THE UNKNOWN PROFESSIONAL

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THERE IS no road, no building, no park or no subdivision that was created without the primary influence of the Ontario Land Surveyor. From such elderly Ontario cities as Kingston, to the modern curvilinear subdivisions of Pickering, nothing was created without the Ontario Land Surveyor first marking on the ground the proposed locations of the development. The CN Tower, the Pickering Nuclear Plant and the Eaton's Centre all felt the hand of the Ontario Land Surveyor before, during and after their constructions. The Ontario Land Surveyor is always present, but seldom seen by the general public and is essential to the planning and success of all of those physical structures and amenities that we often take for granted.

The surveyor has a long history stretching back to Biblical times and while the earliest surveyors of Canada were navigators and chartmakers such as Cartier and Champlain, it is to the trained **land** surveyors that we owe the rapid development of the settled lands of Upper and Lower Canada.

The narrow lots fronting on the major waterways were created as much for self-protection as to maximize the use of the frontage, and as the need for personal safety diminished towards the end of the eighteenth century the urge grew to expand and occupy this new land of opportunity.

First surveys made in Kingston area in 1783

The first surveys to settle what is now Ontario were made in the Kingston area in 1783 and land subdivision proceeded quickly, and most of what we now call Southern Ontario was opened up by the early decades of the nineteenth century. Townships in Central Ontario were laid out during the last half of that century, while much of the far North is unsurveyed today. Such is the size of our province.

The surveyor divided the pristine countryside into large tracts of 100 and 200 acres in those early days and is still subdividing those areas into smaller lots, thus creating the bedroom communities that surround the modern workplace.

Ontario provided many of the trained professional surveyors that helped to open up the west and one of her most famous sons was Sir Sanford Fleming, the father of standard time and chief surveyor for the Canadian Pacific Railway when that political and engineering miracle bound Canada together in the 1880s.

Like all the other professional disciplines, land surveying requires formal education, practical experience and licensing. As a self-governing profession it also requires self-examination, self-discipline and public accountability.

To become an Ontario land surveyor one requires a degree from a recognized survey science or survey engineering university program or equivalent, followed by at least two years of apprenticeship to a practicing Ontario land surveyor. This is followed by a written and oral professional examination before a license is granted. It is a difficult program but essential to maintain the surveyor's primary purpose - to serve the public.

A role in the community

The surveyor's role in the community is three-fold. While his unique skills often carry him into many apparently unrelated fields, he is usually found establishing or re-establishing boundaries, laying out buildings or other structures relative to those boundaries or advising on the position of disputed or unknown boundaries in a judicial or quasi-judicial situation such as a court case or tribunal.

It would appear that the main reason for the surveyor being the unknown professional is partly due to the fact that he often appears only before and after construction takes place and the results of his activities are on paper, not in stone.

The surveyor is a person of many skills. He must be part historian to decipher old documents. He must be part archaeologist to discover evidence of man's existence and his occupation above and below the surface of the earth. He must be an expert in technical measurement. He must be a planner to efficiently divide land. He must be an artist to depict his findings in an intelligible form. He must be part lawyer in order to understand the judicial decisions have impinged on boundary law over the centuries and he must be part judge to decide, at least in his own opinion, what is the best evidence of the boundary.

All things flow from this establishment or re-establishment of the boundary and while the technical expertise in laying out a multi-storey office tower or a complex highway interchange may be the most visible result of the surveyor's efforts, it is his relentless pursuit of the evidence of the correct position of land boundaries that is the most demanding of all the areas of his expertise.

It is true that the surveyor is an associate of the engineer in construction projects but his relationship to the lawyer is far more tangible.

One of the key ingredients in the real estate transaction is the concept of title, that elusive quality thought to cover all of an owner's interest in land.

"Quality" and "Quantity" of title

"Title" is composed of two parts. The "quality" of title is the exclusive jurisdiction of the lawyer. "Quantity" or extent of title is the exclusive jurisdiction of the land surveyor. Both professionals must work together to provide the client with his title to what is usually his most valuable asset, his land.

We have seen the surveyor as a man of many parts and a key player in the history and development of our country. What about the future?

The professional land surveyor is moving inexorably towards new horizons. The Association of Ontario Land Surveyors is expanding to embrace the associated disciplines of photogrammetry, geodesy and hydrography. In conjunction with these basic positioning and measuring functions he will also become a land manager and an information consultant, managing data banks containing any information that can be geographically interelated.

The professional surveyor, through his training in measuring, knowledge of boundaries and boundary law, his understanding of socio-economic land use, familiarity with computers and aerial photography, will become the lead pro-

fessional in land management projects of the future. Even more exciting advances are now flying high overhead as geographic positioning through the use of satellites becomes more affordable.

The future is indeed boundless but the professional land surveyor must never forget his past association with boundaries because it is inextricably part of everything he does. The land surveyor of the future will continue to serve the public as conscientiously as he has done throughout the past two hundred years and while we feel he will never become notorious it is hoped that he will become less "the unknown professional".

LIETZ PUBLISHES CELESTIAL OBSERVATION HANDBOOK

OVERLAND PARK, KANSAS (November 15, 1984) - The Lietz Company has published the **1985 Celestial Observation Handbook and Ephemeris**. The pocket-size handbook contains sections on the basics of surveying astronomy; recommended field procedures for observations on the Sun and Polaris; accuracies of observations on the Sun and Polaris; example fieldnotes; example calculations; and the use of selected other stars for azimuth determinations. It also includes listings of basic and advanced HP-41CV/CX programs for calculating an azimuth from observations on the Sun, Polaris and selected other stars. The ephemeris tables provided are simple and easy to use.

The **1985 Celestial Observation Handbook and Ephemeris** is co-authored by Drs. Richard L. Elgin and David R. Knowles of Elgin & Knowles Surveying Consultants, Inc., Fayetteville, Arkansas, and Dr. Joseph H. Senne, Professor of Civil Engineering, University of Missouri-Rolla, Rolla, Missouri.

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