office developments in the City of Toronto.
- Work concerning waterfront development possibilities in Northern Ontario, including a Ministry seminar on financial and market feasibility.
- Detailed long range forecasts of capital construction plans by sector.
- 25 year forecasts of residentially and industrially-generated waste volumes for Halton Region and ten planning areas within it.
- Financial analysis, market feasibility and site selection for a proposed resort in the Metro area.
- Demographic, market and financial analysis concerning industrial and residential extensions to the Brampton Official Plan.
- Industrial land requirements forecast for Richmond Hill.
- Financial and market feasibility study required for O.D.C. loan application, by a Niagara Falls inn planning expansion.
- Review and update of population and employment forecasts and assessment of municipal financial condition as input to the Brantford Official Plan Review.
- Preparation of a retail market study and needs projections as part of the development of amendments to central area policies for Woodbridge.
- Development of strategies for returning the Provincial land banks in South Cayuga and Nanticoke to private ownership.
- Evaluation of the market viability and significance of a proposed serviced estate residential development in the Town of Markham.
- Development of an employment projection and industrial land needs forecast as input to the Brantford O.P. Review.
- Assessment of office development opportunities in ten Ontario centres.
- Demographic analysis and long-range population forecasts as part of the original Housing Policy Study prepared for the City of London.
- O.M.B. testimony on behalf of Cadillac Fairview re the market area population forecast for a new regional shopping mall in Northern Etobicoke and on the future demand for office space in West Metro.
- O.M.B. testimony on behalf of the City re the 20 year demand for residential and industrial land in St. Catharines.

EXPERIENCE IN FACILITIES MASTERPLANNING

This work involves the analysis of requirements, present holdings and development alternatives required to obtain real estate funding approval. In some cases this involves the review of surplus property and markets relative to potential development, sale, lease, interim use or land banking. In other cases, it involves clarifying long range institutional requirements as part of an operational study to establish the modus operandi in new facilities, so that architectural programming can proceed on a sound basis. The following projects include C.N. Watson's experience with another firm:

CANADIAN FORESTRY SERVICE:	Masterplan for the expansion and upgrading of the National Forestry Institute (100+ buildings).
FEDERAL PUBLIC WORKS:	Long range masterplan for Belleville and Thunder Bay office space.
ALBERTA HOUSING & PUBLIC WORKS:	Assistance in preparing long range masterplan for Provincial offices in Edmonton.
ONTARIO CORRECTIONAL SERVICES:	Post-occupancy assessment of the functioning of four major institutions.
NOVA SCOTIA SOLICITOR GENERAL:	Ten year masterplan for all jail facilities in the Province, including planned phase-out, expansion and development.
CANADIAN PENITENTIARY SERVICE:	Operational study of Millhaven and the proposed medium security Bath Institution.
ONTARIO CORRECTIONAL SERVICES:	Operational study of the proposed new Don Jail.
CANADIAN PENITENTIARY SERVICE:	Framework for conducting cost-benefit evaluations of alternative living unit accommodation.
ONTARIO MINISTRY OF THE ENVIRONMENT:	Organization, work simplification and program analysis for several hundred office and lab staff.
ENVIRONMENT CANADA:	Impact of various co-location alternatives in Western Canada on staff and operations.
OHIP:	Operational planning associated with relocation of 700 staff members from Toronto to Kingston, including masterscheduling, interim arrangements, computerized management information system, etc.
CANADA WIRE & CABLE:	Financial and market feasibility of selling or developing surplus office lands in East York.
EATONS COLLEGE STREET DEVELOPMENT:	Survey of several thousand Toronto office workers re their physical working environments to assist with design parameters for new development.
HAWKER SIDDELEY:	Feasibility of holding, selling or developing a forty acre industrial site in Mississauga.

CURRICULUM VITAE

Robert Frederick Willes, B.Sc., M.Sc., Ph.D.

