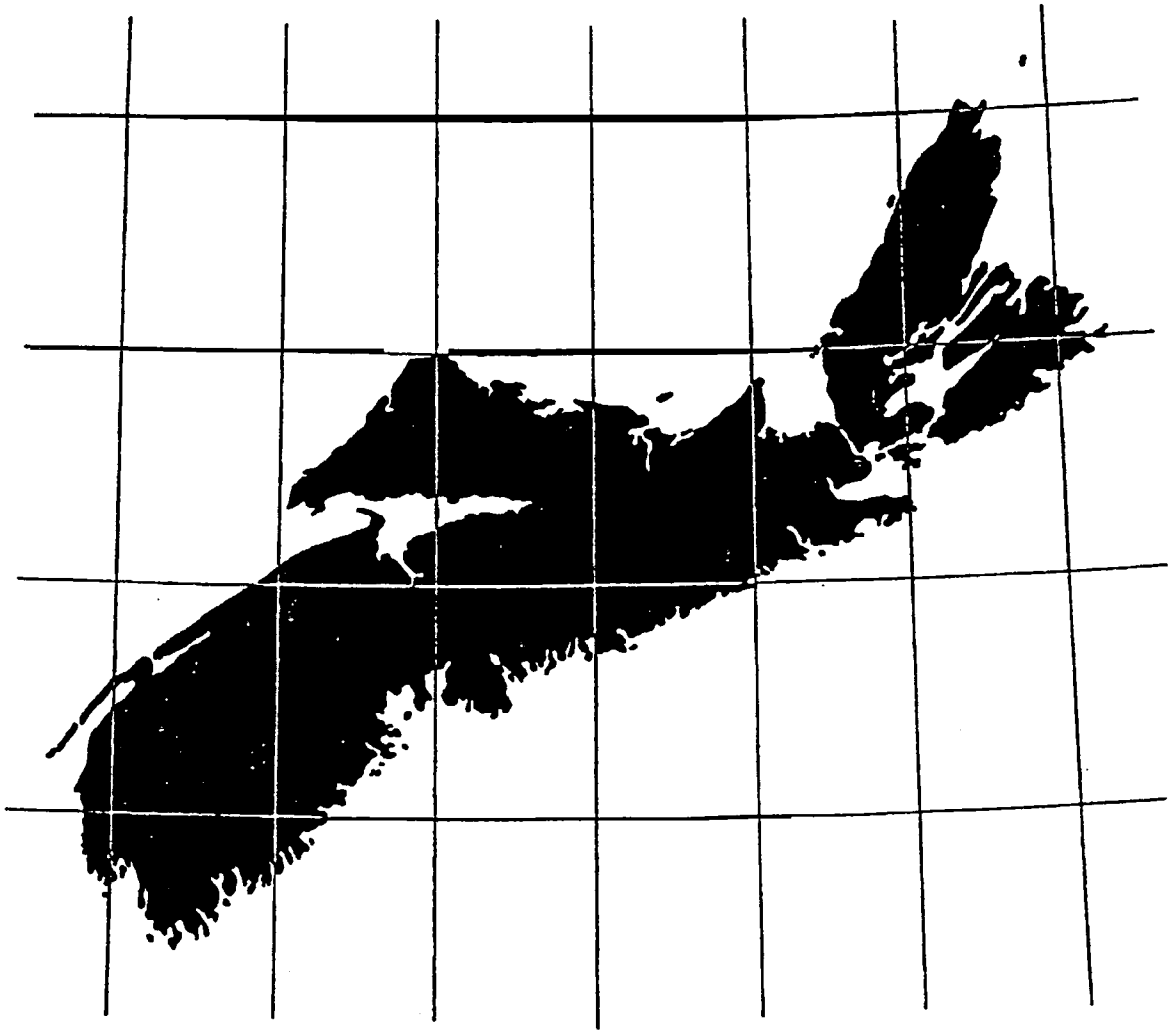


The NOVA SCOTIAN SURVEYOR



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The NOVA SCOTIAN SURVEYOR

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WALTER E. SERVANT
President

H. B. ROBERTSON
Secretary-Treasurer

R. E. MILLARD
Editor

Address all communications to P. O. Box 1541, Halifax, Nova Scotia.

Meeting of the Council

Held in the Board Room, in the Provincial Building, August 24th, 1959

The meeting was called to order at 2:45 p.m. by the President.

Members Present:

Herbert Martell, President
Walter Servant, Vice President
Col. Spencer Ball
R. E. Dickie
J. R. March
John Fiske
Donald Wagstaff
Errol B. Hebb
W. S. Crooker
H. B. Robertson, Secretary-Treasurer

President Martell opened the meeting by reading a letter from Mr. R. F. Mucklestone, President of the Association of Ontario Land Surveyors congratulating us on the passing of our Act.

President Martell then called for the minutes of the last meeting of the Council.

The secretary informed the members that printed copies of the minutes of the last meeting had been forwarded to all members of the Council and made a motion that the minutes be adopted as printed.

Seconded by Col. Ball. Motion carried.

The secretary then read the financial report which showed a Bank Balance of \$337.22 on July 31, 1959, and that receipts since then have brought the balance to \$410.04.

