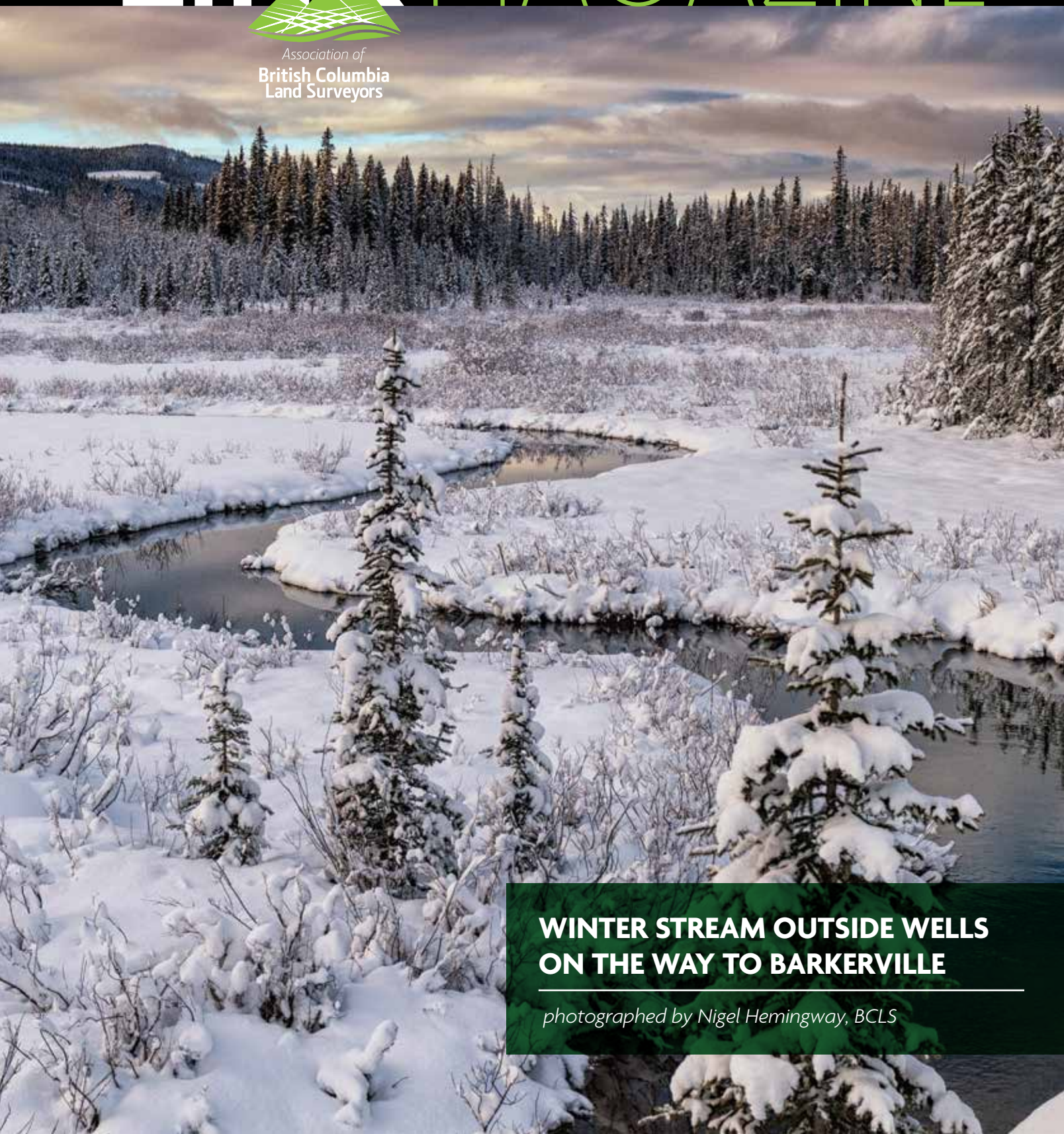
VOLUME 46 | NUMBER 3 | DECEMBER 2021

the Link MAGAZINE

Association of
British Columbia
Land Surveyors



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photographed by Nigel Hemingway, BCLS

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Established in 1977, Link Magazine is published three times a year by the Association of BC Land Surveyors. Link Magazine is available at www.abcls.ca and is distributed worldwide to members, authors of record, advertisers, and other subscribers. It is also exchanged with land surveying associations and regulatory bodies across Canada and the United States.

Submissions to Link Magazine must be made by email no later than March 1st , July 1st, and November 1st in MS Word format. By submitting material to Link Magazine, you grant the Association of BC Land Surveyors a royalty-free, worldwide license to publish the material; and you warrant that you have the authority to grant such rights and have obtained waivers of all associated moral rights. Link Magazine reserves the right to edit any material for accuracy, clarity, length, and conformity with our editorial guidelines, and is under no obligation to publish any or all submissions or any portion thereof. Publication takes place in April, August, and December.

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ASSOCIATION OF BC LAND SURVEYORS

Mission

The Association of British Columbia Land Surveyors protects the public interest and the integrity of the survey systems in British Columbia by regulating and governing the practice of land surveying in the province.

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The Association of British Columbia Land Surveyors will fulfill its public trust as a progressive, accountable profession.

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From the **President**

Delegate Report

By Dave Rutherford, BCLS

Since the end of my last reporting period in June, I've had the pleasure of attending the Association of Manitoba Land Surveyors Annual General Meeting, the Association of Nova Scotia Land Surveyors Annual General Meeting and participating in the annual travelling Board trip.

The 141st Annual General Meeting of the Association of Manitoba Land Surveyors was held on September 17, 2021 in a virtual format and chaired by President Christian Korell, MLS. It was held using Microsoft Teams and the voting app "Poll Everywhere". The meeting was called to order at 9:00 AM CT followed by the approval of the minutes of the 140th Annual General Meeting, held on September 18, 2020, and the approval of the minutes from a Special General meeting, held on March 11 and 18, 2021.

In his address to the membership, President Korell reported on several items including:

- The commissioning of three new Manitoba land surveyors, a significant increase over a normal year: there are now 59 practising land surveyors in Manitoba.
- The CBEPS syllabus modernization and the proposed on-line degree.
- Amendments to the *Manitoba Land Surveyors Act* proposed by the Registrar General which have the potential of leading to other minor amendments to that act.

There were 20 committee reports submitted as part of the AGM package. The amount of committee work that is carried out by a smaller membership is very impressive.

There are three public representatives on the Association of Manitoba Land Surveyors Board.

The Representatives to the Canadian Board of Examiners for Professional Land Surveyors Committee produced an impressive report of all CBEPS activities over the past year which included the number of registered CBEPS candidates, pass rates, and pass rates by syllabus item to name just a few.

The Standards Committee continues to work on several areas including the development of potential standards of practice related to the use of reference monuments in the establishment of legal survey boundaries and the digital distribution of documentation and digital signatures.

The Legislative and Case Law Monitoring Committee reported on changes in Manitoba and federal legislation affecting the membership with a list of bills presented to the legislature over the past year.

The Unauthorized Practice Investigative Committee reported on two incidents involving unauthorized practice this year. Both were dealt with without legal claims and settled.

There were five Notices of Motion presented. Motions 1 and 2 were budget related. Motion 3 was for the approval of the 2022 Fee Schedule. Motions 4 and 5 were amendments to the *Standards of Practice* regarding the definition and retracement standards of a curvilinear boundary and geo-referencing standards respectively.

An email from the Manitoba Regional Office, Surveyor General Branch of Natural Resources Canada was presented to the floor for discussion. The email requested that the Association of Manitoba Land Surveyors consider a proposal to add a territory acknowledgement statement to the AMLS website. Most of the discussion by the membership was not in favour of this proposal. There was concern about AMLS becoming too political and not maintaining its status of being apolitical should this step be taken. Council will now be considering next steps for this proposal.

I wanted to thank President Korell for his leadership of the AMLS over the past year and I have enjoyed his comradeship during my term as ABCLS President. I would also like to welcome incoming President Paul Burtnick to his new role and look forward to meeting him personally at some point in the near future.

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The 71st Annual General Meeting of the Association of Nova Scotia Land Surveyors (ANSLS) was held via GoToWebinar for guests outside of Nova Scotia and in-person for members of the Association on Friday October 15, 2021

President Peter Berrigan, P.Eng, NSLS convened the meeting with a welcome message and an introduction of their new Executive Director and public representative. The Association's previous Executive Director had stepped down earlier in the year and President Berrigan has been performing double duty ever since. The Association has been very busy dealing with the recent enactment of the *Coastal Protection Act* and a busy Nova Scotia economy.

The Association has divided the province into three zones. Each zone holds a seat on the ANSLS Board. President Berrigan commented on the difficulty for the Association to find candidates to fill positions for this year's Board and the declining membership overall. He encouraged everyone to get involved.

President Berrigan also reported on the Association's involvement with the new *Coastal Protection Act*, commenting that it was a near miss that the Association was not aware of the Act until it was well under development. Apparently, Nova Scotia land surveyors were initially not considered stakeholders. It was only after an ANSLS member alerted the Association about the potential new act that they were they invited to participate.

The busy forest sector in the Maritime Provinces has resulted in many unauthorized practice claims. Apparently, boundaries are being laid out by non-land surveyors using online digital maps and GPS. The boundaries are marked just in front of the harvester as it is harvesting the timber, resulting in numerous instances of trespass.

As part of the ANSLS strategic plan, a Diversity and Inclusion Committee has been created. The Association will also be developing a more robust public awareness program under the direction of the incoming Executive Director.

The Complaints Committee reported that most of the issues that it dealt with this year were considered frivolous in nature. The Committee stressed to all members that clients must not be treated in a dismissive manner but instead be given full attention from the start to the end of a project.

Of the four motions presented at the meeting, three involved the blazing of survey lines in forested areas. Discussions considered the frequency of blazes along the boundary line itself and the frequency and distance left or right of the boundary line to be blazed.

Some members were opposed to the wording of all four motions that changed the distances in the Standards of Practice Manual from imperial to metric measurement. There was also discussion on the use of the words "*shall*" versus "*may*" in the motions and whether "*may*" is a self-regulating term or not.