RESIDENCE: c/o Kendal Hills Game Farm & Kennels
R.R.1
Orono, Ontario, L0B 1M0
Telephone: (416) 983-5465

BIRTH: June 7, 1939
Mannville, Alberta, Canada

EDUCATION: Diploma in Animal Husbandry (1957)
Vermilion School of Agriculture
Vermilion, Alberta, Canada

Bachelor of Science in Agriculture (1962)
University of Alberta
Edmonton, Alberta, Canada

Master of Science in Animal Physiology (1964)
University of Alberta
Edmonton, Alberta, Canada

Doctor of Philosophy in Physiology (1967)
University of California
Davis, California, U.S.A.

EMPLOYMENT HISTORY: Lecturer in Animal Physiology (1963-64)
Department of Animal Science
University of Alberta
Edmonton, Alberta, Canada

Teaching Assistant (1965-66)
Veterinary Physiology
University of California
Davis, California, U.S.A.

Research Scientist in Pharmacology (1967-71)
Food and Drug Directorate
Health and Welfare Canada
Ottawa, Ontario, Canada

Research Scientist in Toxicology (1971-74)
Toxicology Research Division, Food Directorate
Health Protection Branch
Health and Welfare Canada
Ottawa, Ontario, Canada

Section Head (1974-79)
Toxicology Section, Toxicology Research Division,
Health Protection Branch
Health and Welfare Canada
Ottawa, Ontario, Canada

Chief Science Policy Advisor (1979-82)
Canadian Federation of Biological Societies
Suite 1001, 75 Albert Street,
Ottawa, Ontario, Canada

Consultant Toxicologist (1979-85)
H.M.W. and Associates, Limited
Health and Safety Consultants
Box 6696, Stn J
Ottawa, Ontario, Canada

Consultant Toxicologist (1980-85)
FDC Consultants Inc.
Consultants in Toxicology
1196 Botany Hill
Oakville, Ontario, Canada

Consultant Toxicologist and Principal
CanTox Inc.
Consultants in Toxicology
700 Dorval Drive, Suite 710
Oakville, Ontario, L6K 3V3.

CONSULTATION PROJECTS:

Assessment of toxicological requirements for marketing of commercial products, design of required toxicological testing studies, implementation and placement of studies in commercial testing laboratories, monitoring and auditing of studies in progress, interpretation of results on completion of the studies and the presentation of complete toxicological assessment information on a product or process to the appropriate regulatory authorities.

Compilation of toxicological information on chemicals identified in effluents, landfill sites, air emission, contaminated surface and ground water and the assessment of the human health implications of these data.

Preparation of toxicological criteria 'white papers' for industries and governments and the incorporation of these criteria to assess human health risks associated with the chemicals or processes of concern. The assessment of human health risks is usually a team effort involving epidemiologists, chemists, engineers, environmental biologists and related expertise.

Conducting, evaluating and interpreting the results of surveys of the toxicological expertise and facilities required to meet projected needs at the national, provincial and individual industry or company levels.

BUSINESS ACTIVITIES:

President (1979-)
H.M.W. and Associates, Limited
Box 6696, Stn J
Ottawa, Ontario, K2A 3Y7

Owner in Partnership (1979-)
Kendal Hills Game Farm and Kennels
R.R.1
Orono, Ontario, L0B 1M0

MEMBERSHIP AND FUNCTIONS IN SOCIETIES:

Society of Toxicology
(member of committee on Accreditation of
Toxicological Facilities and Practices)

Society of Toxicology of Canada

Canadian Federation of Biological Societies
(member of Science Policy Committee)

Canadians for Health Research
(member of the Board of Directors)

MISCELLANEOUS ACTIVITIES:

1978 - 1981: Panel member of the Environmental Toxicology Grant Review panel of the Natural Sciences and Engineering Research Council

1978 - 1979: Member of the official review committee for criteria documents on Mercury and on Polychlorinated Biphenyls for the Environmental Protection Agency of the United States

