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Office hours are:

9:00 a.m. to 12:00 p.m.
1:00 p.m. to 4:00 p.m.
on all regular business days.

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Cover Story

Hmmm... Is it Charlie and Charlie's Angels?? Maybe; but otherwise known as Heather Maloney, SLS, P.Surv; Jill Burridge, SLS, P.Surv; Lana Bily, ALS, SLS and Carl Shiels, Honorary Member. At the time of this photo, these three females were the only three female land surveyors registered in Saskatchewan. Obviously, someone had some imagination and creativity to get such a memorable photo!

The photo was taken by Pat Maloney, SLS, P.Surv on June 8, 2012 at the SLSAAGM.

President's Message



Bill W.C. Soroski
SLS, P. Surv.
President

Upcoming Events

April 18-20	ALSA AGM
May 23-25	ANLS AGM
May 29-31	SLSA AGM
June 18-21	ACLS AGM



I am writing this message with mixed emotions. I have been neglectful in not sitting down and putting my thoughts on paper. This neglect has delayed the newsletter, I apologize for that.

In September of this year, we meet with the Ministry of Agriculture, Ministry of Environment, Ministry of Energy & Resources and Sask. Watershed; with respect to the Water Boundaries and Riparian Rights. Our 2012 AGM had identified this topic as a major concern of our membership. We had received a letter from the Deputy Minister of Agriculture. This letter had raised our expectations that we were going to be able to move forward with our membership interpretation of where we should be, with respect to Water Boundaries and Riparian Rights. Our meeting was not as productive as we had hoped. The agencies indicated that they may be willing to work with us on their regulations to help streamline the process, but were unwilling to discuss the fundamental changes we were expecting. Vice President, Mike Waschuk and I were disappointed at this outcome. We are now looking to deal with this through the Government Relations Committee. We have recognized that there will be a lot of work to be done, to realize our Association's expectations.

Another issue of the membership, was the Builders Lien Act. Council consulted with a Regina Lawyer and he provided valuable information. Through the course of our review of this matter, we were enlightened on several matters concerning the Builders Lien Act:

- We noted that Surveyor's could place a lien on a property, but the general interpretation of the Builders Lien Act, was that if push came to shove, it would not be enforceable.
- Our current legal advice, with respect to mineral rights, was that Well site Plans and other related works could be lien able.
- Also, during a past amendment to the Builders Lien Act, Engineers and Architects were added to the Act and specifically named as persons eligible to place liens on property.

Our public Member of Council, Terry Alm, was instrumental in securing a meeting with Catherine Benning, Senior Crown Council, Ministry of Justice and Attorney General. The meeting was very productive. Catherine requested information on the "Overlapping Services Between Saskatchewan Land Surveyors, Engineers & Architects." Member of Council, Travis Wolfe's contribution was considerable and I thank him for his efforts in preparing the requested information.

As you are aware, the SLSA Council initiated a dialogue with the Provincial Government in regards to the Privatization of Information Services Corporation. Our initial contact was by a letter to the Premier's Office. We were first made aware of the proposed Privatization by a leaked report in the newspaper. In the report there was mention of impending legislation to Privatize I.S.C... As a Council, we felt an immediate and formal objection to the Privatization of I.S.C. was in order. Our initial concern was that Teranet was moving into Saskatchewan. Teranet is the provider for Ontario's Electronic Land Registration System. Our discussion over the years, with Ontario Land Surveyors had left the impression that if they were able, they would have preferred alternative models to what Teranet is providing.

The Premiers Office contacted the S.L.S.A. and requested that the S.L.S.A. meet with the Honourable Don McMorris, Minister Responsible for Information Services Corporation and the Honourable Gordon S. Wyant, Minister of Justice and Attorney General. Just prior to that meeting, Professional Surveyors Canada called me, asking if a Letter of Support would be in order. I immediately accepted this offer. I had a lengthy discussion with Vice Chair of P.S.C., Guy Craig. Professional Surveyors Canada provided a concise, professional letter, to the Premiers office in support of the Saskatchewan Land Surveyors Association position on the possible sale/privatization of I.S.C.

The meeting with the Minister's was amicable. The SLSA agreed to provide our specific concerns, with respect to the Sale/Privatization of Information Services Corporation. We have provided our concerns and are currently waiting for a reply from the Government.

I have been travelling to the Annual General Meetings of our sister Associations. I will report on these at a later date.

However, I would like to comment on the future of Professional Surveyors Canada. This has been a major topic of concern for Surveyors in the Survey Associations across Canada. I must confess that, for awhile I was on the fence. I was somewhat reluctant to join Professional Surveyors Canada. I have joined and I encourage all Saskatchewan Land Surveyors to join. The message is quite simple. In order to provide the mandate as stated

by Professional Surveyors Canada, they need sufficient funding. I am convinced that we need to, not only continue our monetary support of Professional Surveyors Canada, but find ways to increase that support. I have asked Council to consider ways for the Saskatchewan Land Surveyors Association to reach that goal.

In closing, I would ask that all Saskatchewan Land Surveyors consider ways in which we can further support Professional Surveyors Canada. I truly believe that it is in the best interest of our own Association for Profession Surveyors Canada to succeed and flourish. ♡

SLSA CORNER POST NEWS

As of the end of 2012, Doug Bouck has stepped down from the role of SLSA Corner Post Editor. I would like to personally thank Doug for his commitment to SLSA and for the expertise that he provided.

The new SLSA Newsletter Editor is Gene Seis who will begin his role in April, 2013 for the Summer Edition of the SLSA Corner Post.

Because of circumstances beyond our control this is the first SLSA Corner Post in a year. For that we apologize.

The next version of the SLSA Corner Post will be an online version which will be available on the SLSA website. Details will be provided prior to the next SLSA Corner Post release date.

Council Highlights



Carla Stadnick
Executive Director

2012 Council Meetings

RPRs for Parks

- An SLSA member is attempting to arrange a meeting with the various government agencies to determine what the requirements are as the existing RPR doesn't seem to be what is required.

New Commissions - Trevor Luddington, Heather Maloney, and Darren Patkau

- Trevor Luddington, Heather Maloney, and Darren Patkau recently completed all the requirements and were issued commission #320, 321, and 322 respectively.

New Student Land Surveyor (& SLSIT) Agreements

- A Student Land Surveyor agreement between Jared Adams and Travis Wolfe, SLS was approved.
- A Student Land Surveyor agreement between Ian Jensen and Barry Clark, SLS was approved.
- A Student Land Surveyor agreement between Adam Kraszlany and Pat Maloney, SLS was approved.
- A Student Land Surveyor agreement between Trent Wahl and Ryan Maloney, SLS was approved.
- A Saskatchewan Land Surveyor in Training agreement between Richard Adam Kraszlany and Pat Maloney, SLS was approved.
- A Saskatchewan Land Surveyor in Training agreement between Jared Adams and Travis Wolfe, SLS was approved.
- A Saskatchewan Land Surveyor agreement between Kent Headrick and Jade McLeod, SLS was approved.

Appointment of new Executive Assistant

- Carla Stadnick's appointment as Executive Assistant is underway with the timeline to becoming Executive Director by the end of 2012.

SLSA Charitable Fund

- The SLSA Charitable Fund has been implemented and a link to the fund can be found on the SLSA website at www.slsa.sk.ca. The association was able to start the fund with a \$20,000 deposit (funded by the sales of posts).
- Tom Webb and Blake Wahl have been appointed to the SLSA Charitable Fund Selection Committee.

Public Relations Committee

- The PR Committee's focus will be on attending career fairs with the aim of increasing knowledge of surveying as a profession and increasing enrollment at the Geomatics program in Moose Jaw. Ideas are being developed on how to improve the recognition of land surveying as a career to students. If you have any ideas or suggestions, please contact Jill Burrige.
- Upcoming Career Fairs: Assiniboia, Swift Current, Maple Creek, Lloydminster, Yorkton, and Estevan
- The PR Committee is working with Look Matters to develop a new Recruitment brochure and they are also looking at updating the RPR brochure as it has recently been requested by realtors in Saskatchewan.

Annual General Meeting

- The Annual General Meeting has come and gone. It was noted how our SLSA meeting ran so efficiently. As we wrap up the old year and begin the new year, here are some highlights:
 - New President: W.C. (Bill) Soroski
 - New Vice President: M.L.J. (Mike) Waschuk
 - 2 new Council Members: T.G. (Travis) Wolfe, and R.G. (Robert) King
 - Life Membership was awarded to Ed Desnoyers
 - Honourary Membership was awarded to Carl Shiels.
 - Purchase of Standard Iron Posts will now be processed through the SLSA office. The proceeds will go towards Public Relations and Education Committees for Promoting Surveying.

July 2012 Meeting #2

- New Commission: Nathan Dennison completed and passed the Labour Mobility exam and was issued commission #323.

August 2012 Meeting #3

- Carla Stadnick's appointment as Executive Director was approved.
- Discussion was held regarding the Education budget. It was noted that the Education Budget increase was approved in 2011 and should carry forward each year.

September 2012 Meeting #4

- Riparian Rights - The Executive Committee had a meeting with multiple ministries to discuss surveying concerns with current methods.
- Builders Lien Act - communicating with Minister of Justice to get surveyors included in the Act

- Oil Wells Unsurveyed - working towards gathering ideas and submitting possible regulation changes to assist in consistency when surveying oil wells.
- Education Seminars will be held in Saskatoon at the Sheraton Cavalier on November 26th and 27th.
- The Lieutenant Governor approved the re-appointment of Terry Alm as Public Member of SLSA for another 3 year term.
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Richard Adam Kraszlany and P. M. Maloney, SLS was approved.
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Timothy Dallas Jordan Lazar and B.E. Burrridge, SLS was approved.
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Jared Adams and T. G. Wolfe, SLS was approved.
- New Student Agreement: A Student land surveyor agreement between Kent Headrick and J. H. McLeod, SLS was approved.

November 2012 Meeting #5

- Builders Lien Act-Members met with Catherine Benning, from the Justice Department and are working on a proposal to include Surveyors in Builders Lien Act.
- Enterprise Grants: SLSA is required to submit a form annually to request funding for projects that focus on promoting Surveying in Saskatchewan. Last year, the money was used for developing the brochure for Career Fairs. The submission deadline is February, 2013.
- Online Corner Post Advertising: Charges for advertising will be \$1000/4 issues or \$300/1 issue
- ISC Privatization: Council is in the process of collecting Member feedback which will be sent to Don McMorris in the form of a letter
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Amber Kobelsky and C. J. Tripp, SLS was approved.
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Joel Klashinsky and T. R. Webb, SLS was approved.

December 2012 Meeting #6

- Builders Lien Act: Letter will be sent to Catherine Benning by Dec 15, 2012 and to include Land Surveyor Education requirements, overlapping duties of Surveyors and Engineers, contacts, etc.
- Continuing Education Requirements: PDCs and Form were approved. This should have been done last year but was missed during the Executive Director personnel transition.
- The Practical Experience reports from Brad Luey were approved making him eligible to write the professional exams in April, 2013.
- New SLSIT Agreement: A Saskatchewan land surveyor in training agreement between Jesse W. Mauch and D. V. Franko, SLS was approved.
- Doug Bouck announced his retirement as the Newsletter Editor. Council thanks Doug Bouck for his years of service

as the SLSA CornerPost Newsletter Editor and will now be looking for a Newsletter Editor.

2013 Council Meetings

January 2013 Meeting #7

- Review and approval of the letter that the Practice Committee drafted to ISC regarding the GEO CAD changes that will be implemented later in 2013.
- The Practical Experience report from Corban Christie was approved making him eligible to write the professional exams in April, 2013.
- New SLSIT Agreement: A Saskatchewan Land Surveyor in Training agreement between Ian Jensen and B.G. Clark, SLS was approved.

February 2013 Meeting #8

- The auditor's financial report was received and accepted.
- Practice Committee brought forward a concern for Council to review of whether the E & O Coverage is sufficient with regards to the proposed ISC CAD File Changes. Council will ask Dave Gurnsey to review as he is on the Professional Liability Insurance Committee with PSC.
- The Practice Committee submitted the 2013 Schedule of Fees with increases of 3-4% (rounded up to the nearest \$5). Council reviewed and approved the changes.

March 2013 Meeting #9

- Discussion was held on PSC Funding Model as they may require additional funding or assistance in getting members to join PSC. What can SLSA do to assist? Encourage members to join, enforce the registration of PSC through SLSA fees? Motion will be drafted for AGM for members to vote on.
- The 2013 SLSA budget was reviewed and approved with a net surplus of \$1,355. There is no expectation that fees will need to be changed for the fiscal year 2013.
- Discussion on ALSA letter and their desire to withdraw from PALC. SLSA Council may send a letter to PALC but there will be more discussion on this topic after the Alberta AGM. Hopefully, ALSA will shed some more light on this decision.
- The new Newsletter Editor will be Gene Seis. Mike Waschuk was able to make a few calls and set this up.
- The venue for the 2013 SLSA AGM will be the Radisson Hotel in Saskatoon, SK from May 29th-31st. ☺

Executive Director

by Carla Stadnick



Well, it's hard to believe that it has almost been a year since I joined the Saskatchewan Land Surveyors Association. The year has gone by so fast. When I joined SLSA, I was informed that I would be working by myself in the office. At first I revelled in the idea of working by myself and although the conversation is sometimes stale, I am still enjoying the office rapport. And even though, there is nobody else in the office, the office interaction seems to stay busy with calls, emails, and the odd person stopping in.

The other piece of information that was passed along was that the tasks were very cyclical. SLSA office tasks are typically done weekly, monthly, quarterly, annually, bi-annually, etc. I was finding this difficult to believe at first as there always seemed to be something new coming up but I have since found that I can attest to this. And hopefully, I have done most of the tasks at least once and things will continue smoothly. Even though Carl has been gone from the office since August, 2012 I still keep in touch with him as he is a wealth of knowledge (being part of SLSA for +17 years).

I have had the opportunity to assist numerous SLSA committees with their responsibilities. Some of the items that stand out are:

- Working with the Public Relations Committee in registering and Attending Career Fairs
- Working with the Education Committee in updating the Rules and Syllabus and setting up exams
- Working with Council to ensure that all SLSA tasks get completed
- Working with other Committees to organize meetings and document these meetings
- Ensuring that any communications that come in to the office, get forwarded to the appropriate committee (i.e. Charitable Fund publications, etc)

The past year was extremely busy with the announcement of privatizing ISC, ISC CAD file changes, working with Department of Justice to get Builders Lien Act to include Surveyors, and other miscellaneous items. And as I am new to the Surveying industry, these discussions and topics were an eye opener for me.