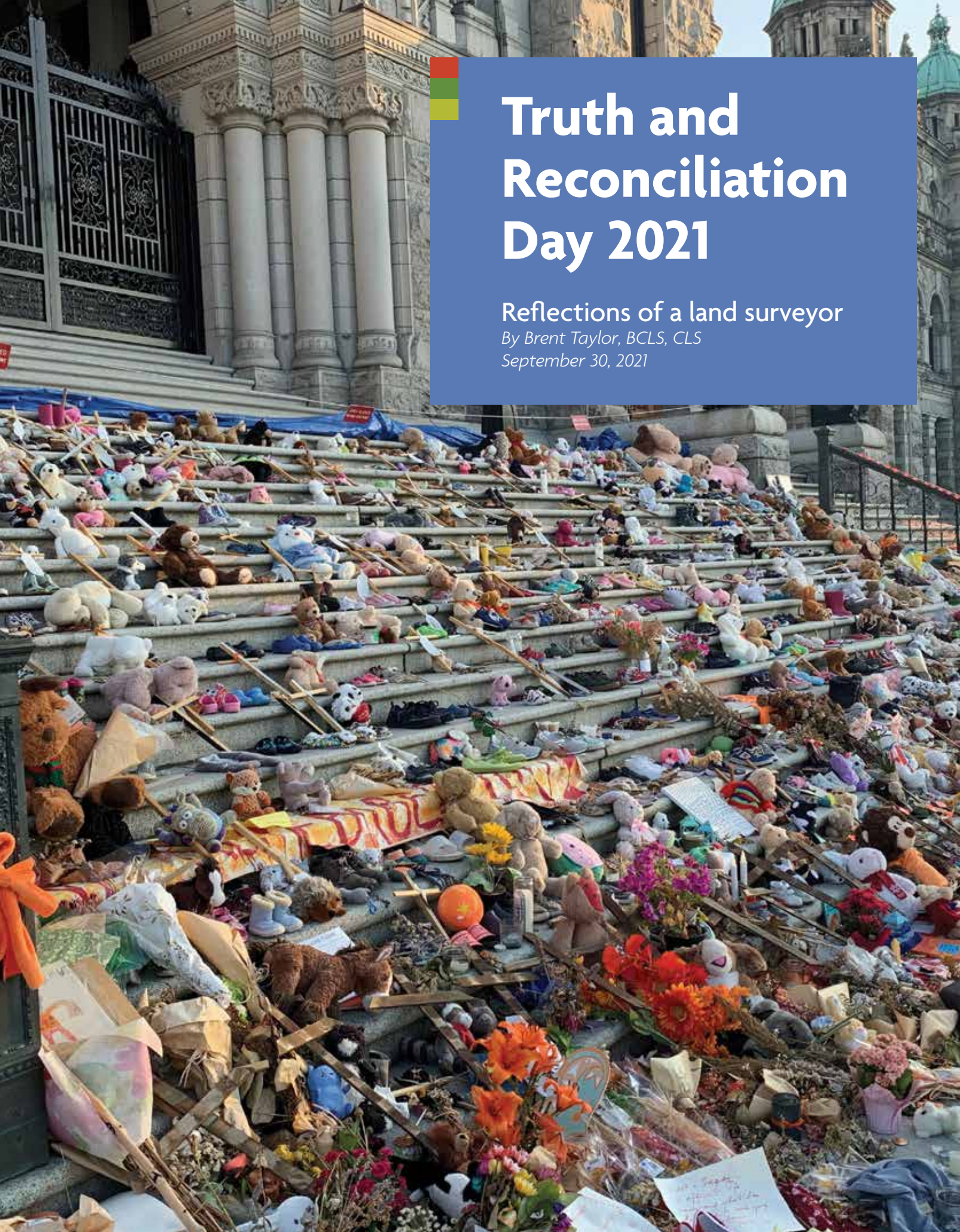
There were two presentations during the day. The first was an update on a 2015 boundary line dispute which involved two ANSLS members and a parcel of land that separated their respective boundary surveys. It was interesting to learn how important research is when dealing with a chain-of-title system, particularly in dealing with verbal agreements that change the location of a boundary. In this particular boundary dispute, the verbal change had not been registered with the deed.

The second presentation described the importance of plan research, settlement trends in the province and the granting of roads that took place between 1600 and 1900. Some very detailed old maps were part of the presentation, reiterating the amount of research that land surveys must undertake to determine boundaries.

Many thanks to President Berrigan for an excellent AGM and his work as both President and Executive Director over the past year. Please welcome S. Andy DeCoste as incoming ANSLS President and Raymond Pottier as ANSLS Vice-President. ✣

Correction

In the article "Delegate Reports" in the August 2021 edition of Link Magazine, there was an error in the Alberta Land Surveyors Association AGM section. The article stated "... that there were 48 complaints received from the public during the past year." It should have stated that there were 48 complaints from both the public and practitioners dating back nine years to 2012. ALSA compiled this data over nine years to see: (1) whether there were any trends, (2) the total accumulated costs for complaints and discipline and how much is likely to be recovered, and (3) whether complaints from the public or practitioners are more common and is one or the other more likely to proceed to a hearing.



Truth and Reconciliation Day 2021

Reflections of a land surveyor

By Brent Taylor, BCLS, CLS
September 30, 2021

The government of Canada has declared today the first National Day for Truth and Reconciliation. According to information on their web site "*The day honours the lost children and Survivors of residential schools, their families and communities. Public commemoration of the tragic and painful history and ongoing impacts of residential schools is a vital component of the reconciliation process.*" We, the citizens of Canada, are encouraged to pause today and to take time to reflect on the history between First Nations and Canada. My contribution to this process is to reflect on the survey work I have done for and with First Nation peoples, share my observations and some of the lessons I have learned along the way.

I began my full-time career in land surveying on June 1, 1981, and I recall that the first project I got to work on was a townhouse development that was located on First Nation Reserve land. At the time that held no significant meaning for me, however, as time has passed, and I have learned so much more about land surveying and First Nations. I have a far better understanding of the background and impacts of that project.

Over the next decade or so I worked on a few projects on First Nation lands for various development clients and then in the early 1990s Canada announced to the survey community that in the coming years it would become a requirement that surveys on lands owned by Canada be done by a Canada Lands Surveyor. Canada owned lands where I did a lot of work so I decided that it would make sense to put the effort into seeing if I could also become a Canada Lands Surveyor (CLS). As I embarked into the process of self-study to learn the information needed to become a CLS I started to understand that (at the time) all First Nations were administered under the *Indian Act*. This was legislation that I needed to read and understand in order to pass the examinations. Getting to know and understand the *Indian Act* was a shocking experience.

Being a West Coaster, my experiences and historic research tends to only go back to the 1850s however I learned that the main genesis of the relationship between English settlers to Canada and First Nation peoples dates back to a *Royal Proclamation of 1763* which guaranteed certain rights and protections for First Nations people and established the process by which the government could acquire their lands. Throughout the 1800s the government passed various laws (without First Nations consultation) that began to define the rights and legal relationship between First Nations and the settlers. These laws included a definition of a 'legal Indian' and were openly designed with the intent of assimilation into the larger settler population. For clarity, assimilation was seen as a requirement to leave behind First Nation cultures and traditions and to adopt English cultures and traditions. If a 'legal Indian' was willing to assimilate they would give up their status and in return they would be entitled to own land and vote. If they remained a 'legal Indian' they were governed under a variety of laws that were not favourable to say the least.

When Canada was formed in 1867 the *Constitution Act* assigned legislative jurisdiction to Parliament over "Indians, and Lands reserved for Indians". In 1876 the first version of the *Indian Act* came into effect. The *Indian Act* has been amended many times since 1876 but it is still in force today and is still the law that Canada uses to govern all First Nation peoples and lands other than a relatively small (but growing) number of First Nations who have negotiated the right to operate under different laws. The Canadian Encyclopedia has an excellent web site that offers a very readable, non-political history of the *Indian Act* https://www.thecanadianencyclopedia.ca/en/article/indian-act.

In short, what I came to understand through my studies to become a CLS was that Canada, as a government, is solidly in control of the culture and lands of the First Nations people, particularly in BC where, at the time of my studies, there were virtually no formal treaties. Any First Nation that falls under the *Indian Act* is not entitled to make any decisions as a community with regard to their land or culture without first seeking approval of Canada.

In 1995 I was successful with the examinations and received my commission as a Canada Lands Surveyor. As it turned out I did not really do any work that required a CLS until the mid 2000s when opportunities arose to partner with some BC land surveyors on projects that were on First Nations land. Some of these projects were run of the mill 'subdivisions' in Reserve lands where we were creating or modifying Reserve lots so that the First Nation could pursue some economic development opportunities. At the time my role was focused on the boundary work and less on the administrative side of the project, so I was not really exposed to the impacts of the *Indian Act* on these projects other than I noticed that there

were a lot of hoops to go through to get to the end objective and often these surveys were never actually completed, filed and acted on. Today I have a better understanding of why that was the case. At the time I just accepted that this was the norm.

Between 2004 and 2011 my work on First Nations lands started to expand and along with those projects my exposure to First Nations peoples increased. I began to learn more about the history of Reserves and the views of First Nation cultures towards property boundaries. A few trends started to emerge in my observations and thinking.

- Fixed property lines defined by survey markers generally do not exist in First Nation cultures.
- The extent of land use rights are more commonly related to features on the land.
- Rights to land use are agreed to and acknowledged through discussion with the community or by allocation by the Chief.
- Rights and the extent of the land associated with those rights are passed from generation to generation.
- The location of the extent of the rights are expressed orally. The story is told amongst the family regularly so as to entrench the knowledge in subsequent generations.
- There is a reluctance to share cultural knowledge with those who are not members of the First Nation
- The First Nations that I have worked with tend to have a strong sense of 'community'. They think and operate with the interests of the whole community in mind, not as individuals.
- The First Nations that I have worked with are very spiritual.

By 2010 my interest in First Nations work was growing rapidly and this interest was fuelled by some new and interesting opportunities in and around Vancouver Island. The initiatives that created these opportunities had begun a few decades earlier, but the issues were large and fundamental, so they took time to work through. The two substantive initiatives that began in the 1990s were Treaty Settlement and self governance. In many ways these initiatives are related.

Legislative Assembly of British Columbia

In 1991, a group of First Nations Chiefs approached the Government of Canada with a proposal to opt out of 40 provisions of the *Indian Act* on land, environment and resources. By 1996 the Framework Agreement on First Nation Land Management was negotiated and in 1999 the *First Nations Land Management Act* was passed into Law. The gist of the Framework Agreement and the *First Nations Land Management Act* is that any First Nation that is operating under the *Indian Act* can go through a process that results in that First Nation no longer being administrated under the *Indian Act* and instead they achieve a level of self governance under the *First Nations Land Management Act*.

Around the same time, 1993, the BC Treaty Commission was formed. At the time the Commission was formed there were 15 treaties within the province. 14 of these were negotiated in the 1850s by Sir James Douglas when he was the Chief Factor for the Hudson's Bay Company. The extent of the Douglas Treaties covers 358 square miles on Vancouver Island. The other treaty in BC was a portion of the Peace River Region that is part of Treaty 8, most of which is in Alberta, that was settled in 1899.

The good news is that the efforts put into these two initiatives were starting to show results and there was survey work associated with both for us. Much more importantly these initiatives were the start to reconciliation.

Starting in about 2010 the provincial government began to qualify survey firms for work on Vancouver Island associated with the Maa-nulth Final

Agreement. Maa-nulth is a group of five First Nations on the west and north coast of Vancouver Island who have successfully reached a Final Agreement with Canada and BC. The result is that about 24,500 square kilometres of land has been designated as Treaty Settlement Land and granted to these First Nations. Each of these Nations now have their own territory and are empowered to own and govern this land and the resources on it.