1978 - 1979: Author of the toxicology section of the criteria document on methylmercury prepared by the Environmental Secretariate, National Research Council Canada

1978 - 1979: Author of the toxicology section of the criteria document on Carbofuran prepared by the Environmental Secretariate, National Research Council Canada

1979: Member of the Committee on Good Laboratory Practices for the Organization of Cultural and Economic Development (OECD)

1979 - 1982: Chief Science Policy Advisor, Canadian Federation of Biological Societies

1980: Expert witness before the Canadian Transport Commission on behalf of M-Trac regarding the transportation of hazardous substances (particularly chemicals) via rail

1980 - 1981: Author of the toxicology section of the criteria document on Dioxins and Chlorinated Phenols prepared by the Environmental Secretariate, National Research Council Canada

1980 - _____: Member of the Associate Committee on Toxicology, National Research Council Canada

1981 - 1983: Chairman of the Expert Committee on Dioxins, reporting to the Minister of Health and Welfare Canada and the Minister of Environment Canada

PARTICULAR AREA OF SCIENTIFIC INTEREST:

Perinatal toxicology.

Pharmacokinetics, tissue distribution and metabolism of toxicants.

Carcinogenicity and mutagenicity of chemical and the human health implications of these responses.

Risk assessment and the extrapolation of animal toxicity data to the human situation regarding health risks.

Occupational health and safety particularly related to chemicals in the workplace.

Toxicity testing and good laboratory practice procedures.

Science policy, research and development policies.

RECREATIONAL ACTIVITIES:

Sports: dog training and trialing, hunting, fishing, camping, canoeing, snowshoeing and cross-country skiing

Hobbies: photography, music and woodworking.

Clubs:

Ottawa Valley All-Setter Association (Show
Chairman - 1978-79; Field Trial Chairman -
1978-79; Field Trial Marshall - 1978)

Ottawa Valley Gun Dog Club

Ontario Bird Dog and Conservation Association
(Vice-President - 1980/81, 81/82)

Kendal Hills Field Trial Club (President - 1979 -
83)

Ruffed Grouse Society of Canada - Ontario Chapter
(Field Trial Chairman - 1981, 1982)

Ontario Grouse Dog Club
(President, 1983)

SCIENTIFIC PUBLICATIONS:

1. Willes, R.F. and V.E. Mendel. 1964. A permanent omasal fistula for experimental studies in sheep. *Amer. J. Vet. Res.* 25:1302-1304.
2. Baldwin, R.L. and R.F. Willes. 1966. Effects of ionizing radiation on enzyme levels in cow mammary glands. *J. Dairy Sci.* 49:1223-1225.
3. Manns, J.G., J.M. Boda and R.F. Willes. 1967. Probable role of propionate and butyrate in control of insulin secretion in sheep. *Amer. J. Physiol.* 212:756-764.
4. Willes, R.F., V.E. Mendel and A.R. Robblee. 1969. A method for isolating the rumen of sheep in situ. *J. Animal Sci.* 29:661-667.
5. Willes, R.F., J.M. Boda and H. Stokes. 1969. Cytological localization of insulin and insulin concentration in the fetal ovine pancreas. *Endocrinology* 84:671-675.
6. Willes, R.F., J.M. Boda and J.G. Manns. 1969. Insulin secretion by the ovine fetus in utero. *Endocrinology* 84:520-527.
7. Willes, R.F., G.R. Van Petten and J.F. Truelove. 1970. Chronic exteriorization of vascular cannulas and ECG electrodes from the ovine fetus. *J. Appl. Physiol.* 28:248-250.
8. Willes, R.F., V.E. Mendel and A.R. Robblee. 1970. Water transfer from the reticulo-rumen of sheep. *J. Animal Sci.* 31:85-91.
9. Van Petten, G.R. and R.F. Willes. 1970. Beta-adrenergic responses of the unanesthetized ovine foetus. *Brit. J. Pharmacol.* 38:572-585.
10. Grice, H.C., H.A. Heggveit, G.S. Wiberg, G. Van Petten and R.F. Willes. 1970. Experimental cobalt cardiomyopathy: correlation between electrocardiography and pathology. *Cardiovascular Res.* 4:452-456.
11. Villeneuve, D.C., R.F. Willes, J.B. Lacroix and W.E.J. Phillips. 1972. Placental transfer of ¹⁴C-parathion administered intravenously to sheep. *Toxicol. Appl. Pharmacol.* 21:542-548.
12. Willes, R.F., 1972. Permanently installed digestive cannulae. *J. Dairy Sci.* 55:1188-1190.
13. Munro, I.C., S.M. Charbonneau and R.F. Willes. 1972. An automated data acquisition and computer-based computation system for application to toxicological studies in laboratory animals. *Lab. Animal Sci.* 22:753-756.