As the 2013 year continues, I will be busy with the upcoming SLSA 103rd AGM activities, website review and updates to biographies, online newsletter (vs. a

paper hard copy newsletter), and other numerous tasks that come up.

And although it feels like winter has been here for the last 12 months and I am more than ready to see Spring arrive, instead of hearing about it, I have thoroughly enjoyed my first year at SLSA and am looking forward to the next year and seeing new members on Council and Committees! ♀



Professional Surveyors Canada and the Role of PALC



by Guy Craig, SLSA

First, I would like to thank Carla Stadnick, our SLSA Executive Director for the opportunity to add to this newsletter.

As many of you know I have been heavily involved in the launching of Professional Surveyors Canada since the idea of a national organization to promote the value of our profession in the national arena first came to the forefront. As I transition into Chairing Professional Surveyors Canada I have become increasingly aware of misconceptions surrounding the role and mandate of Professional Surveyors Canada. I hope to dispel many of these misconceptions over the next few weeks and months.

One of the issues at the forefront seems to be some confusion regarding the PALC (Professional Associations Liaison Committee) and the Presidents' Forum. I can fully understand how this confusion could have arisen. Presidents' Forums, in my experience are valuable meeting places to hear from other association presidents about issues that they were dealing with in other parts of the country.

A few years back, the President's Forum and discussions at CCLS meetings caused us to realize that there were a number of serious issues that affect not only our associations and individual surveyors but our profession as a whole. Issues such as baby boomer attrition, attraction of talent to the profession, promotion of the value of what we do, labour mobility, misuse of location based technologies by untrained individuals to name a few could only be really dealt with on a national level.

In this environment Professional Surveyors Canada was conceived, developed and run - all by members of our profession, people that many of you probably know. This organization was developed and is operating specifically to serve its members on a number of levels. We are an "Advocate" for our individual members, the associations, and our profession as a whole. We can only accomplish our goals by continuing the relationships that forged us, continuing in dialogue and working together for the future.

Professional Association Liaison Committee

Upon the creation of Professional Surveyors Canada and the sunset of CCLS the Professional Associations Liaison Committee (PALC) was formed by Professional Surveyors Canada as a Permanent Committee specifically to provide a forum to enable the continuation of the dialogue between

the associations. I have lifted the following passage directly from the PALC Terms of Reference dated January 11, 2012.

*"Professional Association Liaison Committee: The role of this committee is to facilitate discussion among the professional associations and encourage common strategic thrusts in dealing with issues they face in respect to their legislated mandates. The committee will be formed by a representative from each Professional Association."*¹

Professional Surveyors Canada's role is therefore to facilitate discussion between associations and to provide resources as laid out in the Terms of Reference. This committee is formed, and run by the survey association members. The PALC provides a place for more in-depth discussion and research of issues that the Presidents' Forum would not normally have the time to deal with. It is a supplement to the Presidents' Forum and a resource for the associations much as the former CCLS was.

As not all of the associations currently have members on the committee, the Chair of PALC, Wally Kowalenko, OLS has sent a letter requesting the Presidents' views on the mandate of the PALC and to find the means to strengthen the relationship between the Councils/Boards of the associations and Professional Surveyors Canada through the PALC. If you would like more information on this committee please feel free to contact either of us.

Upcoming Events

2nd Annual Online Members Meeting – April 25, 2013 12:00 pm Eastern

Last year's meeting was well attended and we expect a great turn out this year. Join us and find out more about what we are accomplishing for you and your profession.

National Surveyors Conference 2013 - Network in Niagara

Hosted by ACLS and with the support and participation of Professional Surveyors Canada. Information and registration at acls-aatc.ca and follow the link.

Memberships and Renewals:

We are always welcoming new members and volunteers. If you have not returned your renewal please do so. You will need it to take part in the Annual Meeting.

Speaking of volunteers, I would like to thank all of our amazing volunteers who without whom we could not function. The time and expertise that you give to your professional community are invaluable.

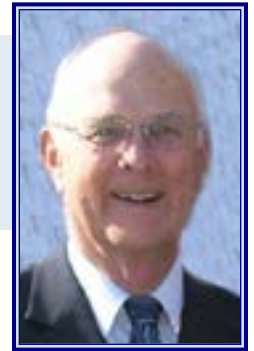
Last but not least, I would like to say that I am proud to be called to serve as the Chair of Professional Surveyors Canada. I am here to serve you and our profession, as is our entire organization. If you are not yet a member please join us. As surveyors we have a proud and strong past, let's work together with one voice and continue to build a strong supportive professional community for the future.

If you have questions, suggestions or comments about any issues relating to the profession of surveyors and surveying in Canada, I would be happy to discuss them at any time. ☺

1 - PALC Excerpt taken from: Professional Surveyors Canada PALC, Terms of Reference Jan 11, 2012. For more information: psc-gpc.ca Documents page

Looking Back

by Wayne Stockton, SLS, CLS



The end of June this year will mark the 61st anniversary of my entry into the world of surveying. During that time the changes in technology as well as the general way of doing business are really mind boggling.

In the first 20 years or so of my career all measurements were made with a steel tape. This was not as inefficient as it may seem and could yield impressive results if properly done. A 1965 article in the Canadian Surveyor describes checking measurements made with a steel tape along the Manitoba - Saskatchewan boundary using a Tellurometer. In one section of 30 miles in length the difference in measurements was 1.23 feet. Back in those days we almost always used a 3 man survey crew which made life a lot easier for the party chief. Once a line was set up the chainmen began their measuring which allowed the party chief time to work on calculations and field notes or just pull the vehicle around a bush for an afternoon nap. We were always conscious of costs with the crew staying in one hotel room with 2 beds and a rollaway cot. These days it seems the crew members have to have separate rooms with hotel rooms in southeastern Saskatchewan running up to \$140.00 per day.

This reminds me of a story told to me by Rod Galloway. When Rod was discharged from the army after World War II his first job was as a chainman on a Dept. of Highways survey crew. Tom Crump was the party chief. Over and above everything else Rod knew the value of a dollar, a true Scotsman. The crew was chaining along No. 6 Highway south of Regina. As Rod was walking along he would pick up beer bottles from the ditch. After a couple of days of this Tom got fed up and put a stop to the practice. He told Rod in no uncertain terms that they were out there to work and not to gather bottles.

When I wrote my Part 1 SLS examinations in 1966 I believe it was only the second year that mechanical calculators were allowed in the examination room. Prior to that all survey calculations were done using logarithms. The calculator of choice was the Curta. It was a sturdy and reliable instrument made in Germany. At one time I owned 2 of them but both got lost along the way. I believe I paid about \$300.00 for them. I see them now for sale on eBay for anywhere up to \$2,500.00. A real collectors item. I purchased the first hand held

battery operated calculator. It was a Commodore and sold for around \$200.00. You can get a similar calculator today for about \$5.00. Our electric office calculator was a Frieden with 100 plus keys on the keyboard. After plugging in the numbers you could go back to other work while it clanked out the answer. The first computer designed specifically to do survey calculations was the Olivetti. It was slow and cost about \$5,000.00. I believe that was about 1972. A couple of years later they came out with a faster model which retailed for about \$10,000.00. Ever conscious of a dollar myself I held off purchasing. Then about 1975, as a sideline, Bill Schwartz began selling the Sharp Pocket Computer for which he had designed every survey program imaginable. I bought one from Bill along with all the programs for \$500.00 and I am still using that same machine today. To this day I have yet to see a hand held computer to equal it. It's too bad they don't make them any more.

When I started my own survey business in 1969 I purchased all the equipment for both field and office for under \$1,000.00. My first transit was a Japanese model with a regular plumb bob and an external vernier reading to 20 seconds with the aid of a small magnifying glass. It cost me \$300.00. The remainder of the field equipment consisted of a 200 foot chain and a dip needle along with chaining pins and assorted hatchets, axes, shovels, sledge hammers and so on. The office equipment consisted of a Leroy set and a drafting table along with an assortment of triangles and scales. I think it would be most difficult for a young fellow to start up a survey business today with the cost of the type of equipment needed these days. I had all my equipment paid for in the first couple of months. I wonder how long it would take today.

The past 61 years have provided a lot of good memories and good stories with most of the stories being published in past issues of the Corner Post and its predecessor. I really enjoy reading stories submitted by our members and would like to see more of them. I see in the Winter issue of the Corner Post that Jack Webb, Dan Babiuk and Mike Waschuk are looking for surveying stories from the membership. I hope they get a great response. ☺



Financial Statements
for the Year Ended
December 31, 2012

and

Auditor's Report



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December 31, 2012**

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INDEPENDENT AUDITOR'S REPORT

To the Members of
Saskatchewan Land Surveyors' Association

I have audited the accompanying financial statements of the Saskatchewan Land Surveyors' Association, which comprise the Statement of Financial Position sheet as at December 31, 2012 and the statements of Revenue, Expenses and Net Operating Income and of Changes in Net Assets for the year then ended, and a summary of significant accounting policies and other explanatory information

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with Canadian generally accepted accounting principles and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

My responsibility is to express an opinion on these financial statements based on my audit. I conducted my audit in accordance with Canadian generally accepted auditing standards. Those standards require that I comply with ethical requirements and plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about amounts and disclosures in the financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risk of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

I believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for my opinion.

Opinion

In my opinion, the financial statements present fairly, in all material respects, the financial position of Saskatchewan Land Surveyors' Association as at December 31, 2012, and its financial performance and its cash flows for the year then ended in accordance with Canadian generally accepted accounting principles



CHARTERED ACCOUNTANT
PROFESSIONAL CORPORATION
Regina, Saskatchewan
February 14, 2013

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SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

STATEMENT OF FINANCIAL POSITION

	2012	2011
ASSETS		
Current Assets		
Cash (Note 3)	\$ 54,274	\$ 20,653
Accounts Receivable	22,363	28,648
Prepaid Assets	2,578	-
Inventory	-	-
	<u>79,215</u>	<u>51,879</u>
Investments (Note 4)	175,805	192,806
Capital Assets (Note 5)	41,798	40,650
TOTAL ASSETS	<u>\$ 296,818</u>	<u>\$ 285,335</u>
LIABILITIES		
Current Liabilities		
Accounts Payable	\$ 14,365	\$ 9,706
Prepaid Annual Fees	62,750	37,278
Charitable Donations from Members	4,650	-
	<u>81,765</u>	<u>46,984</u>
NET ASSETS		
Restricted - Reserve Fund (Note 7)	118,562	118,562
Restricted - Survey Promotion & Education Fund (Note 7)	54,063	46,150
Unrestricted	630	32,989
	<u>173,255</u>	<u>197,701</u>
Investment in Capital Assets	41,798	40,650
Net Assets	<u>215,053</u>	<u>238,351</u>
TOTAL LIABILITIES AND NET ASSETS	<u>\$ 296,818</u>	<u>\$ 285,335</u>



SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

STATEMENT OF REVENUE, EXPENSES AND NET OPERATING INCOME
FOR THE YEAR ENDED DECEMBER 31,

	2012	2011
REVENUE		
Members Fees (Schedule 1)	\$ 137,436	\$ 132,415
Sale of Publications and Souvenirs (Note 6)	410	527
School Resource Kit Contributions and Earnings	7,912	8,230
Net Revenue from Sale of Survey Monuments	3,338	10,471
Interest and Other	149,096	151,643
EXPENSES		
Administration		
Rent	11,796	11,887
Cleaning	332	284
Telephone	1,603	1,838
General	5,886	464
Postage	248	114
Courier and Shipping	464	1,029
Stationary & Supplies	1,009	413
Upgrades & Equipment Adds	1,256	812
Office Printing	536	244
Contracted Printing	-	107
Bank Charges and Interest	221	13
Insurance	2,564	932
Administration Agreement	50,691	56,864
Executive Director Travel	1,469	1,631
Professional Fees	1,050	1,050
Association Advertising	1,642	1,121
Member Seals and Certificates	1,354	1,172
Bad Debts	-	-
Total Administration	82,121	79,975
Levies and Scholarships (Schedule 2)	12,046	11,059
Council and Committees (Schedule 3)	79,375	51,382
Total Expenses	173,542	142,416
Net Operating Income	(24,446)	9,227
Net Assets, Beginning of the Year	197,701	188,474
NET ASSETS, END OF YEAR	\$ 173,255	\$ 197,701



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

STATEMENT OF CHANGES IN NET ASSETS
DECEMBER 31,

	Capital Assets	Operating Fund	Reserve Fund	Survey Promotion & Education Fund	Total Funds
Net Assets, Beginning of Year	\$ 40,650	\$ 32,989	\$ 118,562	\$ 46,150	\$ 238,351
Current Period Purchase of Capital Assets	1,148	-	-	-	1,148
Cost of Assets Disposed of During the Year	-	-	-	-	-
Proceeds from Sale of Survey Monuments	-	-	-	100,218	100,218
Cost of Survey Monuments Sold	-	-	-	(92,305)	(92,305)
Survey Promotion & Education Fund Allocations	-	-	-	-	-
Net Operating (Loss) Income	-	(24,446)	-	-	(24,446)
Appropriation of Net Monument Revenue	-	(7,912)	-	-	(7,912)
Appropriation for Operating Reserve	-	-	-	-	-
NET ASSETS, END OF YEAR	\$ 41,798	\$ 631	\$ 118,562	\$ 54,083	\$ 215,074
					\$ 238,350



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

NOTES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31, 2012

1. Status of the Association

The Saskatchewan Land Surveyors' Association was established pursuant to the provisions of *The Land Surveyors and Professional Surveyors Act* of Saskatchewan. The object of the Association is to monitor and control land survey activities in the Province of Saskatchewan.

2. Significant Accounting Policies

These financial statements have been prepared in accordance with generally accepted accounting principles. The following policies are considered significant.

Revenue Recognition

The Association recognizes revenue from memberships in the year which the membership relates to. Pre-paid annual memberships represent the amount of membership revenue attributed to the subsequent year that was received from the member prior to the year end. All other revenue is recognized on the accrual basis when the Association becomes party to the transaction.

Financial Instruments

The Association recognizes financial assets and liabilities in its financial statements when the Association becomes party to the contractual provision of the financial instrument. Financial assets and liabilities originated in an arm's length transaction are initially measured at fair value adjusted for financing fees, transaction costs that are directly attributable to its origination, acquisition, issuance or assumption. In subsequent years investments in equity instruments are measured at cost less any reduction for impairment with all other financial assets and liabilities being measured at market value. Management reviews its financial instruments annually to determine if there has been a significant adverse change during the period in the expected timing or amount of future cash flows from the financial asset or group of assets, in the event that a significant adverse change has occurred management reduces the carrying value of the asset or group of assets.