To fully appreciate a few of the implications of a Final Agreement it is helpful to compare the differences between the *Indian Act*, the *First Nations Land Management Act* and a Final Agreement. I do not purport to be an expert in these matters and what knowledge I have gained is primarily related to the aspects of land and land management.

Indian Act

1. All land is owned by Canada
2. No ability to sell land
3. If the First Nation wants to lease land to a developer, they must first give up that land and transfer administration and control to Canada. Canada then enters into a lease on behalf of the First Nation. The First Nation can receive the lease payments.
4. No ability for the First Nation to tax land users
5. Limited ability to establish land use regulations

First Nations Land Management Act

1. Most land is owned by Canada. The First Nation can own land that is not part of the Reserve system.
2. No ability to sell land that is part of the Reserve system, but they can sell land that they own that is not part of the Reserve system
3. The First Nation can enter into lease agreements with others directly. Canada is not a party to the lease.
4. First Nation may pass laws for property taxation of Reserve lands.
5. First Nation may pass land use laws and enforce them like a municipal government for Reserve lands.

Final Agreement

1. Land is owned by the First Nation initially.
2. The First Nation can sell land to whomever they choose.
3. The First Nation can lease land to whomever they choose.
4. First Nation may pass laws for property taxation including taxation on any lands that have been sold. In the event there is a default in the payment of taxes on land that has been sold the land reverts to the First Nation.
5. First Nation may pass land use laws and enforce them like a province.

The last aspect of my reflections that I want to share with you is the Specific Claims Tribunal. This Tribunal was established in 2008 and I have had the honour of being engaged as an expert witness in a few cases now. For me the Specific Claim Tribunal cases have been the most enlightening work I have been involved in regarding First Nations. The gist of the Specific Claims Tribunal is that a First Nation can appeal to this independent Tribunal for a monetary damage claim against the Crown regarding the administration of land and other First Nation assets and to the fulfillment of Indian treaties that have not been accepted for negotiation or that have not been resolved through a negotiated settlement within a specified time frame.

Through my work on these files, I have had the opportunity to visit First Nations communities and interview members to hear their recollections about land that was historically used by the First Nation communities but is not part of their Reserve lands. During these conversations, I have listened to Members share their memories of the Residential schools that they were taken to. They are private people so the extent of sharing was limited to what I might need to know regarding lands that were taken from the First Nation but even the limited stories were very impactful. I was also invited into the homes of some members who were elderly and not able to walk the land with me. It was shocking to see the standard of the housing that honoured elders of the community were living in and to realize that what I was observing was a direct result of living under the authority of the *Indian Act*.

The other aspect of my work on Specific Claim Tribunal files which has been eye opening has been to gain an understanding of the Indian Reserve Commission that operated in various forms between 1876 and 1910. The high-level concept of IRC back then was similar to the BC Treaty Commission today – work with First Nations to allocate parts of the Province for the exclusive use of each First Nation. The process, attitude and results of the IRC as compared to the modern Treaty process are drastically different.

Today a Final Agreement goes through a long process of consultation and negotiation with each First Nation. Serious consideration is given to the

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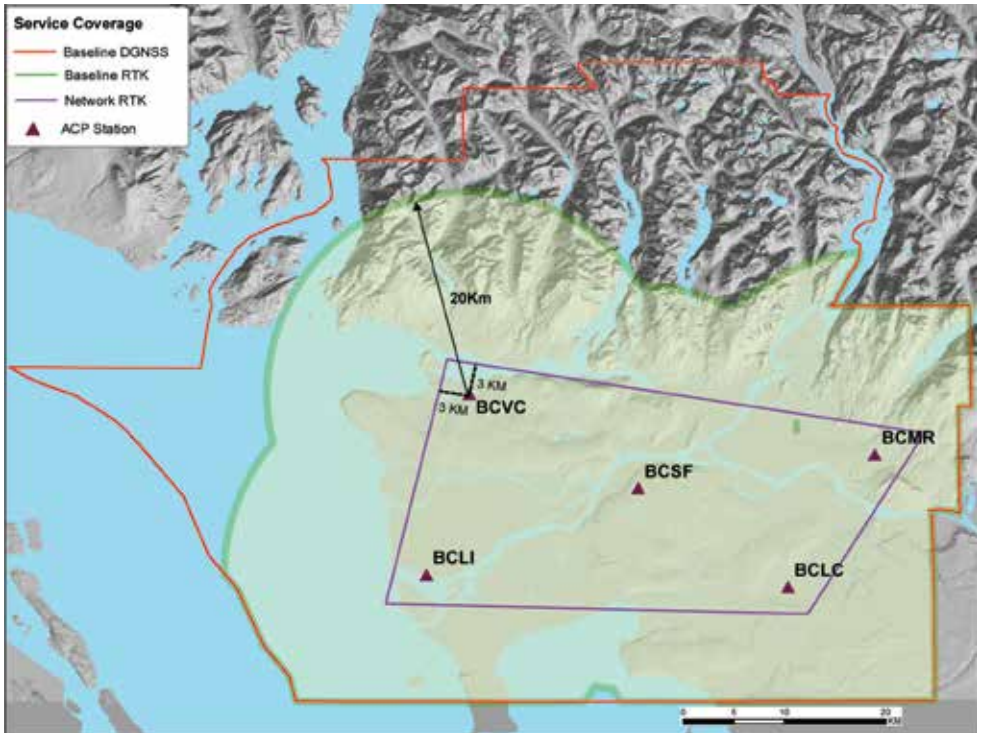

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history and traditional uses of the land by the First Nation. Preliminary maps of the area are prepared, reviewed and refined to reflect the negotiations and in the end a Final Agreement Act is passed and the land is fully transferred to the First Nation.

In the late 1800s much of the work of the Indian Reserve Commission was done by Commissioner Peter O'Reilly. I have had occasion to read some of his diaries and reports during his time as the Commissioner. His approach to allocating Reserve land was significantly different than today's Treaty Commission. O'Reilly would regularly set out on trips to visit parts of the province where he was aware that First Nation communities existed with the intent of establishing a Reserve of land for their exclusive use. It appears from my reading that he would tend to arrive unannounced, sometimes with an interpreter and sometimes not. If the Chief was present, he would discuss what lands were used. If the Chief was not in the village, then he would converse with anyone that was. In some cases, there were no members present. O'Reilly would then have a brief wander about and decide on the spot what land was to be Reserved.

His decisions were recorded in a document known as a Minute of Decision. O'Reilly was often accompanied by a surveyor, Ashdown Green. Between O'Reilly and Green they would describe the extent of the new Reserve in words and in most cases prepare a small sketch plan to illustrate it. The intent was that from that moment on the lands described in the Minute of Decision were 'Reserved' for the First Nation and unavailable for settlement or use by others. Over the following months a more formal plan was prepared and sent to Ottawa for recording with a copy to the appropriate authority in BC. Then, as resources came available, a surveyor was dispatched to actually survey and monument the boundaries of the Reserve.

Not only was there minimal consultation with the First Nations but the lands were not truly Reserved from other use and settlement for many years.

There is no doubt that O'Reilly was a hard worker, but it could be that he valued productivity over quality. In some of the records I have reviewed I can see that he was travelling around the coast of Vancouver Island and over to the mainland on a trip that lasted somewhere around ten days including travel to and from Victoria. In that period of time, he allocated 22 Reserves with seven of those being on one day. Not much time for meaningful consultation or consideration!

This system of Reserve allocation failed at many levels. Not only was there minimal consultation with the First Nations but the lands were not truly Reserved from other use and settlement for many years. It was typically two to five years later when a surveyor was dispatched to mark the boundaries accurately and the instructions to those surveyors were that if part of the Reserve lands had been claimed by settlers then those lands were to be excluded from the final Reserve. The surveyors were also instructed to follow the official requirements of the day when doing their work. This may seem reasonable, but the result was not. The standards of survey changed from time to time and at one point it was deemed that all new lots would be created with cardinal boundaries – north, east, south and west. O'Reilly had allocated Reserves to fit the lay of the land – for example the Minute of Decision may have described a Reserve as being along the shore of a lake and then up a valley that runs in a northwesterly direction. When it was surveyed, the boundaries were adjusted to cardinal directions so rather than including the fertile valley in the Reserve, steep cliffs made up most of the Reserve land.

In summary, I have had the privilege of working on many projects over the past 40 years that have been for or for the benefit of First Nations. Without exception, each project has unveiled to me a greater knowledge and understanding of the history between Canada and the First Nations. Hopefully the sharing of my experiences provides each reader with new knowledge and insight. ✣

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From the
Chief Administrative Officer

Member Engagement

By Kelly Stofer, BCLS

The Fall Board Trip is something I look forward to every year. Sure, it feels rushed and I am always tired come Friday, but the Board Trip provides the best opportunity each year to engage with our members. At the annual general meeting, the discussions are constrained by our rules of order. On the Board Trip, we can just talk about things.

This fall, our trip included stops in Kelowna, Rossland, and Victoria. Board members and I attended in-person meetings of the regional groups at those locations as well as virtual meetings with the regional groups in the Lower Mainland and the North. Some of the groups discussed their future direction, with options ranging from alignment with Professional Surveyors Canada to seeking chapter affiliation with the Association. One group discussed its activities in relation to those of the Association and considered disbanding. That group plans to continue their deliberations in the spring.

If you are new to the profession, you might wonder why regional groups are discussing their purpose and direction. To provide some historical context, the board began to consider its relationship with regional groups a few years ago in response to a question raised at the annual general meeting. Our bylaws say nothing about regional groups, the board does not issue terms of reference for regional groups, the Association does not have a financial relationship with regional groups, regional groups do not report to the Association, the Association does not set rules for the formation of a regional group, nor set rules for membership in a regional group, and the Association does not require regional groups to adopt bylaws, approve those bylaws, or otherwise interfere in the operation of regional groups. You can certainly understand why a member raised this question. The Association's relationship with regional groups became a major discussion topic during the 2019 Board Trip.

In early 2020, the board adopted a policy recognizing that regional groups are autonomous bodies which are not affiliated with the Association in any way. The policy was intended to ensure there would be no confusion among members of the Association or the public about the relationship between the regulatory body and various regional groups. However, as I reflect on discussions about the purpose and direction of various regional groups during the Board Trip, I sense that some members of the Association are confusing the activities of their regional groups with the responsibilities of their regulatory body. As I think about how we could provide better clarity, I wonder if the policy and format of the traditional Fall Board Trip are contributing to the confusion the Association was trying to address.

It might help to start with a clean slate. So, rather than grapple with prior assumptions and beliefs about how the Association should engage with its membership, I am going to start with what I think is true today. Consider the following:

- The Association has a strategy to provide transparent and regular communication for the public and stakeholders about governance and core regulatory functions. This includes engaging with member stakeholders on regulatory matters (e.g., policy development, bylaw changes, rule changes).
- Members of the Association should be invited to engage directly with the Board and staff without any precondition of membership with an unaffiliated body – a situation that has existed for years, but it is difficult to understand when regional groups are autonomous bodies not affiliated with the Association in any way.

continued on page 15

From the **Secretary**

Succession Planning

Lesley Anne Sick, BCLS, ALS (Ret.), P.Eng. (NP)

Setting up a land surveying corporation and obtaining a permit to practice can be an exciting time in a land surveyor's career. In the moment, you often are not thinking about retirement or of the possibility of dissolving the company. However, it is important that you understand fully your professional responsibilities across the entire life cycle of the corporation.