14. Truelove. J.F., G.R. Van Petten and R.F. Willes. 1973. Action of several beta-adrenergic blocking drugs in the pregnant sheep and foetus. Brit. J. Pharmacol. 47:161-171.
15. Withey, J.M., R.F. Willes, J. Evans and F.R. Bryce. 1973. The surgical preparation and maintenance of pigs in bioavailability studies. J. Lab. Animal Sci. 23:122-125.
16. Munro, I.C., P.M. Scott, C.A. Moodie and R.F. Willes. 1973. Ochratoxin A - occurrence and toxicity. J. Am. Vet. Med. Assoc. 163:1269-1273.
17. Willes, R.F., S.M. Charbonneau, E.A. Nera and I.C. Munro. 1974. Neurological assessment of methylmercury toxicity in cats. In: Trace Element Metabolism in Animals - 2. (W.G. Hoekstra, J.M. Suttie, H.E. Ganther and W. Mertz, eds.) University Park Press, Baltimore, MD. Pgs. 705-706.
18. S.M. Charbonneau, I.C. Munro, E.A. Nera, R.F. Willes, T. Kuiper-Goodman, F. Iverson, C.A. Moodie, D.R. Stoltz, V.A. Monpetit, H.C. Grice, F.A.J. Armstrong and J.F. Uthe. 1974. Subacute toxicity of methylmercury in the adult cat. Toxicol. Appl. Pharmacol. 27:569-581.
19. Hollins, H.G., R.F. Willes, F.R. Bryce, S.M. Charbonneau and I.C. Munro. 1975. The whole-body retention and tissue distribution of methylmercury-203 in adult cats. Toxicol. Appl. Pharmacol. 33:438-449.
20. Charbonneau, S.M., I.C. Munro, E.A. Nera, F.A.J. Armstrong, R.F. Willes, F. Bryce and F.R. Nelson. 1976. Chronic toxicity of methylmercury in the adult cat. Interim report. Toxicol. 5:337-349.
21. Willes, R.F., P.L. Kressler and J.F. Truelove. 1976. Nursey rearing of infant monkeys (Macaca fascicularis) for toxicity studies. Lab. Animal Sci. 27:90-98.
22. Willes, R.F., E. Lok, J.F. Truelove and A. Sundaram. 1977. Retention and tissue distribution of $^{210}\text{Pb}(\text{NO}_3)_2$ administered orally to infant and adult monkeys. J. Toxicol. Environ. Health. 3:395-406.
23. Willes, R.F. 1977. Tissue distribution as a factor in species susceptibility to toxicity and in hazard assessment. J. Environ. Path. Toxicol. 1:135-146.
24. Willes, R.F., E. Nera and J.F. Truelove. 1978. Toxic response of infant monkeys to methylmercury. Toxicol. 9:125-135.
25. Munro, I.C. and R.F. Willes. 1978. Reproductive toxicity and the problems of in utero exposure. In: Chemical Toxicology of Food (C.L. Galli, R. Paoletti and G. Vettorazzi, eds) Elsevier/North-Holland Biomedical Press.