For cash, short term investments, accounts receivable and accounts payable the carrying value of these financial instruments approximates their fair value due to the short term maturity or capacity for prompt liquidation. Investments are stated at cost plus accrued interest which approximates market value. Investment earnings are accrued annually. As a normal part of the Association's investment strategy, investments are held to maturity.

Capital Assets

Capital assets are stated at cost less accumulated amortization. Effective January 1, 1998 the Association records amortization in an amount equal to the cost of current period acquisitions. Capital assets owned by the Association prior to January 1, 1998 are amortized using the straight line method at 20% per year. Tenant improvements are amortized using the straight line method over the term of the lease.



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

NOTES TO THE FINANCIAL STATEMENTS (continued)
FOR THE YEAR ENDED DECEMBER 31, 2012

Income Taxes

Currently, pursuant to Section 149 of the Canadian *Income Tax Act*, the net income of the local is exempt from taxation.

Measurement Uncertainty

The preparation of financial statements in accordance with Canadian generally accepted accounting principles requires management to make estimates and assumptions. These estimates and assumptions may affect the reported amount of financial assets and liabilities, the disclosure of contingent assets and liabilities at the date of the financial statements and the reported amount of revenues and expenses during the reporting period. Accounts receivable are stated after evaluation of the collectibility of the account and an appropriate allowance for doubtful accounts is provided where considered necessary. Amortization is based on the estimated useful lives of capital assets. These estimates are reviewed periodically, and as adjustments become necessary, the adjustments are reported in earnings in the period in which they become known.

3. Cash and Term Deposits

Cash and term deposit consist of the following balances:

	2012	2011
TD Bank Current Account	\$ 54,274	\$ 20,653
RBC Dominion Savings Account	-	-
	<u>\$ 54,274</u>	<u>\$ 20,653</u>

4. Investments

Investments are stated at cost which reflects fair value at the date of acquisition. Subsequent adjustments to the carrying value are recognized in accordance with the financial instruments policy. Currently, the carrying value of investments approximates the fair value due to the nature of the investments held and the intent of the Association to hold investments to maturity.



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

NOTES TO THE FINANCIAL STATEMENTS (continued)
FOR THE YEAR ENDED DECEMBER 31, 2012

4. Investments (continued)

Investment	2012		2011	
	Cost	Market	Cost	Market
Equitable Trust 2.15% GIC due March 31, 2014 with interest compounded annually	\$ 41,280	\$ 41,954		
4.2% (4%-2006) Province of Saskatchewan Savings Bond Series 16 (Series 15 - 2005) due July 15, 2012	-	-	\$ 69,400	\$ 71,193
TD Canada Trust 0.66% (2011 0.66%) 30 day GIC due January 16, 2013 with interest paid at maturity	30,563	30,563	50,266	50,293
Canadian Western Bank 2.95% GIC due August 31, 2013 with interest paid annually	30,000	30,296	30,000	30,293
Home Trust Company 2.35% GIC due August 10, 2013 with interest paid annually	36,157	36,492	-	-
Home Trust Company 2.41% GIC due August 9, 2013 with interest paid annually	36,157	36,500		
Home Trust Company 3.2% GIC due March 12, 2012 with interest paid annually	-	-	40,312	41,027
	\$ 174,157	\$ 175,805	\$ 189,978	\$ 192,806



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

NOTES TO THE FINANCIAL STATEMENTS (continued)
FOR THE YEAR ENDED DECEMBER 31, 2012

5. Capital Assets

Capital assets and investment in Capital Assets are made up of the following balances:

	2012		2011	
	Cost		Cost	
Office Furniture and Equipment	\$ 33,984	\$	32,836	
Tenant Improvements	7,814		7,814	
	<u>\$ 41,798</u>	<u>\$</u>	<u>40,650</u>	

During the year the Association acquired capital assets with a cost of \$1,148.

6. Sale of Publications and Souvenirs

Revenue values represent income in excess of cost. Publications, including SLSA Handbooks, are normally sold at a slight profit.

Although souvenirs are available for purchase, they are more often presented as gifts to visiting presidents from other provincial associations and to presenters at educational seminars.

7. Restricted Net Assets

The Association, through the approval of its Council and membership has placed restrictions on the use of some elements of its net assets. In particular these restrictions are:

Reserve Fund:

A reserve fund, consisting of approximately one year's operating budget, was established as a buffer against large, unanticipated expenditures. As a self-regulatory body responsible for monitoring and controlling the professional conduct and competence of its members, one possible demand on such funds would be legal and administrative fees associated with pursuing disciplinary action against one or more of the association's members.

In the absence of any demands on the fund, it had been capped, since 1997, at \$110,261. In the 2010 fiscal year Council agreed to an appropriation of operating surplus of \$2,739 and in 2011 of \$5,562 as a result of rising administrative costs. The Reserve Fund balance is now set at \$118,562.



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

NOTES TO THE FINANCIAL STATEMENTS (continued)
FOR THE YEAR ENDED DECEMBER 31, 2012

Survey Promotion and Education Fund:

This fund was established in 2004 as the Survey Monuments Fund and was renamed the Survey Promotion and Education Fund effective November 29th, 2007. The Fund was established to hold the net revenue associated with the sale of survey monuments. As approved by the SLSA Council, the purpose of the fund is to support activities or projects which are likely to:

- raise the profile of the land surveying and professional surveying professions, or
- raise awareness of, and interest in, careers in the survey industry in general and the survey profession in particular; and

The allocation of moneys from the fund will be at the sole discretion of the SLSA Council for such things as:

- educational, informational and promotional activities within schools and post-secondary institutions, scholarships beyond those already established within the SLSA Bylaws,
- research grants and bursaries,
- mass media advertising,
- sponsorship or appropriate high-profile events,
- such other activities or projects that the SLSA Council deems consistent with the stated purpose of the fund.



Don K. McMillan

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION

SCHEDULES TO THE FINANCIAL STATEMENTS
FOR THE YEAR ENDED DECEMBER 31,

2012 2011

SCHEDULE OF MEMBER FEES

	2012	2011
Active Sask Land Surveyor	\$ 8,525	\$ 1,550
Active Professional Surveyor	600	-
Combined Sask Land Surveyor / Professional Surveyor	117,800	117,800
Retired Sask Land Surveyors	2,628	2,480
New Professional Surveyor Admissions	400	650
New Sask Land Surveyor Admissions	2,633	3,435
Saskatchewan Land Surveyors in Training	1,050	1,400
Miscellaneous	3,800	5,100
TOTAL MEMBER FEES FOR THE YEAR	\$ 137,436	\$ 132,415

SCHEDULE OF LEVIES AND SCHOLARSHIPS

	2012	2011
Cadastral Chair - U of C	\$ -	\$ -
PSC Levy	5,613	4,817
CBEPS	1,433	1,242
Scholarships	5,000	5,000
TOTAL LEVIES AND SCHOLARSHIPS	\$ 12,046	\$ 11,059



Don K. McMillan

SCHEDULE 3

SASKATCHEWAN LAND SURVEYORS' ASSOCIATION
 SCHEDULE OF COUNCIL AND COMMITTEE REVENUE AND EXPENSES
 FOR THE YEAR ENDED DECEMBER 31, 2012 2011

Convention Revenue				
Registrations	\$ 26,211	\$ 18,022		
Golf Fees	4,424	4,040		
Exhibitor Fees	21,315	5,400		
	<u>51,950</u>	<u>27,462</u>		
Convention Expenses				
Meeting	3,463	4,957		
Hospitality	1,859	3,333		
Golf Tournament	4,770	4,000		
Acc Person's	3,816	863		
Social Functions	28,719	22,524		
Planning / Registration	4,781	154		
Miscellaneous	-	739		
	<u>47,408</u>	<u>36,570</u>		9,108
Net Convention Expense (Revenue)	(4,542)			
Newsletter Revenue	-	9,695		
Newsletter Cost	8,009	6,442		
Net Newsletter Expense (Revenue)	8,009			(3,253)
Seminar Revenue	1,486			
Seminar Costs	17,152	5,843		
Net Seminar Expense (Revenue)	15,666			5,843
General	7,041	2,497		
Stipend	6,450	6,700		
Government Appointed Member President and Vice-President Travel	-	-		
Printing Committee Reports	18,762	14,327		
Printing Proceedings	318	261		
Professional Conduct Committee	171	200		
Education Committee	-	-		
Executive Committee	500	-		
Finance Committee	528	-		
Practice Committee	-	-		
P.R. Committee	(3,000)	-		
U of C Advisory Committee	7,651	10,863		
Board of Examiners for SLS	-	-		
Surveyors' Education Project	1,821	2,532		
Surveyors' Educational Crate Project	-	-		
Surveyors' Centennial History Book Project	-	2,304		
Charitable Fund Donation	-	-		
	20,000	-		
TOTAL COUNCIL AND COMMITTEE EXPENSES	<u>\$ 79,375</u>	<u>\$ 51,382</u>		



Personal Planning Awareness and Action

by Margaret Rankin

Reprinted from "The Scrivener" Volume 21, Number 1, Spring 2012



When you plan for your future, you will be naming people to assist with your care and make decisions for you if you are unable to make them.

When you plan well, you are in effect working together with those you designate to assist in your future, if and when they are needed.

A. CREATE A DISASTER LIST!

The list should detail all your registered assets—what they are, where they are, the people to contact with respect to the assets, and the legal registered owners of the assets.

- Are they owned jointly with another person with right-of-survivorship to each other?
- Are they owned by you alone?
- Are they owned by you with a beneficiary appointed within the asset holding?

In assets such as RRSPs, RRIFs, RDIFs, TFSA's, pension plans, life insurance policies, and so on, you have the opportunity to name a beneficiary in the plan you set up with the financial institution.

By naming a beneficiary in the plan, you have avoided having those assets fall into your estate where they will be taxed in the probate of your Last Will and Testament. Naming beneficiaries also avoids any delay in those funds being paid to your named beneficiary on your death.

Many assets are lost—bank accounts, life insurance, and disability insurance policies—because no one knew they existed.

B. FOR GOOD ESTATE PLANNING, ALL ADULTS SHOULD SEEK THE HELP OF A BC NOTARY OR LAWYER TO HAVE FOUR BASIC DOCUMENTS CREATED.

1. Enduring Power of Attorney

Without this document, if you become ill and unable to handle your financial affairs, no one has the authority to act for you, except a person who holds a bank account jointly with you.

- Land cannot be bought, sold, or mortgaged on your behalf.
- RRSPs/RRIFs investments held in your name alone cannot be cashed out, which might be detrimental to

your being able to liquidate your assets to pay for potential care costs.

- No other person will be able to structure or re-structure your investments

Without an Enduring Power of Attorney, your family may have no option but to retain a lawyer to apply to the Supreme Court to obtain a Court Order appointing a "Committee" for your financial affairs. Considering today's legal and medical fees, that court application could cost up to \$10,000 to obtain—plus there will be a delay of time in processing the application through the court system.

If there is no person in your life who could take on this responsibility, the Office of the Public Guardian and Trustee or a financial institution approved for acting in a trustee role will be appointed.

Please ensure you have an Enduring Power of Attorney among your documents.

Note: That document is in effect only while you are alive.

If you know people who

- are becoming ill,
- are losing their ability to handle their own financial affairs, or
- have been diagnosed with any form of dementia,

please ensure that they immediately obtain legal advice to protect themselves and their families.

2. Representation Agreement

Should you become ill and unable to make sound medical decisions for yourself, this document appoints another person or persons to make those decisions for you. This is a tremendous responsibility because that person will be making potential life-threatening or life-saving decisions for you.

Without this document, medical authorities can consult those persons referenced in a list established under the Health Care (Consent) and Care Facility (Admission) Act of British Columbia as your "temporary substitute decision maker" to make decisions on your behalf.

The absence of this document can cause serious conflict among family members who may not be able to agree on the medical services you should have.

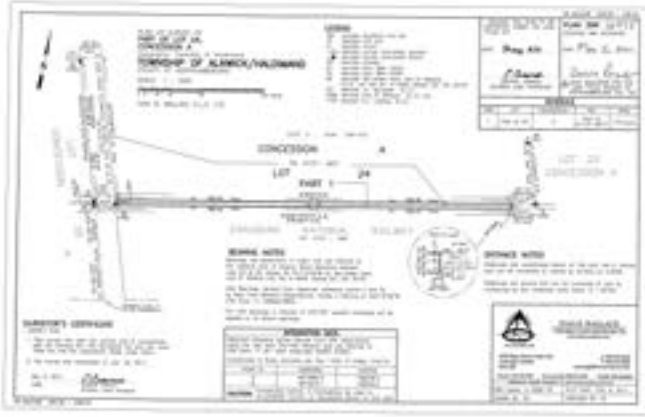
Cont'd on Pg 18

When Did Surveyors Stop Surveying?

by Crystal Cranch, O.L.S., O.L.I.P.

Reprinted from the 'Ontario Professional Surveyor', Volume 55, No. 2, Spring 2012

THIS IS NOT A SURVEY



This is a survey plan. And a mighty fine survey plan it is. Mighty fine.

So then, what is a survey? What does it mean to survey?

Surveyors survey.

Or at least they should! Read on.

Technology is a great thing. Who is going to argue with that? Technology has changed the way we survey. Who can argue with that? Technology has made us better surveyors. Hmm. I am not convinced. Back before the days of robotic total stations, data collectors and GPS receivers, the completion of field work was very different. Before technology allowed us to make us of the rewards of the digital age, we used parallel offsets and cumbersome calculators. We instinctively used the SIN, COS and TAN buttons on these calculators, and we understood that angles were merely another form of measuring distances. (Think about the x and y-axis). Before we had access to instant global positioning, we used a much lower form of math to a much better outcome. Let me explain.

Today's trained staff understands the basic theory of the high level mathematical analysis that allows us to use satellites to determine precisely where we are on a global scale. We send our field crews out to sites with the latest and greatest in surveying equipment. They can punch buttons and save digital data at a rate that is mind-boggling. But does all this fancy and expensive equipment create better surveys? I am going to argue that the opposite is true.