Section 51(1) of the *Land Surveyors Act* outlines the criteria required to register a corporation with the Association and obtain a permit to practice.

Corporate registration

51 (1) The board must issue a land surveying company permit to a company within the meaning of the Business Corporations Act that is in good standing under that Act if the board is satisfied that

(a) the name of the company includes the words "land surveying",

(b) the majority of the voting shares of the company are legally and beneficially owned by one or more practising land surveyors or by one or more companies the majority of whose voting shares are legally and beneficially owned by one or more practising land surveyors,

(c) [Repealed 2009-34-3.]

(d) a majority of the directors of the company are practising land surveyors, and

(e) all of the persons who will be practising as land surveyors on behalf of the company are practising land surveyors or are under the direct supervision of a practising land surveyor.

Whether you are part of a land surveying corporation as the sole practitioner listed as the majority shareholder and director, or among a group of shareholders and/or directors as per Sections 51(1)(b) and/or Section 51(1)(d), you are ultimately responsible for the corporation's permit to practice.

It is important to realize that this responsibility does not terminate when your employment with the corporation ceases. You do not have to be employed with the land surveying corporation that you are a shareholder or director of. A company may continue operations, with or without you, provided they can maintain the permit to practice by adhering to all parts of Section 51 of the *Land Surveyors Act.*

If your employment ceases, for any reason, and you are the sole director and shareholder of the corporation, the corporation may lose its permit and ability to carry on business as per Section 52(1) of the *Land Surveyors Act* unless another practising land surveyor is able to meet the requirements outlined in Section 51(1)(e) of the *Land Surveyors Act.*

If you also intend to remove yourself as a shareholder and/or director, the additional requirements under Sections 51(1)(b) and/or 51(1)(d) must be adhered to, and another professional land surveyor must take over these responsibilities.

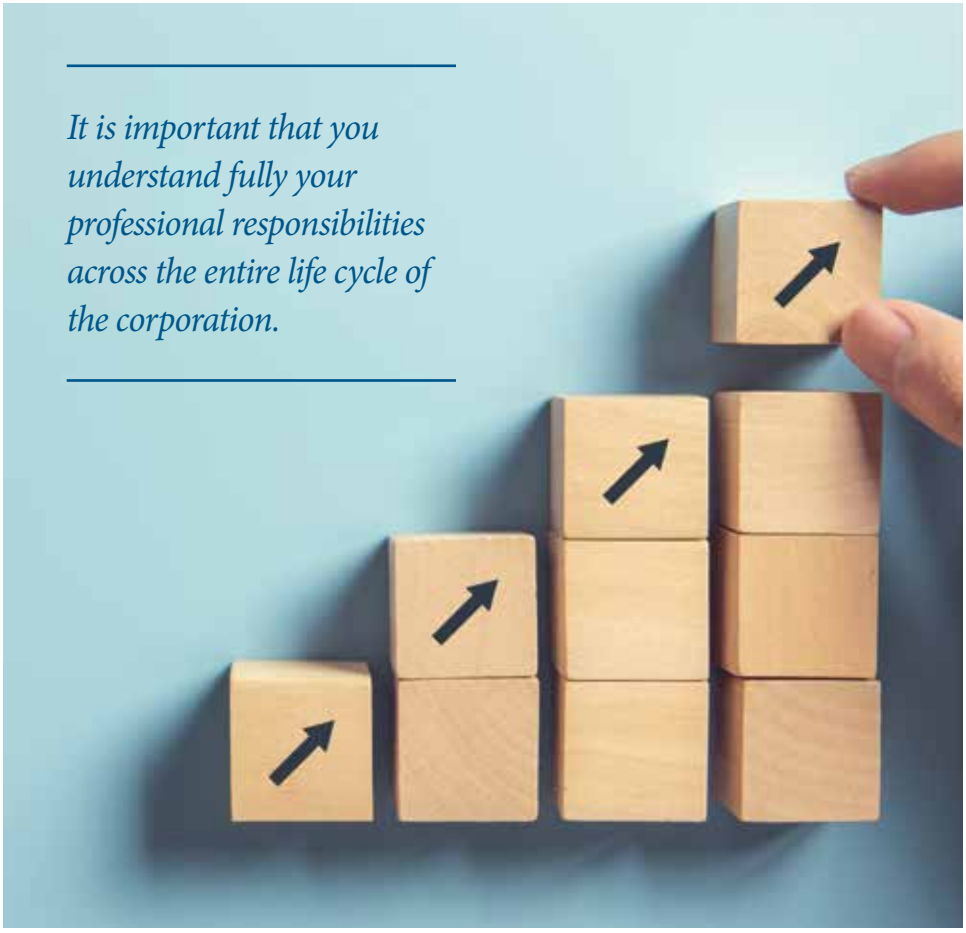
Also note, Section 52(1) of the *Land Surveyors Act* is as follows:

Prohibition against carrying on business

52 (1) A company that has the words «land surveying» as part of its name must not carry on any business unless it holds a permit.

Your employment may come to an end through retirement, termination or by your choice to transfer to another organization but your obligations with respect to the permit and payment of the corporate permit fees remain your responsibility indefinitely until action is taken to make changes.

A land surveyor who vacates their position as director, leaving a land surveying corporation in a position of non-compliance, furthermore, jeopardizing their permit to practice, must consider all aspects of the *Land Surveyors Act*, Bylaws and Code of Ethics to assess whether they have conducted themselves in a professional manner. It is the responsibility of the professional land surveyor to coordinate with any professional



and non-professional directors and/or shareholders of the corporation to ensure all affairs are in order.

As a professional land surveyor, you have a responsibility to prevent a situation of unauthorized practice by either ensuring another land surveyor has direct supervision of the land surveying operations, dissolving the corporation entirely or changing the name of a corporation by removing the words "land surveying" and ultimately converting the company to a non-land surveying corporation.

If the company is being dissolved, you must submit to the Secretary a copy of the dissolution form from the Registrar of Companies. If the company is continuing without a land surveyor, you must submit to the Secretary a true copy of the certificate issued by the Registrar of Companies showing the change of name and the date it is effective.

In a scenario where you are among several other land surveyor shareholders and/or directors and you intend to remove yourself from any corporate responsibilities, the share structure of the company must be amended. You must submit to the Secretary an updated copy of the Register of Directors and Central Securities Register outlining these changes. The same goes if you are transferring your responsibilities as the sole director and shareholder to another land surveyor.

When in doubt, please contact myself, the Secretary of the Association, and I would be happy to guide you through the process and answer any questions you may have. ✣

continued from page 13

From the Chief Administrative Officer

- The Association has a strategy to deliver a continuing professional development program focused on public protection. The provision of educational seminars through this program should not be dependent on members of the Association securing membership with an unaffiliated body.
- The board and staff should have sufficient time to meet with members of the Association, and the whirlwind trip across the province during a single week in September is not conducive to fulsome discussions.
- The Association has a goal to align with evolving regulatory standards and deliver excellence in our governance and administration and a strategy to ensure operations are current, effective, streamlined, and focused on delivering our mission, vision, and goals.

With the above considerations as a starting point, I think the Association could go back to the drawing board to clarify how it will engage with members in delivering our mission, vision, and goals. I look forward to working with the board on this question in the months ahead. ✣

From the **Surveyor General**

Fall Surveyor General's Report

By Cristin Schlossberger, BCLS

I'm happy to provide you with my fall report on LTSA operations and projects. This is a summary of information shared at the regional group meetings.

The LTSA continues to implement COVID-19 preventative measures while moving towards post-pandemic operational planning. We reopened front counters on September 27 with new visiting procedures. Appointments are required and can be booked through our Customer Service Centre.

Many LTSA staff are transitioning to a hybrid of office and remote work. We've found through our COVID-19 response that we're well positioned as an organization to support remote work without compromising our customer experience.

A new office space has been selected in Kamloops and we are preparing for the move in January 2022. The move of the physical records to the Victoria vault was completed in October. Significant work has gone into digitizing the Kamloops and Nelson Land Title District's records to improve digital access, including the scanning of all microfilm records. The Scan on Demand service will continue to be available to assist customers with retrieving records that have not yet been digitized. The LTSA continues to make substantial investments in conservation and digitization of historic records.

The Historic Records Advisory Committee continues to advise LTSA

TABLE 1

Land Titles – Plan Intake				
	Q2 July-Sept 21/22	Q2 20/21	Q1 April-June 21/22	Q1 20/21
Plan Intake	2383	2265	2566	2112

TABLE 2

Surveyor General Services - Number of work items received				
Type	Q2 July-Sept 21/22	Q2 20/21	Q1 April-June 21/22	Q1 20/21
Crown Grants	22	15	14	13
Survey Plans	192	152	165	84
SG Applications	81	107	81	80

on conservation and accessibility of historic records in our care, with a focus on records of significance to First Nations research. The LTSA is also developing a comprehensive research guide to records of significance to Indigenous Peoples, which will provide a description and location of historical records of Indigenous interest, including records from LTSA and other related organizations.

Customer Operations

Initially the pandemic brought a great deal of volatility to plan submission volumes, with unusually low volumes at the beginning of the fiscal year in 2020, offset by significant increases over the final half of the year. The high transaction volumes have persisted so far through 2021 and have only recently shown any sign of easing. The volume of land title plans submitted in the first quarter of this year (April through June) were 21% higher than the same period last year and in the second quarter (July through September) volumes were 5% higher than last year. We've had several record breaking months for LTSA revenue. (see table 1)

For Surveyor General operations, we have seen an increase in plans compared to last year, but the volumes remain lower than historic averages, primarily due to fewer oil and gas related plans. In the first quarter of 2021 we received 96% more plans than the same quarter in 2020. In the second quarter plan volumes were 26% higher than last year. (see table 2)

I'm very appreciative of the work that the Deputy Surveyors General and the technologists do every day to support land surveyors and ensure that we are focused on continuously improving our systems and processes.

Boundary Commission

This year three projects were completed for the BC/Alberta Boundary Commission, including an inspection of 7 monuments at North Fork Pass, an inspection of 14 monuments at Tonquin Pass and a restoration survey of 35 monuments at Tent Mountain to Crowsnest Pass.

Pictured are two monuments from the inspection at North Fork Pass.

Two monuments from the inspection at North Fork Pass.

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ParcelMap BC

The ParcelMap BC operations team continues to maintain turn-around times of one day or less. On top of day-to-day operations, the team has been completing spatial adjustments for many areas throughout BC. We have received interest from specific municipalities in improving their areas and these municipalities have provided the PMBC team with additional data to assist in the spatial improvements. The Spatial Improvement Assessment app provides a visual assessment of parcel fabric accuracy and is publicly available on our website. You can see in the application which geographic areas are prioritized for improvement.