26. Willes, R.F. and D. Rice. 1978. Regulatory implications of behavioral toxicology. Toxicology Forum, August, Aspen, Colorado.
27. Rice, D. and R.F. Willes. 1979. Neonatal low-level lead exposure in monkeys (*Macaca fascicularis*): effect on two choice non-spatial form discrimination. J. Environ. Path. Toxicol. (in press).
28. Stavric, B., J. Craig, R. Klassen and R.F. Willes. 1979. A simple and rapid microdetermination of naphthionic acid in serum and amniotic fluid. JOAC (in press).
29. Rice, D., S.G. Gilbert and R.F. Willes. 1979. Neonatal low-level lead exposure in monkeys: locomotor activity, schedule-controlled behavior and affects of amphetamines. Toxicol. Appl. Pharmacol. (in press).
30. Willes, R.F., D. Rice and J.F. Truelove. 1979. Chronic toxicity of lead in non-human primates. In: A Monograph on Lead Toxicity (R.L. Singhal and J.A. Thomas, eds) Uran and Schwarzenberg Medical Publishers, Baltimore.
31. Willes, R.F. 1979. Mammalian toxicology of carbofuran. In: Carbofuran: Criteria for Interpreting the Effects of Its Use on Environmental Quality. Chapter 9. National Research Council Canada Environmental Criterion Document, Environmental Secretariate, National Research Council Canada, Ottawa, Canada.
32. Willes, R.F. 1979. Toxicity of methylmercury in animals. In: Mercury in the Canadian Environment, Chapter 6. National Research Council Canada Criterion Document. Environmental Secretariate, National Research Council, Ottawa, Canada.
33. Hollins, J.G., S.M. Charbonneau, F. Bryce, J.M. Ridgeway, T.K.H. Tam and R.F. Willes. 1979. Whole body retention and excretion of (⁷⁴As) arsenic acid in the adult beagle dog. Toxicol. Letters. (in press).
34. Willes, R.F., B. Stavric, J. Craig and J. Ruddick. 1979. Metabolic studies with amaranth in pregnant and non-pregnant rats. Toxicol. Appl. Pharmacol. (in press).
35. Ruddick, J., J. Craig, B. Stavric and R.F. Willes. 1979. Metabolic studies with (¹⁴C)-amaranth in rats. J. Toxicol. Environ. Health. (in press).
36. Willes, R.F.. 1980. Costs of research. Canadian Society of Immunology Bulletin 11. 18-22.
37. Willes, R.F.. 1980. Federal support for Canadian research and development. Neurosciences Newsletter (in press).

38. Willes, R.F.. 1981. Toxicology of dioxins and related compounds. Chapters 4 & 5. In: Polychlorinated Dibenzo-p-dioxins - Criteria for their Effects on Man and His Environment. National Research Council Canada, Environmental Secretariate, Ottawa, Canada.
39. Sundaram, E., E. Lok, R.F. Willes and K.M.S. Sundaram. 1982. Lead-protein binding in erythrocytes in infant and adult monkeys. J. Lab. Clin. Med. (submitted for publication).
40. Sundaram, A. and R.F. Willes. 1982. Does the infant brain accumulate more lead than the adult? Toxicology Letters (submitted for publication).
41. Willes, R.F. 1983. Limitations associated with the extrapolation techniques used to relate laboratory observations to the human situation. Part of Criteria Document on the Socio-economic Impact Analysis of Industrial Organic Chemicals, National Research Council Canada, Environmental Secretariate, Ottawa, Canada.(in press).