Today's highly trained staff can use coordinate geometry to assess almost any mathematical solution in boundary retracement. I use math every day. I remember when I first learned how to use COGO, and how I played with the numbers until I could re-create the same mathematical solution that was created in the

original survey. I remember the excitement I felt when I could show that if this one bar was 5cm west and 8cm north, then everything was plan and measure. I had great confidence in my solutions and was excited to be such a friggin' genius. Bring it on! I am the man! I mean, I am the woman! I quickly recognized the benefits of these amazing software packages that would enable us to blow our own minds out with mathematical analysis that would leave our Grade 12 math teachers in a state of awe. Eat your heart out Mr. Brown. This is an A++ solution.

For years I walked around with a mathematical claim of greatness that elevated my status as a surveyor. I was young(er) and more naive. Time and grace has led me to a position in life where I am more apt to admit my earlier flaws. I believed that this combination of technology in the field and software in the office made me a much better surveyor. I felt sorry for those surveyors who had to actually pull out their plumb bobs and run parallel offsets. I was so glad to see those dark ages fall behind us. I believed that technology allowed me the pleasure of living in an enlightened and advanced state. Now I have to admit that time has altered my perception - cleared my vision.

You see, in the dark ages when we ran parallel offsets, we actually did surveys when we were in the field. Today, we collect data. The problem with the blind collection of data is that it takes away the need to think. We are no longer completing surveys when we are in the field, we are just collecting data.

To make matters worse, as time went on, and data collection became more and more the norm; we gave up doing any assessment while in the field. Soon, we were gathering data that was not always the data we needed. Sometimes we gathered too much data. Often we gathered the wrong data. As time went on, there was less and less thought on the part of the field staff about what they were doing - which should have been to "survey". Questions like, "Since that bar looks to be disturbed, what other evidence do I need to pick up to ensure the corner can be properly retraced?" became obsolete. The new question is, "Do I have enough battery power to get through the day?" Heaven forbid if we run out of batteries.

In the dark ages, we could not easily assess high level mathematical solutions. Calculations were a part of the job description, but it meant lengthy and cumbersome formulas and analysis. Back in the dark ages we did not take the time to "play" with the numbers to see if there was a better mathematical fit. Rather than spending time assessing mathematical solutions, we spent our time assessing evidence. I vividly recall when this epiphany hit me. I had spent a lot of time and effort with my COGO friend to find a perfect solution. It resulted in me calling three survey bars out by 3 or 4cm. I was proud of the fact that I had achieved mathematical perfection. But then it hit me. I had seen these

bars in the field, and every one of them looked to be in their original position. The survey mantra “original bars in their original locations” came crashing into my world. For months I had nightmares that involved me sitting on a wooden stool while the “good” surveyors pranced around me chanting “Original bars - original location.....”. There were the voices of Lambden, de Rijcke and Stewart chanting an endless and off key chorus. Please, I begged, make it stop. I vowed to better myself. I would not become the laughing-stock of the profession. There are already enough people vying for this honour. (Here is where I am supposed to add ‘lol’ for those reading this without a sense of humour.)

And so I completed an internal audit of my own surveying practices. Not only was I “math’ing” these projects to death, I was looking at field notes that were not “surveys”. The notes showed “stuff” and point numbers, but they did not show any evidence of evidence assessment. They did not indicate a survey was being done. They were just a page of numbers corresponding to a whack of data. Did I have the right data? Was I missing data? Did the field staff know that their role was to locate enough evidence to retrace the original boundary? Did I know that it was my role to retrace the original boundary?

I now recognize that math can be one of the many tools that I can use to help me survey, but math must take its rightful place behind the assessment of evidence. Math can be used to help re-establish a boundary corner when no other evidence exists. But what happens when we calculate where the old fence corner was - then we tell our field staff to go set a bar there - then they set the bar two feet away from where the old fence post still stands without telling us about it - THAT IS NOT SURVEYING. Technology can be a cool tool used to allow us to survey in the digital age, but using technology without understanding what you are using it for is not helpful. What happens when we use a RTK receiver to locate that bar on the block corner, but not even think to locate that really old fence next door to the property we are surveying - THAT IS NOT SURVEYING. When did surveyors stop surveying? ☹

Crystal Cranch is the surveyor of record of Ivan B. Wallace Ontario Land Surveyor Ltd. in Cobourg. She has created a blog on the Internet titled Surveyor Says What??? It can be found at www.surveorsayswhat.wordpress.com. She can also be reached by email at crystal@ibwsurveyors.com.

Personal Planning Awareness and Action (cont’d)

by Margaret Rankin

This document is in effect only while you are alive.

3. Advance Directive

You may also complete an Advance Directive—a separate document detailing specific wishes for your medical treatment, should you be unable to make those decisions yourself.

This document does not appoint another person to represent you. It is strictly a direction to assist others to respect your wishes when medical decisions must be made for you.

4. Last Will and Testament

When you die, the assets you own in your name alone will be distributed to your intended beneficiaries named in your Last Will and Testament. Without a Will, your estate will be distributed according to the Estate Administration Act of British Columbia, the statute prepared by the British Columbia government to fairly distribute an estate of someone who does not have a Will.

Always keep in mind that the BC legislation and statutes do not allow you to disinherit your spouse or children without solid reasons for doing so. The courts are filled with applications from surviving spouses and children who have been disinherited by their deceased spouse and/or parent.

Ensure your estate is not burdened by extensive legal costs because

- you have not prepared a Last Will and Testament, or
- you have not received appropriate legal and financial advice on how to plan the distribution of your estate.

Considering the above, you can see it is imperative for the medical community, the legal community, community support services, and financial and accounting personnel to work together to ensure our citizens are properly protected to avoid families paying extensive taxes—probate taxes, capital gains taxes, property transfer taxes, and income taxes—plus court costs and legal or medical costs.

Have those four documents properly prepared, in your possession, and available, should they be needed. ☹

Margaret Rankin is a Notary Public practising in North Vancouver.

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This document is in effect only while you are alive.



Best Practices for Project Management: Make YOUR business run more effectively

by Kenneth J. Stigner, PLS, PP

Reprinted from 'Empire State Surveyor', March/April 2012

When speaking with many of my associates and friendly competitors at our annual conference or at other events, the topic of how busy we are invariably comes up. One of the comments I've also heard more and more is a bigger issue: getting paid for the work we perform. I'm sure all of us have an array of horror stories from bad clients but my sense is some have more than others.

In a recent conversation with a younger professional in sole proprietorship, he admitted that he really had little idea how to best run a business and the failure to develop a business plan was hampering his business' development.

I realize that small practices and very large mega firms operate in vastly different ways; however, there are certain steps that can be taken in almost any fee-for-service industry that can make your business run more effectively. By organizing your project management into small steps, you may not only be able to improve the time line of collections but also reduce risk and threat of legal action. Some of these steps are very broad and can be as detailed as required by the project.

- Obtain written instructions to proceed with an agreement that clearly defines the scope of work, the fee for the project and the schedule to complete the work. Handshakes are great among friends and they may be fine with some clients, but it really should be avoided. The more complex the assignment, the greater the need to increase the level of detail in the agreement. It is also a good practice to qualify your schedule with regard to weather and the impacts that weather may have on your ability to complete.
- If you are a sub consultant to another firm, you need to know what the terms of your clients' agreement are. Not knowing could subject you to greater risk and problems getting paid.
- Develop a plan to carry out the project. It should be developed to a level of detail appropriate for the project. It should be reviewed with staff so they gain an understanding of what is being proposed. I find this especially true on engineering related assignments. If we know what the survey is going to be used for it should be conveyed to the survey team in the field. Knowing what is going to be designed may help them understand that something they may see in the field may impact design and should be located.

- Develop a filing system, both hard copy and electronic that can easily be followed and repeated regardless of project size. This will aid you in future projects near existing ones and will be very valuable if you're called into court.
- Be aware of safety issues that may be encountered, such as confined spaces or other environmental hazards on a site before committing to perform the work. If specialized training is involved, be clear as to how the costs for training and the costs associated with lost time to be trained are covered.
- During the course of the project, track the time being charged versus what you projected. One of the things I've seen many time is by failing to do this may result in future projects of similar scope being estimated incorrectly AGAIN.
- Obtain written approval on changes in scope. Please instruct your crews to be aware of this. Many change orders often occur on site and if not properly documented the costs may be difficult to recover.
- Use checklists! The most obvious mistakes are often made by failure to use one. Some clients and for larger and more complicated projects a formal Quality Assurance/Quality Control program may be required. In any case, small or large, if possible, have others review your work. Sometimes engaging junior staff in this process helps build confidence in their abilities. For complex projects, a more thorough review may be requested.
- After you have completed a project, invoice promptly and follow-up with your client to ensure they are happy with your work and understand the invoice.

I realize that some of these suggestions may be overkill for some and can be time consuming and costly, however, there is an old saying: "There isn't enough money to do it right, but there is always enough money to do it over." ☺

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Field Notes

by Scott Weslund, MEnv. P.Eng., ALS, Director of Practice Review and Boundary Panel Manager

Reprinted from the 'ALS news' - March 2012 Vol. 41-1

How do I ensure that field staff prepare field notes that meet my requirements?

It is rare that a professional land surveyor personally completes all aspects of a survey project. In most companies, field work, drafting and plan checking are completed by technical staff. This means that technical staff must have the training and knowledge required to successfully complete these tasks. However, even though fieldwork, drafting and plan checking may be delegated, the land surveyor is still professionally responsible for the final product. When a professional takes responsibility for work completed by others, that professional ensures that the work meets all requirements, including those outlined in the acts and regulations as well as the minimum guidelines outlined in the Manual of Standard Practice (MSP), and could be liable or subject to discipline if something goes wrong. Therefore, it is important for the surveyor to mentor, supervise, and guide technical staff in producing high quality products.

In 2011, I evaluated approximately 130 sets of field notes for compliance with the guidelines in Part C Section 6 of the Manual of Standard Practice. More than 40% of these notes had deficiencies, often in many areas. Most of the deficiencies are a result of not recording a description of the monuments found (markings, condition, proximity to fences, and so on, as per Part C Section 6.2.5) and not adequately recording the extent of search for monuments identified as being lost (Part C Section 6.2.6). Other common deficiencies include not recording the date, survey location, purpose, equipment used, and environmental conditions (Part C Section 6.2.1 to 6.2.3).

I have also seen some excellent field notes that meet and exceed the guidelines outlined in the MSP. So what is involved in making sure that the field notes meet all requirements? Establishing standards, maintaining them and ensuring that the field notes meet all requirements can be grouped into three categories:

1. the use of templates to establish a standard for the field notes;
2. personal supervision; and

3. consistent feedback to provide field staff with specific, constructive suggestions to address any deficiencies on the notes they submit.

Templates

An excellent way to ensure that field notes meet all requirements is to develop field note templates for the field staff to fill out. If the template provides space to record the details specified in the MSP as well as any other information the ALS requires, it is less likely that this information will be omitted from the notes. Additionally, a quick scan of the notes (or the blank spaces in the notes) will confirm that all information necessary to prepare the survey plan has been recorded. However, as outlined below, it is important for the ALS to regularly examine the field notes and, if necessary, remind and/or show the field crews how to completely fill out the template.

I have prepared the following sample templates based on a compilation of some of the excellent field notes I have reviewed. If completely filled out, these templates should satisfy the guidelines outlined in Part C Section 6 of the MSP and could address a large majority of the field note deficiencies.

For example, the sample title page provides space to record the items outlined in Part C Section 6.2.1 to 6.2.4,

SAMPLE TITLE PAGE

Job No. _____	Page ____ of ____
ABC Surveys Ltd.	
Original Field Notes	
Client: _____	
Project Description: _____	
Legal Description: _____	
Municipality: _____	
Party Chief: _____	
Assistant: _____	
Supervisor: _____	
Start Date: _____	End: _____
Instrument: _____	
GPS: _____	
Temp: _____	Bar: _____
Weather: _____	
Bench Marks Established Yes: _____ No: _____	
Comments: _____	

SAMPLE LIST OF ABBREVIATIONS AND SYMBOLS

Field Notes Page ___ of ___

Abbreviations

Alberta Survey Control Markers... ANCM
 Stationary iron post... I Mark... Mk.
 Cornermark... C.S. Found... FD.
 Marker Post... Mp. Re-set... Re-established
 Symbols
 Stationary iron post found... placed...
 Temporary point... X
 Spike placed... S
 Additional notes:

SAMPLE EVIDENCE REPORT

Evidence Report

1) Was the monument found? Found Missing

2) If found:

Was it: Standard Non-Standard

Was Cap: Round Square

Other: Other Replaced

Monument Description:

Marker Post: None Found Placed

Location: _____

File: Number: _____ Location: _____

Condition: _____

Material: Yes No Location: _____

Condition: _____

3) If missing:

Was it: None Yes No

If yes: By File: _____ By map file: _____

By physical evidence: Yes No V. H.

How did you search for the marker? Dig and excavate

Prepare a sketch to show the relationship to physical evidence

Sign: _____

SAMPLE SKETCH PAGE

Field Notes Site Sketch Page ___ of ___

are not altered and to prove that they haven't been altered if the need to do so arises.

Personal Supervision

The verb 'supervise' is simply defined as 'to oversee' (Merriam-Webster). However, in the workplace, a supervisor may act as a coach, delegator, role model, cheerleader, policy enforcer, spokesperson to senior management, liaison between staff and organization, and/or the person directly responsible for future promotion (APEGGA, 2003). Supervising staff also involves teaching them the necessary technical skills to ensure that they have the know-how to complete successfully all assigned tasks. In the context of preparing field notes that meet all requirements, I believe an ALS needs to make time to review personally the field notes and provide staff with specific, constructive suggestions to address deficiencies. While some of the field staff may have years of experience, keep in mind that they may not know exactly what the requirements are, why the information they collect is important, or what is done with the information. As such, it is essential that an ALS set aside time to meet face-to-face with the field staff to explain what information needs to be collected in the field, why the information is important, and how it is used to prepare a survey plan. A trip to the field provides an excellent teaching opportunity. For example, while in the field an ALS can explain how survey evidence is assessed, what information is required to undertake the assessment, and show the field staff how that information should be recorded to facilitate the assessment of the evidence. Spending time with the field staff also demonstrates to them that the field work and field notes are critical components for all survey projects.

Consistent Feedback

Whether they specifically request it or not, field staff are most likely looking to the ALS for suggestions on how they can improve their job performance. As such, it is important to provide feedback (both positive and constructive) on a regular basis. This feedback needs to be clear, unambiguous, and not contradictory. For example, if the field crew missed recording the monument markings or monument condition, the ALS could personally let them know what information was missed, how it should be recorded, and how the monument markings and condition are used in the production of a survey plan. Providing consistent feedback becomes more difficult when field crews are working for several ALSs or different offices. In this situation, it becomes the responsibility of several ALSs to establish a standard for acceptable field notes and to maintain it. It might be worthwhile to provide the field crews with an example set of field notes that are acceptable to all ALSs at the firm. This will provide the field crews with a benchmark and something to compare their notes to before they submit them.

and the evidence report provides space to record all of the details for found evidence as well as to document the extent of a crew's search for lost monuments. Use of the evidence reports should also enable more effective evidence assessment.

