Surveyors take new direction and recognize Geographic Information Managers as Professionals

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The presentation on Geographic Information Management at the AOLS Annual General Meeting was based on this article.

BREAKING NEWS

The Association of Ontario Land Surveyors (A.O.L.S.) has entered a new frontier with the passing of the Twentieth Century. In a way, history is repeating itself. At the turn of the Nineteenth Century, as the founders of this profession entered the Twentieth Century, they were on the verge of a new era marked by technological change and demand for their services. The professional land surveyor was coming of age after centuries of slow development.

The survey profession has matured over the past 100 years, and is taking a new direction to embrace the challenges of the new geomatics industry. The A.O.L.S. is the first professional body to include the discipline of geographic information management as a key component of land surveying, and the Geographic Information Manager as a professional person.

Ontario Regulation 509/99 made under the Surveyors Act came into force on December 27, 1999. The regulation was required to accommodate geographic information management as a branch of professional land surveying. Geographic Information Managers who meet the requirements of the A.O.L.S., and achieve professional status through the A.O.L.S., will be eligible to use the Ontario Land Information Professional (O.L.I.P.) as their professional designation.

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WHAT IS THE GIM PROFESSIONAL?

A Geographic Information Manager directs the activities of Geographic Information System (G.I.S.) specialists and technicians engaged in creating and editing geographic data bases, and generating maps and related statistical reports. The A.O.L.S. recognizes a person as a G.I.M. if that person demonstrates the following attributes:

- A manager of integrated geospatial data who is fully aware of the broad range of issues related to such data (quality, accuracy, liability, etc.);
- A specialist in some aspect of geography and/or geospatial data management;
- One who has training in geospatial data management, with some expertise in information technology, surveying and land use/management;
- One who has the skills or demonstrated potential for management, particularly in project planning and marketing; and
- A repository of geospatial information/knowledge able to apply this to generate solutions.

A WINDOW OF OPPORTUNITY EXISTS FOR QUALIFIED MANAGERS

Regulation 509/99 made under the Surveys Act added Section 23 that accommodates a grandfathering clause. This clause provides a window of opportunity from December 27, 1999 to December 27, 2001 for people currently employed as geographic information managers to apply for a certificate of registration through the A.O.L.S. Section 23 states the following:

23.1 (1) A person meets the academic and experience requirements to be issued a certificate of registration in the geographic information management branch of professional land surveying if he or she is engaged in the practice of that branch and,

(a) is a graduate at the baccalaureate level of a Canadian program in the geographic information management branch or is a graduate of a program equivalent in content and level of difficulty and in either case has at least four years of professional experience related to that branch;

(b) is a graduate at the baccalaureate level of a Canadian program in a branch other than the geographic information management branch or is a graduate of a program equivalent in content and level of difficulty and in either case has at least five years of professional experience related to the geographic information management branch;

(c) is a graduate of a Canadian community college program in the geographic information management branch or is a graduate of a program equivalent in content and level of difficulty and in either case has at least six years of professional experience related to that branch;

(d) is a graduate of a Canadian community college program in a branch other than the geographic information management branch or is a graduate of a program equivalent in content and level of difficulty and in either case has at least seven years of professional experience related to the geographic information management branch; or

(e) has at least 10 years of professional experience related to the geographic information management branch.

Previous professional experience is a requirement for the certificate of registration only under the grandfather regulation.

APPLICATION FOR CERTIFICATION UNDER THE GENERAL REGULATIONS

Previous professional experience is a requirement for the certificate of registration only under the grandfather regulation.

Applicants for certification under the general regulations are not required to demonstrate previous professional experience. However, such experience would be taken into account and may provide the applicant with a reduction in Terms of Articles.

The "Articles" is a contractual agreement respecting training and services between a member of the A.O.L.S. and a student. Under the Terms of Articles, the student undertakes to serve the surveyor in the practice of professional land surveying. This model would continue for the graduate G.I.M. applying for professional membership in the A.O.L.S.

A detailed evaluation of academic and other qualifications of a candidate for membership is made by the Academic and Experience Requirements Committee (A.E.R.C.). The supervising surveyor for Articling gives an undertaking to the A.E.R.C. that he or she is willing to provide the scope of experience stipulated by the A.E.R.C.

The common Term of Articles for a student having completed the academic requirements is at least 1½ years.

Upon successful completion of the Terms of Articles, the student is required, as a final step, to pass a professional entrance examination consisting of both a written and oral test. On successful completion of the professional examination, the student is eligible to apply for a certificate of registration.

THE PROBLEM OF SUPPLY AND DEMAND

This year, industry will need more than double the current rate of graduates from Canadian colleges and universities to service the information technology industry. The supply of skilled people is affected by the lure of greater opportunities in the USA that are offered to graduates by US firms as soon as they graduate. Industry leaders have called for government action to find ways of keeping skilled people in Canada, and to open immigration to more skilled people from abroad.