PAPERS PRESENTED AT SCIENTIFIC MEETINGS AND CONFERENCES:

1. Willes, R.F., A.G. Smith, D. Brown and C.M. Couves. 1963. The use of hydrogen peroxide as a possible potentiating factor in tumor response by radiation. Western Regional Group Meeting of Medical Research Council and National Cancer Institute, Harrison Hot Springs, B.C., Canada.
2. Willes, R.F. and J.M. Boda. 1968. Insulin secretion by the ovine fetus in utero. Fed. Proc. 27:496.
3. Willes, R.F. and G.R. Van Petten. 1968. Surgical preparation of the ovine fetus for chronic evaluation of cardiovascular function. Can. Fed. Biol. Soc. Proc. 11:13.
4. Van Petten, G.R. and R.F. Willes. 1968. Effect of some autonomic drugs on fetal cardiovascular function. Can. Fed. Biol. Soc. Proc. 11:13.
5. Willes, R.F. and G.R. Van Petten. 1970. Beta-adrenergic receptor blockade in the ovine fetus. Can. Fed. Biol. Soc. Proc. 1970.
6. Munro, I.C., S.M. Charbonneau, R.F. Willes, A. Moodie, E. Nera, V. Montpetit, T. Goodman, D. Stoltz and H.C. Grice. 1972. Toxic effects of methylmercury in the rat. Abstr. Soc. Toxicol. 11:37.
7. Charbonneau, S.M., I.C. Munro, A. Moodie, R.F. Willes, E. Nera, V. Montpetit, D. Stoltz, H.L. Trenholm, T. Goodman and H.C. Grice. 1972. Toxic effects of methylmercury in the cat. Abstr. Soc. Toxicol. 11:37.
8. Willes, R.F., J.F. Truelove, I.C. Munro, S.M. Charbonneau, C. Romero-Sierra and E.A. Nera. 1973. Effects of methylmercury on EEG of cats. Abstr. Soc. Exp. Biol. Med. (Second meeting of the Champlain Section), Montreal, P.Q., May 12, 1973.
9. Willes, R.F., S.M. Charbonneau, E.A. Nera and I.C. Munro. 1973. Neurological assessment of methylmercury toxicity in cats. Abstr. Proc. TEMA II Conference, Steinbach Symposium, Madison, Wisconsin, June, 1973.
10. Willes, R.F., J.F. Truelove, E. Nera and I.C. Munro. 1975. Effects of methylmercury on electroencephalograms in adult cats. Abstr. Soc. Toxicol., March 10-13, 1975.

11. Willes, R.F., J.F. Truelove, E. Nera and I.C. Munro. 1975. Effects of methylmercury on infant monkeys (Macaca irus). Abstr. Soc. Toxicol., March 10-13, 1975.
12. Munro, I.C., R.F. Willes and J.F. Truelove. 1975. Retention and tissue distribution of inorganic lead in infant monkeys (Macaca irus). Abstr. Soc. Toxicol., March 10-13, 1975.
13. Sundaram, A., R.F. Willes and K.M.S. Sundaram. 1975. Lead-protein binding in vivo in erythrocytes in a primate. International Conference on Heavy Metals in the Environment. Toronto, Canada, October 28-31, 1975.
14. Sundaram, A., S. Sharma and R.F. Willes. 1975. Electrophoretic mobility of lead-protein complex in monkey erythrocytes. First Chemical Congress of the North American Continent. Mexico City, November 30-December 5, 1975.
15. Willes, R.F. 1976. The significance of alterations in physiology and behavior as indicators of a toxic response. Gordon Research Conference on Toxicological Evaluation. Meriden, NH, August 23-27, 1976.
16. Willes, R.F. 1976. Tissue distribution as a factor in species susceptibility to toxicity and hazard assessment: example methylmercury. NTCR/NIH Conference on the Status of Predictive Tools in Application to Safety Evaluation. Jefferson, AK, November 17-19, 1976.
17. Willes, R.F., E. Lok and J.F. Truelove. 1977. Toxic effects of inorganic lead in infant monkeys. Abstr. Soc. Toxicol., March 28-31, 1977.
18. Willes, R.F. 1977. Health effects of environmental methylmercury contamination. NATO Workshop, Surrey, England, July 25-29, 1977.
19. Willes, R.F. 1977. Toxic effects of lead in infant monkeys. Abstr, Soc. Toxicol., March 28-31, 1977.