I have also seen templates used effectively to record RTK GPS observations, base station set up details, powerline profiles, and urban RPR sketches and total station observations. However, the use of templates does not guarantee that the field notes are excellent. During the course of my reviews, I have seen many excellent field note title page templates and evidence reports that are almost completely blank and the information that is necessary to evaluate evidence is not being recorded in the field notes. In these cases, it seems likely that the field notes are not being reviewed by the ALS responsible for the product.

Digital Field Notes

I was recently asked about digitally recording field notes using a tablet device and whether field notes recorded in this fashion satisfy the guidelines in the MSP. This seems like an excellent initiative and I see no reason that field notes recorded in this manner wouldn't satisfy the guidelines outlined in the MSP. Indeed, these devices could also provide an opportunity to incorporate photos, audio and even video information into the field notes. The biggest challenge might be to ensure that the field notes

Investing the Time is Worthwhile

It is the land surveyor's responsibility to make sure that the field notes meet all requirements. Indeed, producing high quality products requires an investment of time and effort by the professional. The results of the product reviews completed under the CCR program suggest that more face-to-face contact between an ALS and field staff results in fewer field note deficiencies. The field notes are a critical component of the final product and, although they are not normally in the public domain, they provide an indication of a surveyor's professional competence, skill, and credibility (ABCLS, 2012). Accordingly, time spent coaching, teaching, training, mentoring and supervising holds important benefits for the professional, the field staff, and the company. ψ

Scott Wesdund MEnv., P.Eng., ALS Director of Practice Review and Boundary Panel Manager

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INTERESTING TIDBITS!

A person eats around 60,000 pounds worth of food during his life which is the equivalent of six elephants. Incredible!

Less than 2 % of all the people in the world can lick their elbow.

Most folks take only 7 minutes to fall asleep.

The pupil of the eye expands as much as 45 percent when a person looks at something pleasing.

Laughing lowers levels of stress hormones and strengthens the immune system. Six-year-olds laugh an average of 300 times a day. Adults only laugh 15 to 100 times a day.

Every time you sneeze some of your brain cells die.

You forget 90% of your Dreams.

Almonds are members of the peach family.

Your stomach has to produce a new layer of mucus every two weeks, otherwise it will digest itself.





Mapping and Coordinates

by David M. Horwood, O.L.S.

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With the great interest generated from the Accurate Ontario Digital Cadastre project, the concepts of mapping and coordinates have come to centre stage. However, I believe there is a general misconception of what these terms really mean when put into practice. As a registered Geographic Information Manager (GIM) with 25 years of experience implementing parcel data management systems, I can provide some insight into the meanings of these terms from the land information professional's perspective and the issues created by the misapplication of these concepts.

When I think about mapping, I'm reminded of a story that a colleague told me many years ago that has remained vivid in my mind. It concerns a king and a wizard ...

There was a king and a wizard in an ancient kingdom. The king was obsessed with maps and the wizard was charged as the king's map maker. As time went on, the wizard would present to the king more and more detailed maps of the kingdom. However the king was never satisfied and would send the wizard back to produce an even more detailed map. This strife between the king and wizard escalated over the years until one day the king exclaimed to the wizard; "I've had enough of these approximations. I order to you to produce a one to one map." The wizard paused for a moment, looking at the king with an air of reflection. He then took the king by the hand, led him to the outside balcony overlooking the kingdom, pointed at the countryside and said: "Your majesty, it is already done."

There are many definitions of the word map. A map is normally defined as a diagrammatic representation of the Earth's surface (or part of it). However the moral of the story is that the usefulness of the map is based on how well it abstracts reality. The real world is already out there, so making the map too detailed not only increases the cost to create the map, but it can also decrease its utility. Therefore a working definition of a map is a useful abstraction of reality.

So from a practical standpoint, it is important to decide what the map will represent. As it becomes more detailed, there is a point of diminishing returns. Moreover, the cost to keep the map maintained increases exponentially the more frequently it is updated and the more detailed and accurate the representation. Generally there is a "sweet spot" where the beneficiaries gain the most from the detail, accuracy and timeliness of the map. Beyond this, little more benefit is realized and customers will generally not pay for the increased cost.

With regard to coordinates, I perceive a similar misconception. A vast majority see coordinates as absolute, representing an unchanging position for an object. Coordinates are now required by regulation to appear on registered and deposited plans, however, even before this many municipalities required coordinates on plans. There was a study commissioned by the Canadian Council on Geomatics (CCOG) in 2002 ("Coordinates in Context") which looked at the viability of elevating coordinates in the hierarchy of evidence for boundary determination. The study found that there was no legal impediment to this. In fact existing legislation, e.g., for deferred monumentation in Alberta, could be used as a model by essentially extending the monument deferral period to the end of time, in which case the coordinates themselves become the evidence.

However, I believe that elevating the status of coordinates is unwise. A coordinate is simply a measurement along arbitrary X and Y (and Z) axes from an origin, no different in concept than a bearing and a distance (i.e., a polar coordinate). In planar coordinate systems, like Universal Transverse Mercator (UTM) or Modified Transverse Mercator (MTM), a coordinate usually is defined by both a projection and a datum (origin), e.g., UTM Zone 17 North American Datum 1983 (NAD83). Coordinates are rarely directly measured but computed from other observations, even in the case of Global Navigation Satellite Systems (GNSS) where the coordinate is calculated from a multiple distance intersection from satellites and generally also using another known point.

As GNSS improved, it was found that coordinates even in the same datum and projection were not fixed. The Earth is dynamic with both gradual (tectonic plate movement) and dramatic (earthquake) changes over time. The earthquake in March 2011 moved some areas of the coast of Japan by 4 metres (<http://www.bbc.co.uk/news/science-environment-12732335>). Moreover, the basis for our GNSS positioning relies on a three dimensional Earth-Centred, Earth-Fixed (ECEF) coordinate system, since the GNSS satellites are orbiting around the Earth's centre of gravity. This centre of gravity also changes over time and is one of the reasons that current realizations of the World Geodetic System 1984 (WGS84) do not match current realizations of NAD83, since the Earth's centre was updated based on the more accurate Earth Gravitational Model 1996 (EGM96) for WGS84 but not for NAD83. This also means that there is a datum transformation between NAD83/Canadian Spatial Reference System (CSRS) and the equivalent WGS84/International Terrestrial Reference Frame (ITRF) coordinate system of

in between a one to two metre shift (http://www.geod.nrcan.gc.ca/faq_e.php#27). This shift is apparent when comparing mapping in Ontario (which uses NAD83) with online mapping systems such as Bing, Google or ArcGIS (which all use WGS84). As Albert Einstein discovered one hundred years ago, there is no absolute frame of reference.

This highlights the importance of permanent physical reference points on the ground which can be used to re-establish positions over time. Granted these reference points need not be on every corner, but they need to be local to a set of corners so that the movement of the reference point is likely to be related to the movement of related corners. A few strategically placed permanent reference points (ideally inter-visible and accessible using both terrestrial and GNSS methods) could serve one or more subdivision plans and/or a number of reference plans. Moreover, errors in application of a scale factor in local measurements will be less severe than those applied to a coordinate, which is essentially a measurement from

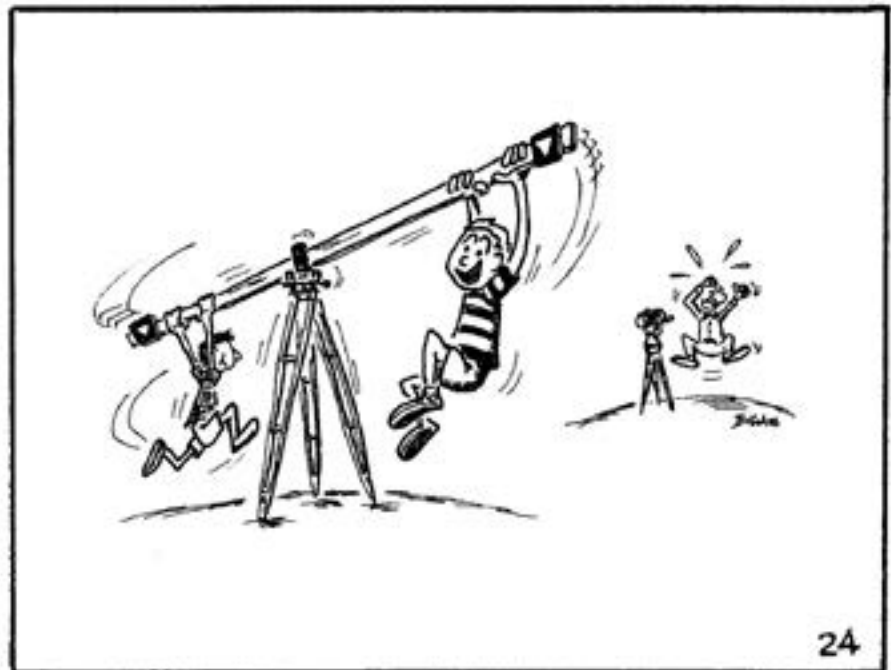
the equator. Which would you trust more: a tie from an original building or a measurement from Ecuador?

From a practical standpoint it is important to remember that a coordinate is not absolute but a computed relative measurement and when comparing coordinates it is critical to take projection, datum and epoch into consideration. Common coordinate systems are useful, and required in order to construct land information systems. However these coordinate systems are necessarily a snapshot in time and need to be periodically updated to keep pace with the continual changes of the real world.

Proper consideration of the concepts of mapping and coordinates can help build land information systems that are useful, timely and accurate. The real world changes continually as time passes and map and coordinate based information systems need to be designed from the beginning to capture the essential information (and no more) and to embrace and reflect changes over time. ψ

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Surveying in Settled Areas ►
Has its Own Problems.



Monitoring Geological CO₂ Storage by Integrated Gravimetric and Geodetic Methods

by JW Kim (Earth Observation)

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Carbon Capture and Storage (CCS), known to be the most tangible option of reducing greenhouse gas emission, is a greenhouse gas emissions reducing option that involves an integrated process of three steps: capture, compression/transportation, and storage (Figure: left). It is very important to us since, according to the 2009 International Energy Agency report, in terms of 2007 annual total CO₂ emissions, Canada was ranked as the No. 7 country in the world, accounting for 1.9% of the world's total CO₂ emission amount. Fortunately, the potential capacity of subsurface storage is known to be as much as 600 million ton/year, which is nearly 40% of Canada's projected emissions in 2050. In terms of securing the storage, the tracking of the injected CO₂ plume in the geological storage and the detection of any leaks through the caprock, aquifer, and to atmosphere are very important.

Although assessments of CO₂ storage are possible with a number of geophysical and geodetic techniques, gravity monitoring is especially effective for estimating subsurface mass change and movement despite its low resolution and non-unique solution. However, applications of the gravimetric method have been limited for monitoring geological CO₂, mainly because conventional spring gravimeters suffer from relatively low sensitivity and the large nonlinear drift effects of the mechanical springs. These characteristics complicate the analysis of the non-periodic gravity signals that are vital for interpretation and analysis. In addition, the gravimeter records combine the gravity effects of surface deformation and subsurface mass change that must be separated in CO₂ storage site studies.

These limitations can be overcome by integrated gravimetric and geodetic technologies. The GWR Instruments Inc.'s superconducting gravimeter (SG), which uses a magnetically levitated sphere as a test mass, has considerably lower and linear drift (< 0.5 uGal/month, $\mu\text{Gal} = 10^{-8}$ meter/sect) and much higher sensitivity (0.001 and 0.05 uGal in the frequency and time domains, respectively) than spring or absolute gravimeters. With these attributes, the SG provides precise and continuous records of gravity variations over times to periods of decades that are required for monitoring subsurface CO₂ storage.

In principle, the SG measured gravity includes two components: 1) deformation of the Earth's surface, and 2) mass change (variation in the distribution and density of mass). Therefore, by integrating the gravity and the geodetic methods that can detect the deformation part only, we can separate gravity effects caused by the mass changes from those by the surface deformation. A gravity effect of 1 uGal corresponds to about 1.7 mm of vertical surface displacement, which can be measured by the integrated geodetic methods; and, a separation of the surface displacement from the mass movement and mass density change induced gravity becomes possible.

Last year, a grant of nearly one million Canadian dollars was awarded by Carbon Management Canada (CMC) to my proposal, "Integrated gravimetric and geodetic monitoring of geological carbon dioxide storage". In addition to the CMC's support for operation of the project, Tecterra Inc. supports SG and absolute gravimeter (worth \$740K) for this project (Figure: SG in the middle and absolute gravimeter in the right supported by Tecterra Inc., installed in Engineering building E30). In this innovative research, I proposed to monitor subsurface mass redistribution and leakage from geological CO₂ storage by integrated gravimetric and geodetic technologies. The SG is a key instrument for measuring time-varying gravity, which is supported by absolute and spring gravimeters for four-dimensional gravity and subsurface modeling. In addition to subsurface mass change and movement, the gravity measurements include the gravity effects from surface deformations associated with injection, migration and leakage at a CO₂ storage site. To analyze the displacement, geodetic techniques, such as persistent scatterer InSAR (PSInSAR), fully polarimetric SAR (PoISAR), in-ground tiltmeter grid and a global navigation satellite system (GNSS) network, are integrated with gravity.

The persistent scatterer InSAR (PSInSAR) and small baseline subset (SBAS) InSAR technologies will be used to monitor the millimeter level surface deformation; and, the results will be compared with the synchronized gravity anomalies maps from integrated gravimetric measurements. The SBAS InSAR is appropriate for monitoring the temporal evolution of deformation and uses a combination of differential interferograms to decrease baseline decorrelation. For this research, I proposed to use C-band RADARSAT-2 data and other available SAR data. Among the several available SAR satellites with different frequencies, C-band RADARSAT-2 is one of the best calibrated and most sophisticated with selectable imaging modes. In addition to natural radar reflectors available in the research area, a number of artificial metal corner reflectors for fine beam mode RADARSAT-2 will be installed as reference points.