The A.O.L.S. has met this problem head on by implementing its Geomatics Student Co-op and Graduate Internship Initiative (Geomatics Initiative) and opening dialogue with Ontario universities and colleges to establish a partnership(s) in a geomatics undergraduate degree program(s). Several colleges and universities in Ontario offer a variety of courses, diplomas and certificates in survey sciences and G.I.S., but there are no degree programs in geomatics — the principal program that would graduate qualified people interested in careers in geomatics, and the G.I.M. profession. Currently, geomatics has been included in engineering degree programs at Ryerson, New Brunswick and Calgary universities.

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WHAT IS THE GEOMATICS INITIATIVE?

The A.O.L.S. Geomatics Initiative has been working for more than a year. It was created to provide opportunities for students in Ontario who are presently studying, or have recently graduated in the discipline of geomatics. Under this initiative, the Association enters into alliances with appropriate groups to further the credentials of future candidates as Geographic Information Managers. Graduates of the program acquire practical skills, knowledge and experience through a one to two year work term. In addition, they acquire skills geared toward the more senior level planning and analysis, and/or entry level management in the area of geomatics. Their assignments fulfill a required step towards professional G.I.M. accreditation, and at the same time, they receive earnings to offset their educational expenses. Currently, there are eleven Interns in the program.

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WHAT IS THE RELATIONSHIP BETWEEN THE G.I.M. AND G.I.S.?

The professional G.I.M. and geographic information systems have become vital assets to municipalities, public agencies and industry. Since municipalities have invested heavily with public funds in developing databases for their geographic information system that impact directly on public health and safety, there is a need for regulation of the G.I.M through a professional governing body.

Most major urban centres are already using a G.I.S. developed by Geographic Information Managers. When people dial 911 for an ambulance, emergency response team, or police assistance, they trigger a G.I.S. that directs equipment and people to the source of the call through the shortest route available. Before arriving at the site, the response team may already know who to expect at the street address, site utilities and nearby resources to assist in the call. This information has been generated from a G.I.S. database and presented on a map and charts on an on-board computer terminal.

A G.I.S. is much more than a map. It is an ever-changing representation of the rural and urban environments in which we live. With a functioning G.I.S., you can ask questions such as:

- Who owns the vacant land near the library?
- What is the distance between the village and airstrip?
- Where is the land zoned for large retail outlets?
- Where are all of the sites suitable for new residential development?
- What are the soil types in a specific rural area?
- If a new traffic bypass is built in this area, how will businesses be affected?
- How many residents need to be notified of this development application?
- What is the customer base within a two-hour drive of this regional retail centre?
- What proportion of the onion crop is within 400 m of the water reservoir?

The information generated by G.I.S. queries is even used for pre-election planning and poling public opinion on local and national issues.

The Geographic Information Manager owes a high level of care to the public and his or her employer, as does the Ontario Land Surveyor or Land Information Professional. Recognition of the A.O.L.S. as the home of the professional G.I.M. and O.L.S. makes sense.

WHAT IS THE RELATIONSHIP BETWEEN THE G.I.M. AND THE ONTARIO LAND SURVEYOR?

The Ontario Land Surveyor is a member of one of the oldest professions in Canada. It is the O.L.S. that set the fabric of much of what we now know as our urban and rural infrastructure. Surveyors mapped the natural and artificial features of our environment, have formed a cadastral base for our Land Registry and Land Titles systems, two of the finest systems in the world. This base fabric of our rural and urban areas is the foundation of all public and industry geographic information systems. Before the G.I.M. can begin to develop a G.I.S., the land surveyor must prepare the base maps for the data layers yet to come.

The big difference between the G.I.M. and the O.L.S. within the structure of the Association of Ontario Land Surveyors is that membership of the G.I.M. in the Association is voluntary. Anyone in Ontario wishing to carry out cadastral (property) surveys in industry or government must be a member of the A.O.L.S. as a matter of law, enforced through the Surveyors Act. People engaged in the management of geographic information systems are not required to be members of the A.O.L.S.

Responsible individuals in this field have invested heavily in the development of their careers, and look for the recognition they deserve through professional status and affiliations.

WHY IS THE ONTARIO LAND INFORMATION PROFESSIONAL (O.L.I.P.) DESIGNATION IMPORTANT IN THE NEW ECONOMY?

There is no doubt that a duty of care is owed to the general public by anyone developing a G.I.S. Owners of these systems should know and understand that the people they put in charge of such valuable, and vital, databases and applications should be answerable for their actions through a governing body, as are lawyers, engineers, architects, and other professionals. Responsible individuals in this field have invested heavily in the development of their careers, and look for the recognition they deserve through professional status and affiliations. The Ontario Land Information Professional designation is the answer.

We have entered a new frontier in a global economy as we move into the Twenty-first Century. Over one hundred years ago, land surveyors had the foresight to establish a professional body to regulate the work of their members so that the public good would be served. The A.O.L.S. has served the public well over this time, and its members have established an enviable database and repository of maps and records for Ontario residents. Once again, it is time to forge ahead as leaders in the geomatics industry and recognize the professional Geographic Information Manager and the body of work that will be created over the decades that lie ahead. The A.O.L.S. is an old profession, but one with vision and the will to change with the times.