.... /END

RESUME

ROBERT M. WRIGHT, O.A.L.A., C.S.L.A., A.S.L.A., O.R.S.

PROFESSION: Landscape Architect
Recreation Planner

EDUCATION: Bachelor of Science in Recreation, University of Ottawa, 1976.

Master of Landscape Architecture,
Specialization Site Design,
University of Guelph, 1979.

EXPERIENCE:

1986 - 1987 Assistant Professor
Faculty of Architectural Science and Design
University of Toronto
Toronto, Ontario

1979 - 1987 Principal,
The Landplan Collaborative Ltd.,
TORONTO, Ontario
GUELPH, Ontario.
SASKATOON, Saskatchewan.

Associate Graduate Faculty,
School of Landscape Architecture,
University of Guelph,
GUELPH, Ontario.

1978 Landscape Architect,
Corush & Larocque,
OTTAWA, Ontario.

1977 Landscape Architect,
Parks Canada Maritime Region.

1975 - 1976 Open Space Planner,
Nepean Township, Parks Development.

AFFILIATIONS:

Member: Ontario Association of Landscape Architects
Member: Canadian Society of Landscape Architects
Member: American Society of Landscape Architects
Member: Ontario Recreation Society

AWARDS:

C.S.L.A. Award of Excellence, 1980, for research in landscape planning and design.

RELEVANT PROJECT EXPERIENCE:

1986 - Coordinator for proposed Institute for Visual Studies, School of Landscape Architecture, University of Toronto

1986 - Ontario Hydro, project manager for literature update of visual assessment methods, Landplan

✓ 1984 - 1987 Regional Municipality of Halton, Regional landfill visual assessment, Landplan

1984 - 1985 GO-ALRT (Government of Ontario Advanced Light Rail Transit), visual assessment of Northern Route, Scarborough to Pickering, Landplan

1983 - 1985 Ministry of Transport and Communications, visual assessment of Highway 410 extension, Landplan

✓ 1983 - 1984 Burlington Landfill Site, Regional Municipality of Halton, visual assessment, Landplan

1983 - 1984 Metropolitan Toronto and Region Conservation Authority, Boyd Conservation Area Master Plan, visual and recreation assessments, Landplan

1982 - 1984 GO-ALRT, visual assessment of Burlington to Hamilton route, Landplan

1980 Beaver Valley Planning Board, Secondary Plan, visual assessment and recreation potential study, Landplan

1979 Ontario Hydro research study; the impact of hydro transmission facilities on recreation activities, Landplan

PUBLICATIONS, PAPERS
AND PRESENTATIONS:

Landscape Planning for Energy Conservation.
Energy Efficient Community Planning,
Proceedings of Seminars held by the Ontario
Ministry of Energy, pg. 56, 1980.

Site Design for Energy Conservation. With an
Emphasis on Wind Control to Reduce Heat Loss
From Low Rise Solar Buildings. M.L.A. terminal
project.

The Effects of Defoliated Windbreaks on Snow
Deposition. Unpublished paper for Frank
Theakston, School of Engineering, University of
Guelph, joint author.

Identifying the Eco-Cultural Landscape,
O.A.L.A. Review, April, 1979, joint author.

Site Design for Energy Conservation.
Presentation for 2001 Conference held by the
Ministry of Housing and dealing with current
and future planning issues.

Energy Conservation and Land Use Planning.
Presentation for the Cities Conference in
Hamilton, Ontario, 1982.

The Guelph Energy Study: Method, Process and
Evaluation. Sept. 1982. Presentation to the
Wing Task Force, Ministry of Municipal Affairs
and Housing.