The Korean government recently decided to build two geological CO₂ storages simultaneously in the southeastern part of the Korean Peninsula, one offshore and one onshore. JWK's two proposals, "Project development and implementation for Korean offshore geological CO₂ storage demonstration" and "Site selection, characterization and monitoring of subsurface CO₂ storage in Korea" have been accepted, respectively, by Korea National Oil Cooperation and by Korea Ministry of Education, Science and Technology, and the budgets are currently being revised. The two projects will begin in this summer. ♪



Agenda 21 of the French Order of Surveyors

by Todd Mackenzie, BTEch

Reprinted from 'The Link' Volume 34, Number 3, December 2011

Todd Mackenzie graduated with a Bachelors Degree in Geomatics from BCIT in 2011. As part of the degree program he completed a final research project on sustainable land development. Todd lives in Calgary and works as a Geomatics Technologist for Amec Geomatics.

The French Order of Licensed Surveyors became the first national organization of professional surveyors to make a commitment to become more sustainable, by adopting Agenda 21. Agenda 21 was originally created by the UN in 1992. The UN agenda outlines strategies to reduce the effects of human impacts on the environment at global, national and local scales. By 1998, the International Federation of Surveyors (FIG) created a task force to adopt Agenda 21. The FIG Agenda 21 is a plan for the international geomatics community to reduce global impacts of development.

French Surveyors were the first at the national scene to officially adopt Agenda 21 in July 2010. Pierre Bibollet, the French President of the Ordre des Geometres Experts (OGE), describes France's Agenda 21 as a "program of concrete actions directed towards sustainable development." The main objectives of Agenda 21 are to:

- Increase surveyors 'green' knowledge to create sustainable business practices
- Increase surveyors 'green' knowledge to best advise clients
- Promote and create awareness of the industry

France's Agenda 21 is mostly focused on sustainable land development. They want their land surveying industry to be educated in sustainable land practices, so they can effectively be involved with the land planning and development process. Becoming educated in sustainability will also help meet increasing customer green expectations.

There is a goal to also reduce the impact the industry creates itself. The Agenda promotes paperless offices, reducing non-essential travel, alternative transportation and energy efficient office buildings. The Agenda also promotes good relations between neighbors. This is done by creating boundaries that are clear, unambiguous and easily understood to the parcel owner. Included with that is a clear list of all easements and right of ways that affect the

parcel. The Agenda also promotes mediators in boundary disputes, avoiding costly court rooms.

The plan involves a modernization of standards, practices, and a move towards full digital documentation. This includes an 'e-consultation' cadastral map which is offered online. Users would be able to select parcels to retrieve parcel information and survey plans directly from the website. Considering France's history and population, this is quite the undertaking. The national organization in France will also provide support to local organizations within France looking to create their own Agenda 21 documents.

Five Tips to make your company more sustainable:

1. Set up a green committee for your office. The committee will involve people who are eager and energetic to reduce your company's foot print. The committee will be responsible for researching, implementing and managing the green initiatives for your office.
2. Request your green committee to calculate your current carbon foot print. This will be used to monitor progress. It will also show which sectors have the largest foot print. With that information the committee can start to tackle specific areas. Many free and easy to use carbon calculators are available online.
3. Go digital. Use emails, without printing them, for inner and inter office communication. Couriering plans and documents has a considerable carbon cost, not to mention the actual dollar cost. A lot of carbon and money can be saved by choosing emails. Consider using tablets to view survey plans on. When my office sends a plan to me in the field, I will use my iPad to view the plan. This way I do not have to print multiple sections of the plan from my hotel. I have done this on my own, for my own convenience. Then I only have to carry my iPad, instead of multiple plans in multiple folders. You can also find apps which allow you to use a stylus to make notes on the PDF, which you can email back to the office. It might even save money in the long run, considering prices for printer cartridges.
4. Remove garbage bins from under everyone's desk. My office has recently done this, admittedly to the

chagrin of a few people at first. A huge amount of garbage bags would be wasted each night, as the bins were emptied. They would be emptied even if there was one lonely candy bar wrapper in the bin. Even for smaller offices, the number of garbage bags this amounts to is staggering. For an office of 20 people this could save 5000 garbage bags a year being thrown out in landfills. In our office we carry our garbage to the coffee room where there is a recycling center and a compost bin. The amount that actually goes to the landfill is very small. It is also a good excuse to get up and stretch your legs. Removing garbage bin service from desks also saves a considerable amount of money from cleaning services.

5. Promote alternative transportation. Provide or subsidize transit passes. Have onsite bike locker storage, for bike commuters to safely and securely park their bikes. Our company has a 'bike to work challenge' to try and promote people to start to bike in to work. The challenge includes events and prizes for participants. Employers can also designate prime parking spots for carpoolers. †

The biggest thing you can do to make your company greener is to get your employees educated, involved and motivated to be more sustainable!

You Know You're From Saskatchewan When...

- You know what a Saskatchewanian is. And you can spell it.
- Your pronunciation of "Saskatchewan" is nearly monosyllabic "Skatchw'n".
- You know what prairie oysters are and have a recipe for them.
- You carry a scarf, toque and mittens with you until mid-May, "just in case".
- You call it a bunnyhug, and not a hoodie.
- Dinner is at noon, not in the evening. Evening meal is supper.
- You can perfectly understand the mute Gainer.
- Your definition of "rush hour" is five minutes spent waiting through two stoplights on the way home from work.
- You've visited a small town heritage museum housed in a converted grain elevator.
- Driving in the winter is often a matter of staying between the fence posts.
- You can recite from memory the names of the towns, in order, along the highway from Regina to Saskatoon.
- You really can taste the difference between Alberta and Saskatchewan beef.

Sympathy for the Devil: Revisiting the Situation of the Alleged Culprit in Professional Disciplinary Processes

by Dr. Bruce Ally and Khaleel Khan

Reprinted from 'Ontario Professional Surveyor', Volume 55, No. 1, Winter 2012

The mere thought of being subjected to a disciplinary process can bring about anxiety in even the most diligent of practitioners in any regulated profession. Disciplinary processes are among the means at the regulator's disposal to maintain professional standards and, so, to safeguard the public interest. Based on the authors' anecdotal knowledge, some of the root causes of apparent dysfunction point to sources other than simply the shortcomings of practitioners. It has become apparent that there are such things as exceptionally difficult clients, assignments from you-know-where, and critical details that may be missed in a fast-paced business environment where one struggles to balance professionalism with profit and work obligations with family life. Five minutes of fame courtesy of an article in the professional journal may, thus, conclude a chain of events that needn't have begun were it for more effective self-care, early mitigation and a profession-wide approach that stressed awareness and support for the challenges facing members.

Based on anecdotal evidence from conflict management in dental, legal, medical and engineering spheres, the authors discuss the mis-handling of electronic communication as but one of the underlying complications found in modern workplaces; and the ways in which worker stress and conflict are treated in the workplace as possible contributing factors to the application of professional disciplinary processes. A pro-active orientation is suggested towards crafting positive outcomes of professional disciplinary processes – one that acknowledges the various levels of impact and responsibility occasioned by dysfunction: individual and family, company, and regulator.

Fast forward

The fast pace and intense competition of modern society seems to bring about ever-increasing demands, both in one's working and personal life. For example, is your company website up to standard, and are you using it to maximum advantage to woo, track and retain clients? How many times in the past month have you been asked to join the network of a professional associate on LinkedIn; or to 'like' a service provider's page on Facebook? How often have telephone messages from clients gone missing or un-answered altogether? How often have you (mistakenly) assumed that you had read an incoming email because you took its 'unbolded' appearance to mean that it had been dealt with?

While communications technology has undoubtedly brought many time-and labour-saving innovations to the workplace, the reality experienced by many in the workforce is that technological change has inserted an additional layer of stress in the guise of beneficial processes intended to simplify our

working lives. The concept of the "paperless office" spoken of thirty years ago has not been realized in most workplaces. This article attempts to shed light on the perspective of the over-taxed practitioner by considering but one example of how the electronic details of multiple files can get away from us; of how failing to keep pace with technology can tip the balance between acceptable practice and discreditable conduct.

For want of a nail, the shoe was lost...

It is a fact that workers who juggle too many responsibilities run the risk of neglecting some tasks and performing many of them sub-optimally. It is common for emails to arrive at rapid-fire pace, both from outside and within an organization. Based on the authors' experience in numerous workplace mediations and disciplinary cases, a pattern of missed correspondence amidst the bustle of a modern practice can send us down a very unintended path. Consider a couple of email horror stories:

- A project report that you were sure you emailed to the correct addressee turns out not to have arrived at its intended destination. The client calls a week after the deadline asking why you have left her hanging, only to occasion higher costs as a result of the delay in starting the next phase of work. She perceives this a shirking of your duty and considers a complaint to your regulatory body.
- A client sends an email one Friday afternoon, saying that changes have been made in project requirements; the message includes multiple attachments; although the contents are slightly different, the file names have remained the same; you are confused, in your haste, as your computer advises that files having the same names have already been saved.

As it is, this is the type of 'problem' client that always seems to squeeze you to deliver extra work for a capped fee. You are running late and have skipped lunch for the third day this week. You grudgingly open and scan their bulky email. You send a quick acknowledgement via Blackberry on your way to a progress meeting on an important municipal contract. "I'll take care of that [email] after the milestone update," you tell yourself as you dash into what stretches into a three-hour session followed by an obligatory round of drinks.

As it turns out, that email which managed to escape your thoughts was rather important. It would require that you change your approach drastically to accommodate the new requirements. As you make your way home, your thoughts

shift to getting your daughter to her soccer practice on time the next day, and to the mounting yard work and the aggravation it has occasioned in your spouse. The untended message from that problem client recedes further and further into the back of your mind.

The appropriate response to a missed message may have entailed re-setting incorrect grade stakes before a site is excavated; calling to engage a sub-contractor to locate sub-surface utilities; writing a letter requesting clarification from the lawyer; re-scheduling fieldwork to investigate a discrepancy noted on site, etc. Most practitioners are used to changing “on the fly;” the “job board” in a typical land survey office is rarely static, as available resources are continually shifted to meet clients’ demands.

These are, of course, only examples of worst case scenarios resulting from a missed or mis-handled email correspondence. Certainly, there are many other causes of oversights that may lead to negative consequences and perhaps, ultimately, disciplinary processes. Suffice it to say that important details can easily get away from us, and what may at first appear a small lapse can end up building into a monumental headache if not addressed promptly and directly.

A ripple effect

From the individual worker’s perspective, attempting to keep pace with the demands of clients and superiors often entails stretching one’s capacity to untenable limits. As an ambitious sort in your mid-forties, for example, you are building your career. You want to excel at your job, to build a solid reputation so you can advance in the company; so you push yourself.

You push perhaps a little too hard so that, over time, the situation may upset your work-life balance; your sense of job satisfaction plummets; and the quality of communication and relationships with family and colleagues deteriorates. Collateral effects on health and well-being may be observed – in one’s emotional disposition, blood pressure, sleeping patterns; and the time available for - and the quality of - family and social interaction. Unfinished projects pile up; your slate of tasks becomes congested and sub-optimal work output becomes the norm.¹ For a myriad of reasons, faced with the sorts of demands placed on modern professionals, even the most diligent among us may fall behind.

The impact of one employee’s performance may also be seen in the wider organization, as the fallout from one worker’s situation may bring workplace conflicts to the surface and start to jeopardize relationships on which the business depends. For the already highly tasked manager or business owner, having to deal with an employee suffering from work and personal stress and performing below acceptable standards compounds existing challenges and distracts from the main task of managing the organization. The occurrence of even a temporary lapse in acceptable performance can, thus, have undesired impacts that can be seen at individual, team and organizational scales.

Re-thinking the application of discipline, and discipline as the only remedy

Though the above examples focus on only a narrow range of issues, they clearly suggest that worker dysfunction be looked at more broadly – i.e., as to its causes, and with an eye toward support, prevention and mitigation at early stages so that, ideally, the hammer of disciplinary process need be invoked only in the rarest cases. The examples suggest a need for tools to address the conflicting demands on individual workers; means of mitigating the impact of stress on the work environment; and, when conflict does occur, a means of resolving it that is acceptable to all stakeholders at all stages, and particularly when a situation escalates to the level of a professional disciplinary procedure.

While formal disciplinary processes operate on the principle that sufficient evidence must be brought in order to prove wrongful conduct, they nevertheless place the alleged malefactor in a dialectic process that, in itself, registers a blow to his reputation as a professional and ethical person. It has been observed that, in order to minimize the impact on their personal and professional lives, those subjected to formal disciplinary processes may tend to agree to consequences and conditions flowing from investigation of the subject of the complaint which they would otherwise challenge were they not subject to some form of constraint in their personal and / or professional lives. In other words, whether or not the subject of inquiry is truly deserving of the pillory, he may tend to cooperate rather than object to undeserved penalties.

Our experience in mediating professional disciplinary matters reveals that what often appears to be missing, given the dynamic that pits regulator/complainant against accused member, is a spirit of cooperation in getting to the root of the matter. In light of this, the following suggestions are offered for discussion as ways of improving the current approach to discipline:

A way forward

1. From the regulator’s perspective, while the obligation to protect the public interest is paramount, one must attempt to find an amicable resolution of the issues. Given an understanding of the underlying forces affecting the member, it is suggested that a remedial, rather than strictly punitive, approach be taken. Prosecuting disciplinary matters within such a framework enables the member to be restored to the required standard of practice, thus maintaining the number of qualified practitioners which ultimately assists in ensuring the protection of the public interest.

2. As with mediation, the disciplinary process itself must be transparent and unimpeachable. Any lesser approach would fail to ensure the perception that the standards of practice are respected, and that the disciplinary process itself is truly fair. The mere perception of falling short in either respect:

- may reflect, or be interpreted as, a lack of understanding of the underlying interests and motivations of the subject member;

- decreases the perceived legitimacy of the process, thus reducing buy-in;
- makes it more difficult to come to a mutually acceptable joint submission and to ensure adherence to the final resolution.

3. The resulting process should be marked by an intention to mitigate the past and present harm and to foster a cooperative spirit so that, should problems occur (e.g. of misunderstanding or non-compliance), the parties are more disposed to resolution of the matter based on an understanding of motivating interests.

4. Care should be taken to develop consequences that are reasonable, binding, likely to be complied with within a realistic timeframe, and based on an understanding of the member's personal and professional life. While this may add another layer to the process for already taxed discipline committee members, it is likely to produce a greater level of trust in the process, thus enhancing cooperation and compliance.

5. It is prudent to anticipate the worst case scenario by developing a process to deal with the possibility of breakdown of the original agreement. Such a process may include close monitoring of the subject practice.