For the titled roads project, approximately 20,000 out of 32,000 road parcels with active PIDs have been integrated. The majority of the parcels integrated so far are within the City of Vancouver.

We continue to work towards increased adoption of PMBC with municipalities across BC. We're currently targeting adoption by larger municipalities.

Web Filing / Survey Plan Services Modernization

Most land title and Surveyor General PDF forms have now been retired, with the exception of certain plan related forms, including the SPC, DSPL and CLRS forms. These forms will transition as part of Survey Plan Services Modernization.

After a pause in this project we are now planning the build and release schedules. The LTSA has recently consulted with a group of land surveyors to further understand existing workflows and inform our planning. I will be providing information as we work through this project to allow land surveyors to be prepared for upcoming changes.

Integrated Survey Area Program

We have completed a review of the Integrated Survey Area (ISA) Program and have reached out to municipalities to ensure that they are aware of their commitments to work with GeoBC to maintain their ISA. We have asked municipalities to provide us with letters that acknowledge their commitment or to advise us if they wish to annul their ISA. For municipalities that do not currently have an adequate density of monuments, we are not requiring immediate rectification, but to initiate the process of monument replacement under the guidance of GeoBC.

Another project that was completed in late spring was an update of all ISA boundaries in ParcelMap BC. In order to simplify the ISA boundaries, parts of some ISAs have been redefined to more closely follow the municipal boundaries in areas where monuments are within a reasonable distance to the municipal boundary. Circular Letter No.486 was published on May 19 and the published ISA boundaries in PMBC are now the official definition for all ISA's. All previous definitions of the ISA boundaries are superseded and this includes historic mylar maps; which were previously available on the LTSA website in PDF format. To ensure you know when integration of legal surveys is required, please closely review the updated boundaries for those ISAs you regularly work in.

Over the past several years we have contracted surveys within some ISA's to provide GeoBC with data to improve the accuracy of coordinates. We have recently contracted survey work within the Vernon ISA for this purpose. This new survey information is now with GeoBC for processing.

Post-Quake Boundary Restoration

Thank you to the land surveyors that participated in the post-quake boundary restoration project's focus group in the spring. Your experience and insights are helping us form the action plan. Recently we have met with GeoBC to start a plan for addressing the effect of a significant earthquake on the provincial coordinate control system. We continue to work on implementing the feedback from land surveyors and other stakeholders.

The aim is to reduce the risk of uncertainty and support economic recovery post-quake.

In closing, thank you to everyone for your continued support. I am looking forward to engaging with the membership as we continue to progress on projects. ✣

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Learning from Our Customers

By Al-Karim Kara
President & CEO Land Title and Survey Authority of BC

As the Land Title and Survey Authority of British Columbia (LTSA) continues to evolve and meet the needs of a changing world, one constant remains: our commitment to our customers. Part of this commitment is working to better understand how your needs are evolving for you to be successful in your business. As a customer-centric organization, understanding customer needs and learning from the feedback of customers and stakeholders is fundamental to how we operate and essential for our continued success.

LTSA receives input from customers and stakeholders through various programs and communication channels. Along with activities like focus groups, interviews and post-transaction surveys, LTSA regularly conducts a Customer Relationship Health Survey to measure overall satisfaction with LTSA and other key performance measures. The survey is one of several ways we ensure we are meeting customer expectations and delivering value as we move toward fulfilling our vision of a property market that is trusted and transparent. Customer feedback is critical for helping LTSA maintain accountability, learn how we can improve and to inform business priorities.

Over the past three years, LTSA has worked with Sentis Market Research to administer the Customer Relationship Health Survey. Most recently, 2,500 survey responses were collected during two periods, September 2020 and March 2021. By distributing the survey over different times we were able to track and respond to changes related to COVID-19 and other market shifts that occurred during this time.

Across all responses, 97% indicated they were very satisfied or somewhat satisfied with LTSA overall. Of the 92 respondents from the land surveyor community, 59% indicated they are very satisfied, with 37% of land surveyor respondents indicating they are somewhat satisfied. And when asked to rate their overall experience with LTSA, 86% of land surveyors responded that they generally find their experience to be excellent or very good, compared to 77% from other professional groups we surveyed.

LTSA is using these survey results to identify enhancements to our business that will improve our customers' experience. For example, we received comments from the land surveyor community to make all land title records available online: LTSA is continuing our multi-year project to improve record accessibility by digitizing paper records, and processes are in place to ensure paper records requested by customers are digitized and made available in a timely manner. Since 2005, LTSA has invested over $17M in preserving and digitizing historic records, resulting in both expanded access and improved quality of record reproductions available to LTSA customers.

We also received comments from land surveyors requesting that we improve clarity of defect notices and develop a user guide for correcting mistakes. We've initiated an internal cross-functional project to help customers reduce defects, working to refine system validations to alert customers when submitting a potential error, and raising awareness of common defects to help customers avoid similar issues in the future.

Other improvements we're currently working on include improving the functionality of myLTSA to simplify the transaction process for both public and professional customers. We have begun work on the three-year Survey Plan Services Modernization (SPSM) project to deliver a more efficient workflow for land surveyors and other customers. This includes new processes to streamline the submission of survey plans, transition plan-related PDF forms to Web Filing forms, and enhance the methods used to file plans and datasets for both for Land Title and Surveyor General submissions.

We are listening to our customers to help identify improvements such as enhanced package information and management tools. We will continue to strive for operational excellence, with new policy and process updates introduced in the upcoming months to help ensure the accuracy and efficiency of land title submissions.

Thank you to everyone who took the time to respond to the survey – we hope you will continue to share your feedback when the next survey is distributed. Look for the link to the next LTSA Customer Relationship Health Survey to arrive in your email inbox in January 2022. ✣

Continuing Professional Development Committee Update

By Mark Dailey, BCLS
Chair, Continuing Professional Development Committee

As 2021 draws to a close, we can sit back and take some time to reflect on some past achievements and the work ahead for the Continuing Professional Development Committee in the coming year.

2021 was another busy year which included our Annual General Meeting and Continuing Professional Development program that was held over three days in early March. Despite the technical and logistical challenges, the event went off without any significant issues and has given us the confidence to hold similar events, if needed, again in the future.

At the time of writing this update, capacity limits in most parts of British Columbia have recently been raised, and this is a promising step forward to transitioning back to in-person CPD events. We have finalized the sessions for next year's AGM currently scheduled for March 9-11, 2022, at the Delta Grand Okanagan Resort in Kelowna, but we are ready to transition to a virtual platform if required to do so.

We are pleased to announce that Jessica Vandenberghe, P.Eng., M.Sc. will be presenting "Walking Together with Indigenous Communities – How to Start Building a Trusting Relationship" as our keynote presentation to open our AGM. The Office of the Superintendent of Professional Governance has advised regulatory bodies under its jurisdiction to prioritize Indigenous reconciliation, and while the ABCLS does not fall within that jurisdiction, this offering is consistent with our strategy to align with regulatory best practices.

Jessica is an Indigenous Professional Engineer, Industrial Professor, and the Assistant Dean (Outreach) at the Faculty of Engineering at the University of Alberta. She also has her own consulting firm, Guiding Star Consulting where she contributes to Truth and Reconciliation. She oversees a broad portfolio that contributes to the development of well-rounded and ethically minded engineering students who will contribute to building strong and vibrant communities around the country. Jessica's professional experience includes working in the oilsands, mining, regulatory, infrastructure and consulting industries and she has sat on many boards and councils with stakeholders including federal, provincial, and municipal governments, First and Metis Nations as well as academic institutions and private industry.

Other seminars include Understanding How Designations on Strata Plans affect Strata Titled Units, the Land Surveyor as an Expert Witness, Public Roads, Highways and Forest Service Roads, Creating Professional Customer Experiences, and Writing with Impact: Being Concise yet Persuasive.

One of the takeaways from the Municipal Approving Officer seminar at this past AGM is the increasing amount and growing complexity of new developments involving air space. This new trend is not limited to one specific area of the province and is becoming more common as time goes on.

Earlier this year the committee decided to create a new Getting it Right BC (GIRBC) Air Space Plans workshop. The new workshop is currently in development, and we are planning to offer it to the membership in early 2022.

Both the GIRBC *Strata Property Act* and Boundary Resolution workshops were held as two half-day online webinars in the second half of 2021. While we intend to return to in-person learning, workshops are currently being held virtually, so please follow the biweekly Association emails for news about GIRBC.

Other webinars that were held over the course of the year included Web Filing, Natural Boundaries, and Changes to the Survey Rules, and we are grateful to Katie Hannah and her colleagues from Surveyor General Operations as well as ABCLS staff members Peter Goodier and Nigel Hemingway for their efforts delivering our CPD program.

Moving into 2022 the committee is hoping to offer webinars covering surveys under the *Mineral Tenure Act*, deformation monitoring and hydrographic surveys. We are always looking for other opportunities to bring meaningful and relevant CPD to members, and if you have any suggestions on topics or potential presenters, then please reach out to the committee by sending us an email at office@abcls.ca.

As always, the committee continues to promote GeoEd as a convenient provider of quality online CPD material made available by other provincial and federal land surveying regulators and academic institutions from across the country. Further information about GeoEd can be found at their website www.geoed.ca.

2021 is rapidly coming to a close, and that means that practising land surveyors are reaching the end of another 3-year CPD cycle. Please ensure that you have completed your 45-hour requirement and reported all your relevant CPD hours by December 31 using the GeoEd CPD Reporting Tool which can be accessed via the ABCLS website.

On behalf of the Continuing Professional Development Committee, I would like to wish you all continued good health, happiness, and prosperity for 2022. ✣

New Land Surveyor

Photo (L-R) Dave Rutherford, Olivia Sabo, and Cade Brown.

Olivia Sabo, BCLS #1039

Olivia Sabo was commissioned on September 20, 2021, by Dave Rutherford in Burnaby. She was born in New Westminster and grew up in Mission. Olivia was commissioned as a Canada Lands Surveyor in 2019.

Pursuing land surveying as a profession appealed to Olivia because she wanted a career with a mix of office and outdoor work, and an opportunity to travel and see remote areas of British Columbia. She enjoys the variety that the profession offers and finds the historical aspects of the profession very interesting.

Olivia would like to thank Cade Brown for his continued professional guidance and her friends and family for their support. When Olivia is not working, she enjoys hiking, skiing, and travelling. ✣

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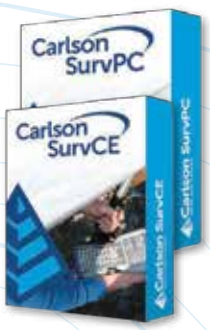

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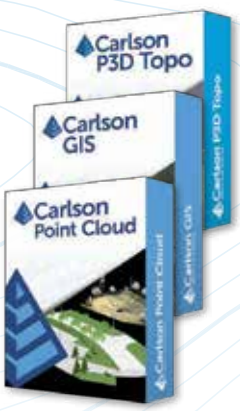

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Carlson BREAK NEW GROUND

2021 BCLS Golf Tournament

The 8th Annual BCLS Golf Tournament was held on September 24 at Tobiano Golf Course in Kamloops. The weather was perfect and the golf course amazed everyone. We had 48 people attend, and the winning team was Underhill Geomatics.