6. Outside of the context of disciplinary process, develop a peer support structure that may be consulted confidentially to field concerns and to offer advice within specified guidelines. Such a network may be extremely valuable when, for instance, members encounter difficulty due to health issues (including both physical and mental aspects), something which may be especially relevant where the predominant demographic is that of an aging professional group. This type of mechanism is available within the medical, legal and engineering professions, and may extend to including the provision of a locum tenens (L. "place-holder," meaning a person who stands in temporarily for another of the same profession).

Accountabilities

It is certainly not the case that every member subject to disciplinary procedures is a 'bad' person, or a failure professionally. In a sentiment that speaks to the skepticism with which some view the process, disciplinary proceedings are regarded as something of a rite of passage in one's professional development! Being human, we are all susceptible to falling behind the heavy demands of industry. Being human, when conflicting demands become overwhelming, rather than address a problem through self-care and reflection – i.e. by reaching out for help, or through "down time" / stress leave, exercise, meditation, prayer, seeking the support of loved ones or professional help – it is commonplace for many of us to adopt some of the easily accessible unhealthy remedies. A negative reaction to stress may thus exacerbate our drink, drug and prescription use, and may negatively impact family life and social activity; in the process, we end up depleting the amount of productive time available in an already pressurized existence.

As a key sector making important contributions to the built environment, how does the surveying / geomatics industry address the issue of work / life balance among its ranks? What is the role of the professional association in establishing awareness and desirable norms in this area? As business operators, we must question whether we are doing enough at source to head off potential crises in a given worker's caseload, in terms of –

- the organization of tasks, work relationships and accountabilities;
- the clarity of definition of individual worker responsibilities;
- the way in which we instil and reinforce a supportive workplace culture; and
- how well the operating environment itself is resourced and sustained.

While the accustomed approach may be to resort to disciplinary or punitive measures, and considering that formal discipline is onerous, costly in dollars and reputation, it would seem reasonable for a governing association to offer resources addressing dysfunction and conflict as pre-emptive supports to its membership. The authors would suggest an interest-based approach to addressing conflict and dysfunction; one that requires an examination of underlying needs, fears and concerns, and courageously addresses the factors that have brought about the conflict or non-conformity with the standards.

The professional organization must always appear to be approachable, thus encouraging members to discuss concerns before complaints have crystallized; permitting the adoption of preventative measures and the opportunity for early resolution. Developing a stellar protocol for discipline that acknowledges the stresses of professional practice would engender confidence in the process. Discussion of these two basic changes may well be the initial steps toward enhancing the current approach to conflict resolution and promoting a greater level of cooperation within governing associations, their members and the public at large. ☯

Resources:

Spira, Jonathan. Overload! How Too Much Information is Hazardous to your Organization. John Wiley & Sons. 2011.

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New Surveyors' Tool puts Everthing Up in the Air

by Joseph V.R. Paiva, PhD, PS, PEBCLS, CLS

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Just when you thought the only thing you needed to decide was whether to buy your laser scanner—and if so, when—here comes another technology on the horizon. It can help you get more done faster; it can also expand your reach. Yes, yes, you've heard it all before. What have they cooked up now?

The answer is sUAS.

Small Unmanned Airborne Systems. Some people hear about them and say "drones." Drones are UAS, but usually not sUAS. Some of the military's drones have 60-foot wingspans, and even the smaller ones can weigh in at several hundred to a couple of thousand pounds. But sUAS aren't anything like the Predators and Desert Hawks being used by the military. Or the ones used for surveillance by the Border Patrol or various police agencies. Or the ones that loiter overhead for a variety of reasons—atmospheric sampling, providing temporary communications links, or doing some type of electronic monitoring.

A purpose-built sUAS for geomatics (or, if you prefer, surveying and mapping) is a mini-version of the systems you might be familiar with in conventional manned aerial photogrammetry. Yet while they are similar, they're definitely not the same. They differ in details of the benefits, drawbacks, costs, skills required, size, weight and power consumption, and so forth.

What are the characteristics of sUAS?

It is impossible to generalize too much about sUAS technology, but the greater majority of them can be described, as long as you realize that a particular sUAS you are discussing may not have all of these general characteristics.

We begin by first breaking them down into two classes: rotor wing and fixed wing. A rotor wing is often in the configuration of a helicopter, as most of us know. Many others designed for sUAS applications have multiple rotors, four, six or eight being relatively common. While rotor wing sUAS are extremely useful devices for certain applications—such as inspection of inaccessible parts of structures or the small sections of ground surface—they are generally not that great for photogrammetric mapping of larger areas. This is because their stability is questionable when the weather is not calm; flying them in a straight line is difficult; and most have extremely short flight range because of their extraordinary power consumption.

Fixed wing sUAS can be configured similar to most commercial aircraft we see, with a wing near the front and a vertical stabilizer and horizontal stabilizer in the back. However other designs may be seen, with the "flying wing" concept used quite a lot. Regardless of the details, fixed wing sUAS use the concept of an airfoil (the wing) to generate lift, which is only possible when the movement of air over the wing occurs.

While larger UAS may be powered using liquid fuels that are similar to gasoline, it is common for sUAS to be electrically powered. At minimum, there is an electric motor that drives a propeller, a battery, and some means of controlling the speed of the propeller to vary the thrust.

Takeoff may be conventional, as in rolling down a runway on wheels, or the fixed wing sUAS may be thrown in the air or a mechanical device can be used to launch it. sUAS designers will pick the best system based on the aircraft's characteristics and the application for which it is designed. Landing may also be conventional, or devices such as parachutes or nets may be used. Some sUAS land conventionally but do not use wheels. Skid landing is a common technique so that the user is not limited to smooth paved surfaces required for wheeled landings.

The aircraft may be "pilot-in-the-loop," which means that the plane is under remote control of a pilot from the moment it starts its engine until it lands. Or it may be semi-autonomous, where takeoff and landing are manual, but part of the mission is automated. The aircraft may also be fully autonomous. This means that once the "takeoff" button is pressed, it executes a preprogrammed flight plan automatically and lands at a designated spot. Autonomous vehicles should have preprogrammed "fail safes" that handle abnormal or out-of-the-ordinary situations that may require mission suspension or termination. Autonomous vehicles are generally required by the civil aviation authorities (in the United States, the FAA) to have a radio link that allows the pilot to observe that conditions are abnormal (such as an imminent collision with a flock of birds) and either suspend or terminate the mission.

Almost all sUAS that are autonomous will have a speed sensor to determine airspeed, an altimeter, and GPS. Autonomous sUAS must also have some kind of attitude sensor to detect the three principal rotations of pitch (nose up or down), roll (right or left wing up), and yaw (orientation

of nose or longitudinal axis of the aircraft in relation to the direction of travel).

What is a mapping sUAS?

A mapping system that is sUAS-based carries a camera payload, automatically flies a predetermined flight plan with correct forward and side overlap, takes pictures automatically, and has avionics that keep the plane flying as straight and level as possible. The avionics includes a three-axis gyro (usually a micro-device) and a three-axis accelerometer. Usually, like all well-designed craft that are created to be autonomous, it will have GPS on board so that it can navigate to the points designated on the flight plan that was uploaded into the aircraft before takeoff. The system will include software that allows the flight plan to be created before takeoff. This usually includes designation of landing and takeoff points, boundaries of the area to be flown, and usually, designation of the altitude above ground level at which the mission will be carried out.

The system will also include software for downloading the imagery once the craft is on the ground, viewing it, geocoding it (if it hasn't been geocoded in the air), and preparing for the process of converting the imagery into data products (usually orthomosaics, digital surface models—DSMs—and X, Y, Z point clouds).

Why are mapping sUAS being developed?

The sUAS has several operational benefits for surveying and mapping that cannot be ignored. Generally, they can fly in a wider array of weather conditions than is optimum for manned aerial photogrammetry. In fact, because flying height is usually 150 m or so, cloudy weather is usually not a problem. It is lightweight and can be brought to a site without worry about the logistics of getting a large airplane near the site. Very often the system can be taken along as luggage on a commercial airplane flight. While acquisition costs can vary between the cost of a total station and a low-end lidar scanner, the costs of operation are miniscule. While the sUAS cannot carry a large payload (a few hundred grams is the norm—usually far less than a pound), the cameras used, which are usually semi-professional off-the-shelf systems, can capture images of exceptional clarity and resolution. At the 150 m flying height, pixel resolution of 5 cm is normal. This opens up a style of data capture and mapping that has not been feasible before.

Generally, conventional photogrammetry serves extremely well when the areas to be mapped are large (tens to hundreds to thousands of square miles). On the other hand, surveyors with on-the-ground systems such as total stations and RTK GPS become expensive time-wise and cost-wise as areas to be mapped get larger than about 10 acres. With sUAS technology, a user can bridge the gap between these two well-developed and relied-upon systems. In addition to making mapping of

areas larger than about 10 acres to about 10 square miles economically feasible, without the limitations of weather delays, sUAS mapping is sometimes the only solution when it is dangerous to fly over the area to be mapped with manned aircraft or even to approach the area on the ground. Examples of sUAS saving the day are already numerous, including levee surveying during floods, forest fires, and the recent Fukushima nuclear power plant accident in Japan.

Accuracy varies depending on how the imagery is used. Conventional photogrammetric processing techniques cannot be used together with sUAS technology. The principles of close range photogrammetry and vision software must be used instead. This requires, among other things, high overlap photography—usually a minimum of 75 percent forward and side overlap. When properly controlled with surveyed ground targets, accuracies at the 5 cm level horizontally and 10-15cm vertically are feasible. Potential users see sUAS as the ideal data collection source for many applications, including volume mapping for construction projects, construction progress mapping, change detection in a variety of applications, forest and agricultural crop monitoring and management, and open cut mine management.

Caveats and full disclosure

Currently FAA regulations (the regulator of the use of our national airspace) do not allow the use of any unmanned system without a permit. Permits for most of the applications mentioned here are only available to government agencies and publicly owned universities. Commercial flights with sUAS are banned except for research or training purposes or for market surveys, when a special airworthiness certificate may be issued to a commercial company.

It is anticipated that the FAA will issue new regulations that open up the skies for sUAS ... but even the proposed regulations have yet to be released. The current guess is that they will be disclosed in March 2012. Then there will be a comment period, and then a period for the FAA to modify the regulations based on legitimate comments they received. So, commercial flights may still be a year or two in the future for most of us. But there's no harm in dreaming ... and many public agencies have already started using sUAS for mapping for GIS, volume determinations, environmental assessment, resource mapping, etc. ☿

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Safety

by Chris Beaugrand, P. Eng., ALS

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Travel is a major part of any surveyor's job, be it driving to the office or mobilizing to camp for a 21-day shift. We walk, AT snowmobile, and drive to get to where the work needs to be done. Working smarter and with smaller crew sizes, we look to mechanical assistance in carrying equipment such as chainsaws, statutory posts, marker posts, survey gear and ourselves long distances from truck accessible roads.

Undoubtedly everyone is aware of the dangers that are created when anything mechanical is introduced into our daily activities. We try to eliminate and minimize these dangers, designing them out of the work, training and ensuring competence, and providing PPE as the last line of defense in ensuring safety. Off-Highway Vehicles (OHVs) have many dangers associated with them – securing equipment, steep slopes, speed, fires and collision. There are also hazards transporting and unloading OHVs.

As OHVs are not designed to be driven on the highway, we transport them to a staging or unloading area. The survey community has been addressing this for years and many different solutions exist including trailers, truck decks and truck beds, each with their own benefits and safety concerns.

There are many things to consider when choosing how to haul the OHVs you need for work.

- How many will you be transporting?
- What are their size, both dimensions and weight?
- Where will you be travelling? Can you turn a trailer around if you need to?
- What can your current and future fleet handle for towing capacity and gross vehicle weight?
- Has the client requested a specific transportation method be used or not used?
- What is the budget?

Whatever choice is made on how to haul OHVs, you need to examine closely the work process and identify the hazards each has. Trailers introduce towing and extended vehicle length, pinch points when hitching

up and potential for the hitch to jump out if improperly secured. A truck deck is at a raised elevation and falling could be more hazardous; sliding leaves could cause pinch points; and the centre of gravity of the truck is raised causing rollovers to be a greater risk. Even transporting your OHV in your truck bed introduces hazards as there may not be ramps designed specifically for the truck model being used and processes, such as securing them to the frame, need to be in place. A step-by-step plan for loading your OHV should be developed, and each step evaluated for hazards. Once the hazards are identified, the root cause can be removed or mitigated through a procedure. Winching your OHV onto the truck deck avoids possible injury due to the OHV rolling off the ramps while driving it onto the deck.

Regardless of what method is used for transporting OHVs, there is still the need for securing them both physically from movement and from theft. OHVs should be properly secured and the method of securing should be checked regularly on long journeys to ensure that vehicle movement has not loosened them. Ratchet straps are the most common method used to secure cargo such as an OHV. The working load limit, noted on the strap tag, should be sufficient for the OHV's weight. Ratchet straps should be inspected prior to each use and if there is any damage they should be replaced. Damage to these straps can occur from prolonged exposure to UV rays if not specifically designed to resist it, mud and dirt can get inside the fibres of the webbing and abrade the fibers weakening their strength and sharp edges the strap passes over can also cut the strap if contact is made.

The survey industry is ever evolving. EDMs and GNSS have become the survey instruments of choice, increasing public awareness, environmental stewardship, and focus on health and safety. Through all of this the work must still get done, let's do it safely.

More information can be found in the Traffic Safety Act— Part 6: Off-highway Vehicles - <http://www.qp.alberta.ca/documents/Acts/t06.pdf>.

Chris Beaugrand, P. Eng., ALS



Requiem for the First Surveyor Concept

by Jeffrey N. Lucas, PLS, Esq.

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Can you hear the mournful peal of the distant bell; for whom does the bell toll? It is the death knell of the first surveyor concept; an arbitrary rule of surveying too oft extolled.

The proper role of the land surveyor is either that of an original surveyor setting out lines for the very first time or a retracing surveyor following the footsteps of the original surveyor. The support for these doctrines of land surveying is so well established it needs no citation to authority. The lone detractor to the doctrine of following in the footsteps is the "first surveyor" concept¹ which proposes the idea that there is a third role for the land surveyor. The "first surveyor" to attempt the placement of boundary lines on the ground is honoured as a true original surveyor if this first surveyor follows proper procedure or if the results of the survey are "close enough."