Winning team, Underhill Geomatics, from L to R Barry Day, Ryan Ross, Cam Heath and Derek Hatch).

This year we were able to raise over $5,700 for the BC Land Surveyors Foundation, which brings the total charitable donation to over $40,000 since the tournament started in 2014.

Sponsors included:

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  - Parallel 49 Brewing

I would like to thank everyone for participating and showing support for the event over the past eight years. I am hoping that as restrictions ease, we can open up the event to more people in 2022. Please stay tuned for details! ✣

Honest, Open and Helpful

by Bernie LeBlanc
May 2021 - No. 256

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A challenge for regulators occurs when practitioners do not blatantly refuse to cooperate with an investigation, but still do not provide the requested information or assistance. For example, the practitioner can ask questions to clarify the regulator's request. Or the practitioner can demand disclosure of the basis for the investigation. Or the practitioner can challenge the scope of the request as being overly broad (i.e., a fishing expedition). Or the practitioner can indicate that they will cooperate but explain that they are having difficulties gathering the information and request extensions. Or the practitioner might provide only part of the information requested.

At what point do these responses become a failure to cooperate that is enforceable at discipline? The Ontario Court of Appeal spoke to the issue in *Law Society of Ontario v. Diamond*, 2021 ONCA 255, https://canlii.ca/t/jfhjh. In that case, the regulator sought certain documents that practitioners were required by law to keep. Despite numerous communications, many of the documents were not provided. Seven months after the first request, disciplinary proceedings were commenced alleging non-cooperation. The documents were finally produced about 8 ½ months after the initial request. The hearing proceeded and a finding was made

The practitioner argued that he had not acted in bad faith. His attempts to understand and clarify the requests did not amount to professional misconduct. He ultimately provided the requested information.

In terms of the standard of review, the Court said:

... the reviewing court is to apply a standard of correctness to questions of law, while a standard of palpable and overriding error is to be applied to questions of fact and questions of mixed fact and law where the legal principle is not readily extricable .

The Court held that while the test for assessing a failure to cooperate is a question of law, subject to correctness review, the tribunals and lower court understood the correct test. The issue as to whether the conduct of the practitioner met that test was one of mixed fact and law subject to palpable and overriding error scrutiny.

The Court found that the test for assessing cooperation could be summarized as follows:

(a) all of the circumstances must be taken into account in determining whether a licensee has acted responsibly and in good faith to respond promptly and completely to the Law Society's inquiries; (b) good faith requires the licensee to be honest,

open, and helpful to the Law Society; (c) good faith is more than an absence of bad faith; and (d) a licensee's uninformed ignorance of their record-keeping obligations cannot constitute a "good faith explanation" of the basis for the delay.

The Court held that a practitioner cannot rely upon an honest misunderstanding of their record keeping obligations or their duty to provide an honest, open and helpful response as demonstrating good faith. Practitioners were expected to know these things.

If a licensee could simply say to the regulator, "I cannot produce the record promptly or completely because I did not know about my record-keeping obligations and made no reasonable effort to find them out", and this response could constitute a "good faith explanation", it would undermine the very purpose of the duty to cooperate. Quite simply, ignorance of one's professional obligations cannot subsist as a demonstration of good faith; they do not go hand in hand.

The Court also did not accept that the omission was insufficiently serious to constitute professional misconduct. The Court said the "conduct constitutes a significant departure from the acceptable standards of the profession".

The Court also rejected the suggestion that a "clear refusal" was required to establish a failure to cooperate. The practitioner argued:

...that each request made by the Law Society was responded to promptly. While the Law Society may not have liked all of the responses, they were genuine responses that, at their highest, may show some confusion on the part of both of the Law Society and the appellant, but not a failure to cooperate. The appellant argues that this is best demonstrated through the fact that, once the confusion was cleared, all the requested documents were produced. This is said to underscore how everything the appellant did was in good faith.

The Court deferred to the panel's findings that the practitioner's responses were not made in good faith and constituted a "cat and mouse game".

The reputation of the legal profession rests on the public's confidence that self-regulation is taken seriously by the legal profession. This can only occur where the legal profession has at hand effective and efficient tools by which to achieve accountability among its members. This is fundamental to the health and vibrancy of the legal profession.

Returning to the duty to cooperate, r. 7.1-1 of the *Rules of Professional Conduct* is designed to ensure that there is a complete response and no inordinate delays in investigations by the self-regulated authority. It requires nothing more than prompt and complete responses when requested, which are essential to moving investigations forward. Delays in doing so can only serve to shake the public's confidence in the Law Society's self-regulatory authority . As the Law Society points out in their factum, the "reputation of the ability of the profession to self-regulate would quickly be diminished if the obligation to cooperate could be subverted by a 'cat and mouse game' (as described by the Hearing Panel), that fell short of a clear refusal."

In light of this decision, regulators can take seven simple steps to enhance the enforceability of honest, open and helpful responses by practitioners:

1. Issue specific requests for the cooperation desired in writing.
2. Do not overreach in one's requests. Seek information that is relevant to the scope of the investigation and which does not create unnecessary burdens on practitioners. It is acceptable to make follow up requests for additional information arising from the information that has already been provided. Follow-up requests are preferable to making overreaching requests at the beginning of the investigation.
3. Set clear deadlines.
4. Follow up missed or incomplete responses with a renewed request for specific cooperation.
5. In replying to any questions for clarification, challenges or counter-proposals by the practitioner, be sure to conclude the response by reiterating the pending request for specific cooperation.
6. Similarly, do not make a commitment to consider an issue without responding immediately after the consideration is completed. Otherwise, the regulator might leave the impression that the request for cooperation is "on hold".
7. In all of this, assert, explicitly and accurately, the practitioner's duty to cooperate. ✣

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Infrastructure Asset Management

An emerging practice for geomatics professionals

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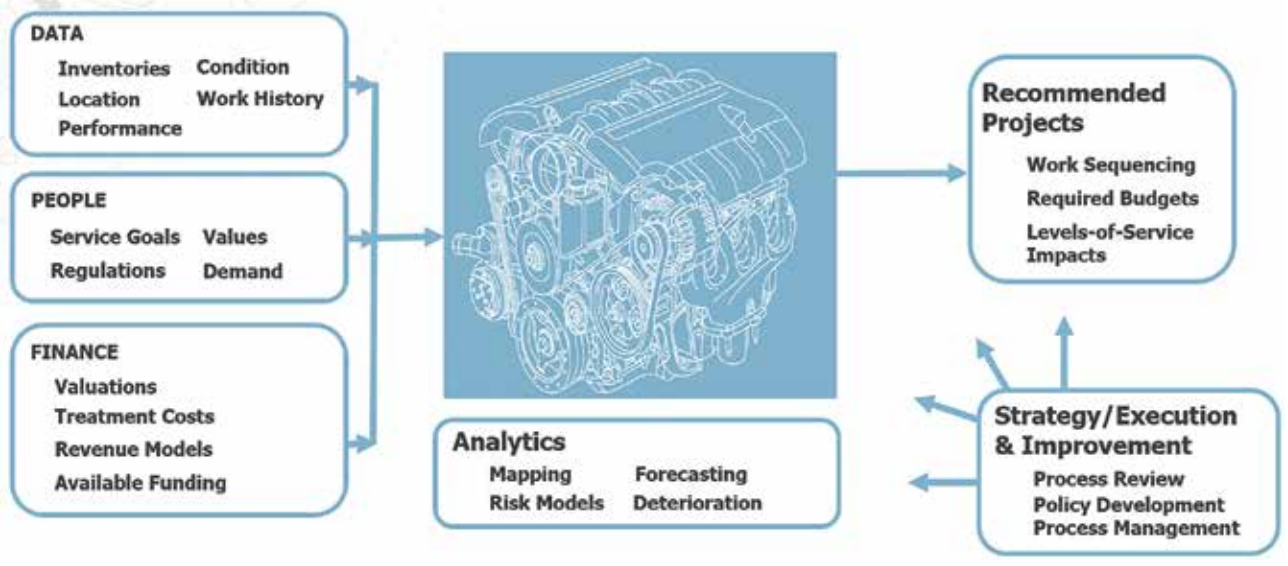
Author's Note – This article has been previously published in the Summer 2021 edition of Ontario Professional Surveyor (Vol 64, No 3)

Topics such as "infrastructure asset management", "smart cities" and "digital twins" have been receiving wide exposure, as we have all become aware that our networks of roads, bridges and utilities are reaching their end-of-life, and that large re-investments in these networks are going to be required to maintain our current standards of living. New technologies to analyze large amounts of usage, condition, performance and cost data can optimize investment allocation so that most critical assets are appropriately prioritized, and unexpected failures minimized. As much of this underlying data has a geospatial component, it seems that geomatics professionals have a promising role to play in gathering up all this data.

However, although the definition of "geomatics" focuses on the collection and processing of geographic data, the *practice* of geomatics and surveying has always been a fundamentally multi-disciplinary pursuit. Surveyors have always played multiple roles in delivering projects for clients, whether it is providing advice on regulations pertaining to development and planning, liaising on the client's behalf with stakeholders such as property owners and government agencies, or even supervising construction. At the same time, surveyors have been deeply involved in the design and maintenance of cadastral registration systems around the world (and one can consider 'land' as essentially the 'original asset'). For these reasons, the role of geomatics professionals in the Infrastructure Asset Management practice should not be limited to collectors of information.

FIGURE 1
ASSET MANAGEMENT AS A RECOMMENDATION ENGINE



What is Asset Management?

The "practice of asset management" is about optimizing the total life cycle costs of operating infrastructure assets so that they can provide appropriate levels of service in a sustainable way.

In an asset management system, the first step is to know:

- what assets exist
- physical properties of the asset such as location, age, material, connectivity
- the expected remaining service life of the assets
- the current condition of the assets.

Beyond this basic inventory information, we also need to understand what services the asset needs to support and what demands will be placed on it. This information includes:

- Service levels describing what the asset is supposed to support (i.e. ride comfort, water quality, distance to farthest residence).
- Demand trends indicating how the asset will be relied upon in the future (which includes both usage trends and external effects such as climate change).
- Condition degradation curves indicating how remaining expected life is correlated to condition.
- Severity outcomes associated with failure of the asset, and associated risk probabilities tied to asset condition levels.

Essentially, one can envision asset management as a 'recommendation engine' as shown in Figure 1, which brings in a number of inputs in the categories of data, people and finance, and applies analytics to the data to output optimized project recommendations. Ancillary to the primary work being done by the 'engine' and its components is overall strategy, policy and management work required to establish the process and make sure everything is running properly.

As you can imagine, there are many areas in this engine that benefit from the experience of a geomatics professional!