The first surveyor concept is found in all of the arenas of land surveying and spans all jurisdictions. It manifests itself in the metes and bounds system of surveys of the eastern states and the Public Land Surveying System (PLSS) throughout the public domain states. The first surveyor subject to collateral attack and subsequent correction can also be found in lot and block subdivisions of land in either system. Even surveyors who profess to be ardent supporters of original surveyor-following surveyor doctrine will reveal their first surveyor sentiments when the math and measurements are tortured to the extreme. If there is one thing the land surveyor cannot abide it's tortured math and measurements; they crumble every time.

First Surveyor Concept

Nowhere is the concept of first surveyor more zealously practiced and preached than in the PLSS. The reasons for this should be obvious. It is the largest subdivision of land existing on planet Earth. It encompassed 1.5 billion acres of land spread out over 30 of the 50 states. The majority of the subdivision lines and resulting corners were created as protracted lot lines, existing on paper or in legal contemplation only. With the smallest administrative subdivision being the 40 acre tract, the GLO/BLM typically set about one-third (8 out of 25) of the corners and ran only 4 of the 10 subdivision lines on the ground. Some quick math on that 1.5 billion acre figure (you know how we love math) means that nearly 40 million corners remained unset (protracted only) when the federal government left the field.

Given the land surveyor's penchant for righting wrongs and their love affair with measurements, in all likelihood the first surveyor concept was floating around before Brown, ostensibly the first to do so, articulated the concept in Evidence and Procedures.²

At times, the surveyor must determine whether he or she is retracing an "original survey" or a "first survey"... Initially the surveyor must determine whether the creating surveyor actually ran the creating line and then reduced the survey to notes or the description was created on paper and then a surveyor subsequently placed that description on the ground. When a parcel or parcels are created on paper, without a survey being conducted, and the surveyor is later requested to place one of these paper-described parcels on the ground, this survey should be considered the "first" survey, in that it is the first survey to be placed on the ground after the description. The difference is that whereas the original survey controls, the first survey is nothing more than an opinion by the surveyor of where the written description should be placed. As such, it is always open to collateral attack. Id.

Brown seems to ascribe his "first survey" (first surveyor) view to the Florida case of Rivers v. Lozeau,³ a case involving the subdivision of a section within the PLSS and a case that I have discussed on many occasions in the past. In Rivers a local surveyor had subdivided at least a portion of the section and set monuments around the southeast quarter of the southwest quarter. Those monuments were relied upon for some subsequent real estate transactions and everybody was happy until the BLM conducted a dependent resurvey⁴ within the section throwing out the local survey and claiming about 28 feet along the north boundary. The 28-foot discrepancy had a ripple effect throughout the remainder of the quarter-section sending everybody to court.

Ruling in favor of the BLM the Florida court of appeals stated:

Although theoretically conceived and invisible, these lines are not merely theoretical concepts but are real lines, actually run and marked on the ground with terminal points monumented by surveyors acting under the authority of the cadastral engineer of the Bureau of Land Management. The approved and accepted boundary lines established by the federal government surveyors are unchangeable and control all references in deeds and other documents describing parcels

of land by reference to the federal government of sections, townships and ranges.⁵

In the very next section of the opinion the court added:

*In establishing the internal lines within Rizzo's subdivision, Moorhead acted as an "original surveyor" but in attempting to locate and monument Rizzo's external boundary lines which are described by reference to the federal rectangle system of surveying, Moorhead was a "following surveyor" and not only failed to properly find the northern boundary of this quarter-quarter section where it was located by the original government surveyor (and also re-established by an authorized federal government resurvey) but to evidence his erroneous opinion as to the true line, the Moorhead surveyor placed monuments 28.71 feet north of the true north line of this quarter-quarter section.*⁶

Thus the genesis of Brown's first surveyor concept. This would all be old news and purely an academic exercise were it not for the 2009 Manual⁷ and its expanded exposition on the role of the local surveyor in the subdivision of the sections.

The Role of the Local Surveyor

The role of the local surveyor was covered sufficiently in the 1973 Manual,⁸ but everybody ignored it. The Florida court of appeals ignored it, BLM surveyors ignored it, private practice surveyors ignored it, you ignored it, I ignored it⁹—everybody ignored it. It is almost impossible to ignore it in the 2009 Manual. Let's put it this way, the only way to ignore the role and function of the local surveyor in the new manual is to ignore the new manual. I have questioned the manual's relevancy but I have never said ignore it.

My biggest problem with the manual hasn't been the manual itself, it has been what surveyors read into what's not there and ignore what is. For instance, surveyors somehow read that the instructions for the subdivision of a section apply every time a survey is conducted in a section, that a center quarter-corner is set over and over again until someone finally "gets it right," and that a retracing surveyor can call a corner lost. Brown somehow sees a role of "first surveyor" when the only surveyors identified in the manual are an original surveyor and retracing surveyor. No such instructions are found in the manual and the role of the local surveyor precludes these activities; thus, rendering them arbitrary rules of surveying.

It was contemplated by law and as a basic function of the system that the local land surveyor would be employed by a patentee (or any subsequent title holder) to find, on the ground, the location of the patent.¹⁰ As the 2009

Manual puts it, this was a two step process.

In the public land survey system a corner is fixed in position by operation of law. Corners marked in official

*surveys followed by use are fixed in position by monuments. Only a small portion of corners are marked on the ground in original surveys. Subdivision-of-section corners are generally not marked. Their positions are fixed on the plat by protraction. Their positions are fixed on the ground by the survey process of running (and marking) line between marked corners, and setting monuments.*¹¹

Once fixed on the ground by the local surveyor as contemplated by law, the monuments thus established are original monuments set by the original surveyor and have equal status with those monuments set by the GLO/ BLM surveyors.¹² To prove that they are something less, there must be more than a "mere demonstration of technical error ... when lines have been run and marked and corners marked and fixed by local survey, [there] must be positive evidence of an intentional departure from the legal principles governing recovery of original corner location."¹³ In short, the local surveyor is an original surveyor as contemplated under federal law and infallible as to location absent fraud or gross blunder.¹⁴ Once a section has been subdivided it must remain always subdivided. "The law gives these activities repose."¹⁵

The opinion in *Rivers v. Lozeau* doesn't resemble anything found in the 1973 or 2009 Manual. As with so many other opinions that surveyors grab and run with, the opinion is almost devoid of details about the surveys that were conducted. For all we know the BLM proportioned corners in from the township lines and Moorhead's subdivision was based on original section and quarter-section corners. The most incredible and absurd portion of the opinion (see footnote 5) is when the court tells us that the lines were fixed on the ground by drawing them on a map. This is a ridiculous statement and completely detached from reality.

May the first surveyor concept rest in peace as we continue to pray that the damage done to our professional reputation and to the rights of property owners is not irreversible.

This article first appeared in POB Magazine September, 2010.

The author retains all rights to this article. ☽

Endnotes

1 I refer to this as a "concept" as opposed to a "theory" because more is required of a theory. A theory is "an organized body of ideas as to the truth of something, usually derived from the study of a number of facts." Webster. The first surveyor concept falls short of an "organized body of ideas" and is not supported by the facts. It is more of a belief system based on arbitrary rules of surveying and survey mythology.

2 Robillard, Walter G., Donald Wilson and Curtis M. Brown, *Evidence and Procedures for Boundary Location, Fifth Edition, 2006 John Wiley and Sons, Inc., Hoboken, New Jersey.*

3 *Rivers v Lozeau, 539 So.2d 1147 (Fla.App. 1989).*

4 A "dependent resurvey" is an original survey of the undisposed of lands of the federal government. Federal law prohibits the Secretary of the Interior from conducting a dependent resurvey that infringes upon the "bona fide rights or claims of any claimant, entryman, or owner of lands affected by such resurvey." 43 U.S.C. 772.

5 *Id.* at 1152.

6 *Id.*

7 *Manual of Surveying Instructions (2009), U.S. Dept. of Interior, Bureau of Land Management, Denver, Colorado.*

8 *Manual of Surveying Instructions 1973, U.S. Dept. of Interior, Bureau of Land Management, United States Government Printing Office, Washington, D.C.*

9 *I ignored it until I finally saw the light and began to correct my errant ways.*

10 *2009 Manual at Sec. 3-131 thru 3-132. Also see Sec. 5-5, 5-14, 6-1 and 6-6.*

11 *Id.* at Sec. 3-99.

12 *Id.* at Sec. 3-4.

13 *Id.* at Sec. 3-137.

14 *Id.* This is also the same criteria for GLO/BLM surveys.

15 *Id.*

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Photo from our archives - Survey tools

The 10 Commandments of Customer Service

by Gregory J. Litwin

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Wikipedia defines Customer Service as the provision of service to customers before, during, and after a purchase, or a series of activities designed to enhance the level of customer satisfaction . . .

What level of customer service excellence do you deliver in your business?

- Do your clients feel “good” after meeting with you and completing their business?
- Do they feel satisfied with your service?
- Would they be willing to share their experience with family and friends?
- Would they consider allowing you to use their words in “testimonial”-type advertising?

Said Sam Walton, founder of Wal-Mart, “Our goal as a company is to have customer service that is not just the best, but legendary . . .”

Who doesn’t like entering the Wal-Mart store and being greeted by a person with a smiling face who offers you a shopping cart? Who wouldn’t want to buy something after that initial “feel good” service? You sense, I am welcome here.

They value my business!

Here are my Ten Commandments of Customer Service Excellence.

1. *Greet each person who walks through your office door.*

Smile, offer a friendly greeting, and if you can, acknowledge the person by name. All of us like to feel important. When I walk into a place—be it a store, a restaurant, or a gym—and hear someone say, “Hi, Greg. How’s it going?” wow, I feel better already. I enter my office and greet my assistants each day with a smile and usually say “Morning! What a beautiful day!” My belief is to start each day as a brand new day. Let’s start on a happy, positive note. That’s my own feeling, of course, but it ties in with this next golden rule.

2. *Treat your assistants/staff with the utmost respect.*

- Are you polite in your dealings with them?

- Do you try to accommodate their requests?
- Do you listen to them when they speak?

Remember your assistants/staff are a reflection of yourself, and your staff can make or break you. I foster a team approach where everyone wins. Through our bonus system, everyone benefits when we have a good month. Thank your staff for their efforts and praise them for a job well done. They have a direct effect on your profit.

“Kinds words can be short and easy to speak, but their echoes are truly endless.”

MOTHER TERESA

3. *For good customer service, go the extra mile.*

Include a thank you note in a customer’s package, send a birthday card . . . there are all sorts of ways to keep in touch with your customers and bring them closer to you.

“Loyal customers don’t just come back; they recommend you and insist that their friends do business with you.”

CHIP BELL

4. *Give your customers the benefit of the doubt.*

When you attempt to prove the customer is wrong and you are right, you risk losing that client. You will never win an argument with a customer—and you should never, ever put a customer in that position.

“Your most unhappy customers are your greatest source of learning.”

BILL GATES

But of course, try not to have any unhappy customers.

Word-of-mouth is the best source of advertising. If a customer is unhappy with your service, how many people do you think he or she will tell? Misery loves company.

5. *Be a good listener.*

Take the time to identify customer needs by asking questions and concentrating on what the customer is really saying to you. Listen to their words and tone of voice.

Watch their body language and, most important, how they are feeling. Beware of making assumptions or thinking you intuitively know what the customer wants.

6. *Make customers feel important and appreciated.*

People value sincerity. It creates good feelings and trust. Think about ways to generate good feelings about doing business with you. Customers are very sensitive; they know if you really care about them. Thank them every time you get a chance.

7. *Know how to apologize.*

When something goes wrong, apologize. It's easy and customers like it. The customer may not always be right, but the customer must always win. Deal with problems immediately and let the customer know what you have done. Even if the customer is having a bad day, go out of your way to make him or her feel comfortable.

8. *Give more than is expected.*

Since the future of all companies is in keeping customers happy, think of ways to elevate yourself above the competition. Consider the following.

- What can you give customers that they cannot get elsewhere?
- What can you do to follow up and thank people?
- What can you give to customers that is totally unexpected?

9. *Always remember how it feels to be a customer.*

Put yourself in their shoes and remember how it feels to be on the other side of the desk.

- Do you remember how it felt when you purchased your first home? How exciting was it?
- How did you feel when you made your Will, with all that talk about dying?
- You must always be sensitive and aware of the customer's needs.

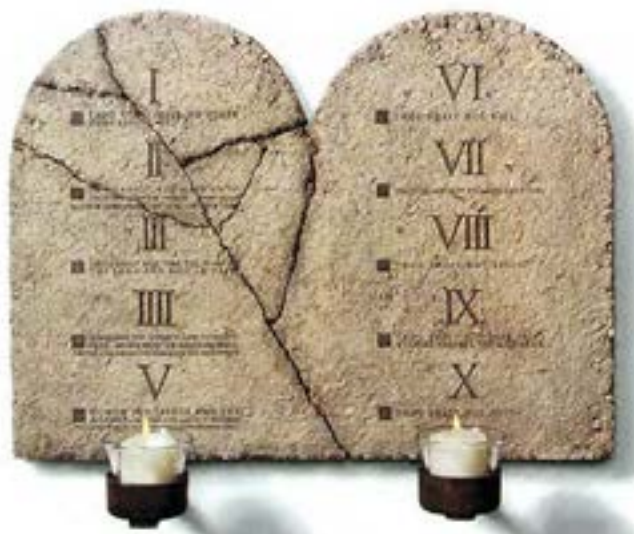
10. *Do unto others.*

The Good Book says always do the right thing - never compromise your values. Mahatma Gandhi said that a customer is the most important visitor on our premises.

- A customer is not dependent on us; we are dependent on him or her.
- A customer is not an interruption in our work; he or she is the purpose of it.
- The customer is not an outsider in our business; he or she is part of it.

- We are not doing the customer a favour by serving him or her; the customer is doing us a favour by giving us an opportunity to do so. ♯

Gregory J. Litwin is a BC Notary Public with over 26 years of experience in his field. He has offices in Penticton, Oliver, and Keremeos. Greg's motto has always been "Excellent Service at a Fair Price."





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Jeff Johnston joins Spatial Technologies as our Technical Sales Representative for Southern Alberta and Saskatchewan. Jeff has worked on or managed everything from small scale topographic surveys, large commercial developments, legal subdivisions, well sites and pipelines as well as the high precision needs of the Calgary LRT project.

A Calgary native, Jeff is also a Professional Engineer and Alberta Land Surveyor with over 15 years experience in the industry. Jeff's Geomatics Engineering degree from the University of Calgary (1997), Alberta Land Surveyors Commission (2004) and P.Eng designation (2005) allows Jeff to give that unique insight to the needs, challenges, and successes of the Geomatics industry.

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