Why does Asset Management matter (right now)?

Fundamentally, asset management practices let organizations stretch dollars further by ensuring they are spent in an optimal way. While avoiding waste is a good thing, there are additional benefits that a quantitative approach to investment decision making can bring to the table, namely:

- Demonstrating that investment decisions are being done in a data-centric fashion as opposed to being ad-hoc improves confidence that resources are being stewarded appropriately.
- Documented levels-of-service expectations and budget forecasts improve communication and transparency with taxpayers, customers and investors.
- Increased engagement with stakeholders ensures that service outcomes better meet overall community and end-user needs.
- Evaluating risk with regard to service delivery minimizes unexpected infrastructure failures and the impacts of severe unusual events.
- Thinking about asset investment on a long-term basis avoids implementation of short-term, "band-aid" solutions, which improves overall outcomes for future generations.

A focus on improved asset management practices is particularly relevant now, as the majority of Canadian civil infrastructure was built in the post-war era and is now nearing the end of its life [1]. For example, the 2019 Canadian Infrastructure Report Card indicated that over 12% of Canadian civil infrastructure is in poor or very poor condition [2]. Alternatively, if estimates place the total value of Canadian civil infrastructure at $1.1 trillion [3], the implication is that over $132 billion will need to be spent to replace this poor-quality infrastructure.

Underinvestment in infrastructure is not a purely Canadian phenomenon. A World Economic Forum report estimated in 2014 that global infrastructure investment amounted to $2.7 trillion (USD) annually. However, based on asset degradation rates, $3.7 trillion (USD) annually would be required to maintain current service levels [4].

This degraded infrastructure has a direct impact on end-users financially. For example, a recent Canadian Automobile Association study found that poor roads cost Canadian drivers over $3 billion annually in higher vehicle costs [5].

In addition to municipal infrastructure, utilities such as gas system and powerline operators are focusing heavily on improved asset management practices, as proper

accounting and management of assets significantly reduces the risks associated with operating those assets. For example, liabilities associated with wildfire risk due to vegetation proximity to powerlines have led many transmission line owners to increase the amounts they are spending on mapping lines and modelling the encroachment of vegetation into right-of-ways.

FIGURE 2 ASPECTS OF ASSET MANAGEMENT

To improve the condition of Canadian infrastructure, the federal government has announced programs such as the "Investing in Canada Plan", which committed $180 billion of funding over 12 years [6]. However, governments have also recognized that these investments must be partnered with improved accountability for funds spent – for example, the Federal Government has also created an 8-year, $110 million program via the Federation of Canadian Municipalities to support asset management programs such as condition assessment, system implementation and building competency at the municipal level. Additionally, it is increasingly becoming a requirement for municipalities wishing to access Federal Gas Tax funding to have a documented Asset Management Plan in place.

Geomatics in Asset Management

As suggested previously, there are many roles that geomatics professionals can play in the asset management field. Generally, the roles most applicable to those with geomatics experience include:

1. Data collection
2. Data analysis, visualization, and processing
3. Strategy and management.

Data Collection

Data collection forms the 'base' of the asset management pyramid and is a natural fit for geomatics practitioners. Regardless of the specific asset class being assessed (i.e. roads, bridges, water infrastructure, etc.), basic information about the asset needs to be properly measured and recorded.

Crucially, the *level of certainty* of the measurement information is important, since, as the old adage goes, 'garbage in, garbage out'. This is an area where geomatics experience shines, as surveyors are uniquely suited to think about things like accuracy, precision, noise profiles and significance of a particular measurement (be it a location, quantity or magnitude). Unfortunately, in many asset management programs, data is assumed to be 'perfect' which causes serious problems when outliers in data cause unexpected results and no one thinks to check the underlying measurement methodologies. Surveyors live in a world of error bars and significant figures, so this perspective would significantly help the practice.

Table 1 highlights typical measurement and data collection requirements as an example of the types of information collected in an asset management program. As can be seen, many of these are well within the scope of what surveyors currently do on other projects.

It is also important to point out that beyond the 'measurement data' of asset inventories, condition and location, a significant part of asset management is gathering 'people data' in terms of stakeholder engagement, defining community priorities, and unearthing historical local knowledge about what assets exist and what maintenance work has been completed. Given that many assets are over 50 years old, and often poor records were kept, it is surprising how much information is gleaned simply by

talking to community residents. Skills developed by parsing through old deeds or caveats, or asking landowners about how a fence came to be where it is are undoubtedly transferable in these cases.

Data Analysis, Visualization and Processing

Beyond data collection, surveyors have the potential to provide value-added services within the asset management process through supporting data analysis and processing. In particular, the power of geospatial analysis when prioritizing renewal projects has been widely recognized, with Geographical Information Systems becoming a central part of most Asset Management systems. As shown below in an example available online from Assetic (a provider of asset management software), GIS visualization allows people to rapidly interpret trends in condition assessment data [7].

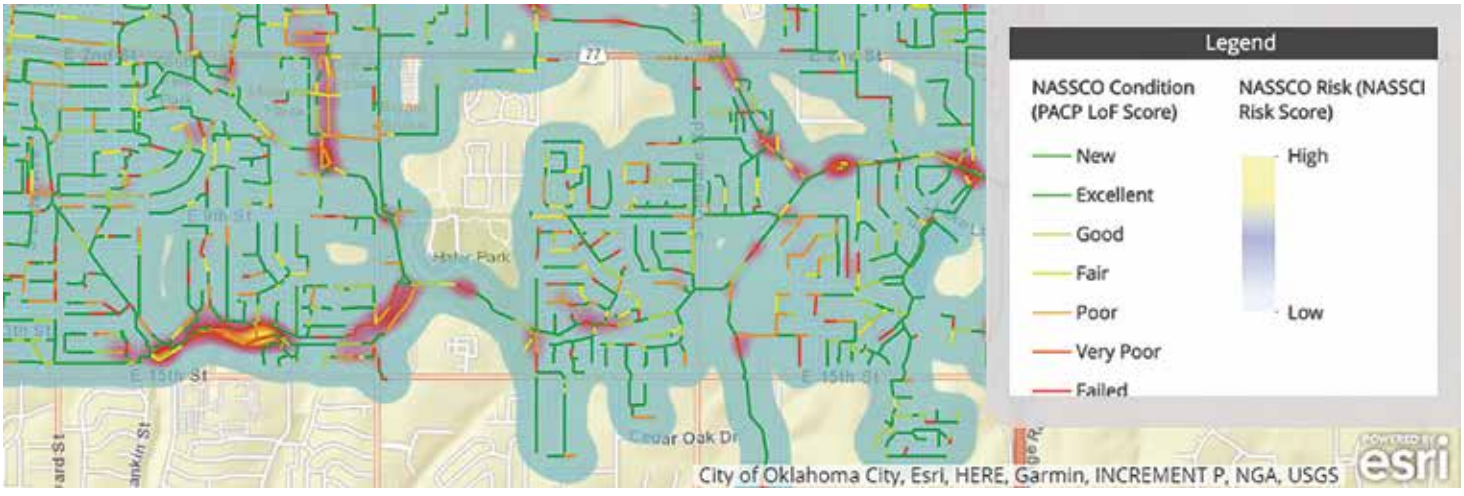
A considerable amount of work is required to turn 'dumb' raw inventory and condition data into useful information. For example, although a laser scan of a streetscape may take minutes to complete, the resulting data is simply a mass of 3D points. Creation of a 'digital twin' of the area requires considerable work with 3D modelling and CAD software to then create attributed drawing sets that identify a grouping of points as corresponding to a 'stop sign', with a height of '1.8 m', of 'fair' condition, etc.

The volume of digital data created from asset management processes (and

TABLE 1
ASSET TYPES, MEASUREMENTS AND SENSORS USED IN CONDITION ASSESSMENT

Asset Type	Level Of Service	Measurement Type	Sensors Used
Roads	Ride Roughness	Density / severity of pavement cracking	Mobile Laser Scanners, Visual Inspections with GPS-enabled data collectors
Roads	Traffic Capacity	# vehicles / hour	Traffic counts with tablet-based collector applications, video systems
Sewer networks	Pipe condition	# blockages / 100 m	In-pipe video cameras, underground utility location
Stormwater	Catchment volumes	Flood modelling based on digital elevation models	Aerial Lidar, topographic surveys
Parks and Recreation	Accessibility	# facilities with accessibility restrictions and locations	On-site surveys and assessments
Powerlines	Vegetation Clearance	Obstructions within 'x' m of line	UAVs, aerial and ground-based laser scanners
Utility Networks	Failure Risk Minimization	Location, depth of cover, network connectivity	Line locators, Ground-penetrating radar

FIGURE 3 EXAMPLE OF WEBMAP DISPLAYING PIPE CONDITION INFORMATION (FROM ASSETIC INC.)



the need for consistent, standardized information for analysis) means that many municipalities are increasing the requirements for digital as-builts of infrastructure post-construction. This is creating a volume of work associated with maintaining growing digital drawing databases, enforcing georeferencing requirements and general QA/QC. Surveyors are well placed to be at the forefront of this digital data curation.

Finally, surveyors should not overlook the idea of being involved in the financial planning and cost estimation portion of asset management. Without discounting the nuances and technical skill involved in robust quantity surveying, cost estimation for asset management purposes is often at the Class D level (+-30%) and based on standardized unit cost tables. As a part of their normal course of practice, many surveyors develop a 'feel' for typical construction costs and practices, which provides a good basis for diving further into broader infrastructure cost estimation.

Strategy and management

As more and more organizations look to implement asset management practices, there is a growing requirement for professionals to assist with the establishment of asset management processes. This includes developing policies on how asset management will be implemented in practices, as well as providing expert advice on methods for collecting data, implementing software solutions and so on. For example, recognizing the need for competency building in Asset Management to support its sustainability goals, the United Nations recently released a handbook on Infrastructure Asset Management for local and national governments [8]. Similarly, there is considerable new work being done in 'best-practice' establishment through organizations such as the International Standards Organization, which only released its first version of asset management process standards (ISO 55000) in 2014 [9].

To the authors, much of this policy-related and capacity-building work has a similar feel to the work done by those working on the establishment of cadastral systems in international locales, or work in the 90s and 2000s on development of digital cadastres across the country. Interestingly, one can consider rights-in-land to be a fundamental asset societies enjoy, and so it would seem natural that surveyors, who have much experience in developing fair, impartial and long-lasting systems for ensuring land assets are properly recognized, would now assist in the development of analogous frameworks for infrastructure management.

Next Steps!

Although awareness of asset management as a distinct practice is only recently growing in the public perception, Canada is fortunate to have a well-developed network of asset management knowledge sharing networks. At a provincial level, almost every province has an industry group that provides an arena for sharing of best practices, showcasing of projects and discussing developments in the industry. For example, in Ontario, AMONTario (www.amontario.ca) has an active user group and even provides an excellent set of fundamental training materials for download. Nationally, organizations such as the Canadian Network of Asset Managers (www.cnam.ca) draw together a broader group of asset-management practitioners from across the country.

From an accreditation and education standpoint, there currently is no regulated "asset management profession" in the same vein as land surveying or engineering. However, various training organizations have trademarked certain designations and restricted their use to people completing their training. For example, the "CAMP (Certified Asset Management Professional)" is managed by the PEMAC Asset Management Association of Canada, while the Institute of Public Works Engineering Australasia provides a "Professional Certificate in Asset Management Planning." Currently, there is relatively little training in asset management theory at the University or Polytechnical levels outside of traditional plant and maintenance disciplines, although the Department of Geomatics Engineering at the University of Calgary is providing a "Fundamentals of Asset Management and Sustainability" course geared at 4th year students, graduates and interested professionals. Those interested in the University of Calgary course are welcome to email the author at rradovanovic@mcelhanney.com for details.

The establishment of asset management practices does not require deep knowledge of specific civil or mechanical engineering arcana – rather, it requires a holistic understanding of how gathering appropriate information in a consistent and reliable manner as well as using it to produce unbiased analysis of how infrastructure projects should be executed to deliver good outcomes

for communities. With a strong background in measurement science and geospatial analysis, the geomatics community is well placed to play a big role in the emerging infrastructure asset management market, and land surveyors in particular are in a unique situation to step up (again) to help with creating systems for the orderly development of their communities.

About the Author

With over 20 years of experience in land surveying, advanced positioning technologies, and 3D scanning Dr. Radovanovic is actively involved in educational initiatives in the land surveying and infrastructure asset management professions. He is the Calgary Engineering Branch Manager with McElhanney Ltd., as well as an Adjunct Associate Professor in the Department of Geomatics Engineering at the University of Calgary. He can be reached via email at rradovanovic@mcelhanney.com

References

- "The Infrastructure Funding Deficit: Time to Act." Residential and Civil Construction Alliance of Ontario, 2006.
- "Monitoring the State of Canada's Core Public Infrastructure : Canadian Infrastructure Report Card 2019." Canadian Infrastructure Report Card, 2019.
- "Informing the Future : Canadian Infrastructure Report Card 2016." Canadian Infrastructure Report Card, 2016.
- "Strategic Infrastructure : Steps to Operate and Maintain Infrastructure Efficiently and Effectively." World Economic Forum, 2014.
- "Cost of Poor Roads in Canada." Canadian Automobile Association, 2021.
- "Investing in Canada Plan – Building a Better Canada." Government of Canada website. https://www.infrastructure.gc.ca/plan/about-invest-apropos-eng.html. Last Accessed, May 31, 2021
- "Asset Management Plan", Assetic Inc. webmap. https://www.arcgis.com/apps/MapSeries/index.?appid=c3403230da474bf9bc389567700a4235. Last Accessed, May 31, 2021
- Navid Hanif, Caroline Lombardo, Daniel Platz, Claire Chan, Jaffer Machano, Dmitry Pozhidaev and Suresh Balakrishnan, eds., Managing Infrastructure Assets for Sustainable Development: A Handbook for Local and National Governments (New York, United Nations, 2021)
- International Organization for Standardization, ISO 55000:2014 — Asset Management (Geneva, ISO, 2014)

Robert William Allen

BCLS #487

ABCLS Life Member Robert Allen, a prolific contributor to the Link Magazine, passed away on May 19, 2021. This issue includes the second of two chapters recounting important events and contributions in Robert's life.

Chapter 2 – Major volunteer projects and family life

Robert's interest in the history of surveying in British Columbia led to involvement in two special projects. In 2011, Robert participated in the bicentennial of David Thompson's expedition from Invermere to the Pacific Ocean. The purpose of the David Thompson Columbia Brigade was to honour the person many people consider to be the greatest land surveyor in North America.

An article in *American Surveyor* magazine written by Denny and Delores DeMeyer in 2011 described the event.

On June, 3, 2011, ten 25-foot [7.5m] voyageur canoes left Invermere, British Columbia on a six week, eleven hundred mile [1760km] trip to Astoria, Oregon via the Kootenai, Clark Fork, Pend Oreille, and Columbia Rivers. We arrived in Astoria, Oregon on July 15, 2011, 200 years to the day after David Thompson's arrival in 1811.

Two of the ten canoes were entered by a group of us called the North American Land Surveyors. Our two canoes were named the "Koo Koo Sint" (Coast Salish for "stargazer" or "one who looks at the stars" for David Thompson) and "Paddle Song" named for David's wife of 56 years, Charlotte Small (from a book called *Woman of the Paddle Song*).

The North American Land Surveyors were sponsored by the provincial and state surveying societies of BC, Alberta, Montana, Idaho and Oregon, along with other organizations.

The magazine article stated: "Early support for the canoe was vital and came from British Columbia and Canada Lands Surveyor Robert Allen, a long-time friend from Sechelt, BC who became assistant chairperson and assistant team captain for our two canoes." He used his organizational skills to help arrange accommodations for every night, worked on the logistics for the portages, and other details.

The canoe trip, which lasted for 36 days, was divided into six sections and about 50 paddlers participated, along with support staff. There was great camaraderie between the brigade members and the local residents along the route. The event was very successful and many lasting friendships were established.

Another important surveying project was the restoration of the McVittie house at Fort Steele Heritage Town near Cranbrook. T.T. McVittie was a well-known land surveyor in the East

Robert (far left) with David Thompson Canoe Brigade

(L to R) – Bill Chapman, Bronwyn Denton, Mike Thomson, Robert Allen, John Armstrong

Kootenay district who had a home and office at Fort Steele from 1879 to 1918. Plans to restore McVittie's residence started in the mid-1990s. The major portion of the work occurred between 1998 and 2002. Cranbrook surveyor John Armstrong, Jon Magwood and his wife, and other volunteers from BC, Alberta and the U.S. brought their talents to the project.

However, work stopped in 2002 and the restoration of the McVittie house remained uncompleted. During the David Thompson Columbia Brigade, the participants in the East Kootenay section visited the McVittie house, and this provided the impetus to complete the work, which was done from 2012 to 2015. Robert played a major role in this part of the project, assisted by John Armstrong, Bill Chapman and others. The McVittie house was officially opened in July 2015 by Bill Bennett, MLA for the Fort Steele area and Minister of Mines, along with Bronwyn Denton, President of ABCLS, and BC Surveyor General Mike Thomson.

There are very few heritage towns that have a surveyor's residence and office that tell the story of surveying in their region. John Armstrong writes: "This was not just a historical project – it was a project to tell the proud story of land surveying in the context of the history of BC. The skillful workmanship and leadership of Robert Allen, BCLS, ensured the success of the McVittie house project at Fort Steele."

Through his surveying, Robert had extensive and detailed knowledge about the geography and topography of the Sunshine Coast and was experienced in outdoors survival. He was a founding member of the Sunshine Coast Search and Rescue Association and served for over 46 years. Some members of the organization recounted rescue missions in which they and Robert participated. Kelly Hatfull, a SCSAR member for many years, wrote: "It was a true pleasure to work with you and others for a noble purpose." The organization had a drive-by tribute parade for Robert at his home in January 2021. It also established an endowment. "The Sunshine Coast Search and Rescue Association lost a long-time volunteer earlier this year, Robert Allen. In his memory, the Association is establishing an endowment at the Sunshine Coast Foundation. Grants from the Robert Allen Memorial Endowment will support land search and rescue activities on the Sunshine Coast." The Sunshine Coast SAR contributed $5,000 to set it up.

Robert was elected President of the ABCLS in 1989 and the national ACLS in 1991, along with the rare honour of being elected a life member in both organizations. This year the BC Land Surveyors Foundation established a new bursary named the "Robert W. Allen Spirit of Generosity Bursary" that will be awarded annually to a third year BCIT Bachelor of Science Geomatics program student who demonstrates financial need.

Robert, like many surveyors, worked hard to establish his own surveying practice. But he also made sure that he had time for his family. His son, Chris, writes: "As a new business

owner, Robert spent a lot of extra time, after hours and on weekends, checking into the office, often bringing his boys with him. At first thought, a surveying office wouldn't be the most exciting place to visit as a kid, but Robert Allen and Company wasn't your typical place of employment. Robert's keen interest in the discipline of Natural History was on full display in his survey office. Animal skulls and pelts, ancient carved reference posts and other relics from the bush kept his sons well occupied." Chris comments: "Once the weekend came, it was time for fishing, hunting and camping. Robert truly enjoyed sharing his knowledge of the land with his boys and later on, with his grandchildren."

Chris writes that Robert's passion for the natural world helped to shape his career and that of his brother Andrew. As an elementary school teacher Chris implements nature-based learning as one of his main focus points and engages his students in a variety of outdoor activities that help students foster their own love of the natural world. Andrew uses lessons learned from his father around flora and fauna, geographical features and navigation in his work as a community planner. "Both boys reflect upon what their father taught them on a regular basis while outside in nature, and enjoy sharing that knowledge with others."

Robert's relationship with the natural world is part of a connection that goes back to his ancestors, and forward through his children and grandchildren. It is also reflected in his vocational choice of becoming a surveyor. Like most other surveyors, the natural world was an important part of Robert's life, and surveying provided an opportunity to spend much of his working time outdoors.

Through his work and volunteer activities Robert developed many long lasting friendships. His surveying successors at Sechelt describe Robert's impact on the surveying profession and his community involvement. John Theed writes:

I got to know Bob well during my time working with him. He was an excellent mentor and what I learned from him allowed a seamless transfer of the business from him to me. He loved being a surveyor and was proud of the contribution of surveyors to BC history, as shown by his long tenure as chair of the Historical and Biographical committee. Like Bill [Chapman], he had a survey display in the office with early instruments and calculators, old posts, and photos. His contributions to the ABCLS are well known. What might be less known is his service to the community. As long as I knew Bob he was volunteering for things that he believed in.

Seamus Pope, successor to Robert Allen and John Theed's surveying firms at Sechelt, describes Robert's influence on his career.

I had the pleasure of knowing Bob for my entire life and over those years calling him my best friend's dad, my boss, mentor, and friend. He took us skiing when we were kids, employed us when we were teenagers and ultimately taught me how to be an upstanding business owner and British Columbia Land Surveyor. He was always there for me when I had a question about a survey plan or a project I was working on and had this way of simplifying the problem and highlighting the important parts that were sometimes a bit tricky to see. Cheers to Bob, his energy and dedication to whatever he was a part of are an inspiration to us all. ✣

Robert Allen surveying in northeastern BC while articling with Ken Longstaff, BCLS #410, from Fort St. John

To meet the expectations of British Columbians, the Association of BC Land Surveyors:

- defines criteria for registration as a BC land surveyor,
- provides guidance to members through a Code of Ethics, Survey & Plan Rules, the Professional Reference Manual, and a practice advisory program,
- requires BC land surveyors to participate in a mandatory continuing professional development program,
- selects active BC land surveyors to participate in plan and practice reviews,
- maintains a public register with information about individuals registered with the ABCLS, and
- investigates complaints about members through a process that is transparent, objective, and fair.

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