The secretary informed the members of the Council that we still owe Mr. MacInness the amount of \$400.00 on his Bill of \$800.00 for his part in connection with the passing of our Act. He asked the Council if they felt that we should pay Mr. MacInnes another \$200.00. He also reminded the members that we may also be required to pay out another \$150.00 if we send a delegate to the conference on Survey Education which is to be held in Ottawa on October 29th and 30th, 1959, and that we may have to spend another \$250.00 or \$300.00 in connection with our 1959 Annual Meeting.

After much discussion it was agreed by all present that we should attempt to pay Mr. MacInnes the balance of his fees as soon as possible, but that it was also very important that the Association be represented at the coming meeting on Survey Education in Ottawa, and that every effort should be made to make our Annual Meetings self supporting.

Mr. March made a motion that the registration fee for the Annual Meeting should be raised to \$1.50 and that the Banquet be raised to \$3.50 per person.

Seconded by Walter Servant. Motion Carried.

Walter Servant made a motion that we remit another payment of \$200.00 on Mr. MacInnes' Bill.

Seconded by John Fiske. Motion Carried.

The President then brought up the matter of the 1959 Annual Meeting. The estimate of expenditures and revenue for the Annual Meeting, which had been discussed during the report on the finances of the Association was again brought up for consideration, and the members of the Council again expressed the opinion that we should try to make our Annual Meetings as self supporting as possible.

The dates for the meeting were then discussed, and the members of the Council were informed that the October 26, and 27 dates as announced at the last Annual Meeting conflicted with the dates set for the meeting on Survey Education to be held in Ottawa on October 29th and 30th. It was felt that, if possible, we should postpone our meeting until after the meeting in Ottawa so that we would be able to present an up to date report on the Ottawa meeting to our members at the Annual Meeting. It was also felt that if we hold our meeting on October 26, and 27 as previously planned, it would interfere with our plans to invite the Surveyor General of Canada, and the President of the Canadian Institute of Surveying to take part in our meeting, as they are involved in the Ottawa meeting and would not be able to attend ours. The secretary explained that he had made reservations at the Lord Nelson Hotel for October 26, and 27, but on being informed of the meeting in Ottawa on the 29th of October he had also reserved the same space at the Hotel for November 16, and 17, these dates being the nearest dates still open at the Hotel. He said that if the Council decides to change the dates of our meeting to November 16 and 17, then he would notify the Hotel and have the October dates cancelled and hold the November dates.

Col. Ball then made the motion that the dates of the 9th Annual Meeting be advanced to November 16 and 17, 1959 instead of October 26 and 27.

Seconded by Mr. Dickie. Carried.

Following a brief discussion on the programme for the meeting and a guest speaker for the Annual Banquet the matter of the Annual Meeting was referred to the Convention Committee to be brought up at the next meeting of the Council.

The matter of the proposed colloquium on Survey Education to be held in Ottawa was then brought before the members of the Council. This matter having been discussed previously during the discussion on the finances of the Association, and again during the discussion on the 1959 Annual Meeting, and it was felt that it was important that the Association be represented at this meeting.

It was moved by Mr. W. S. Crooker that Col. Ball represent the Association at the meeting on Survey Education in Ottawa on October 29, and 30, 1959.

Seconded by Mr. Dickie. Carried.

The secretary said that he had been requested by Major Church to bring up the following subjects in connection with the Board of Examiners:

- (I) The Syllabus and Instructions to candidates for the preliminary examinations.
- (II) That the papers and their answers be supplied to the Board of Examiners, and that the marks be assigned to each question.
- (III) That a list of the text books from which the preliminary examinations are to be set be prepared as soon as possible.

The secretary said that Major Church feels that this is very important and should be attended to as soon as possible.

The Council then discussed this matter and decided that it be referred to the Board of Examiners.

The question of the method of dealing with surveyors-in-training was then brought before the Council, and following a brief discussion was referred to the Board of Examiners.

President Martell then read a letter from Mr. R. J. Norris of Sydney, N. S., applying for membership in the Association. Mr. Norris not being the holder of a Certificate of Qualification as a Provincial Land Surveyor is not eligible for membership in the Association, but it was the feeling of the members of the Council, that due to Mr. Norris' qualifications that he should be given the same consideration as a graduate engineer. This would have to be decided by the Board of Examiners.

President Martell then read a letter from Mr. D. C. Tibbetts, Secretary of the Halifax Metropolitan Home Builders Association, inviting our Association to take part in the Atlantic Regional Housing Conference to be held at Dalhousie University on September 24th, next.

Mr. March made the motion that Walter Servant represent our Association at the Atlantic Regional Housing Conference at Dalhousie University on September 24th.

Seconded by Mr. Dickie. Carried.

Mr. Servant requested that the secretary inform Mr. Tibbetts of the decision of the Council.

President Martell said that he feels that another meeting of the Council should be held before the end of Septembr. It was dcided that the next meeting of the Council be held on September 28th, next.

Mr. Servant moved that the meeting adjourn.

Seconded by Mr. March.

The meeting adjourned at 5:30 p.m.

Minutes of Meeting of the Council

held in the Association Room, Y.M.C.A. Building, Halifax, N. S. on
Monday, September 28th, 1959.

Monday, September 28, 1959

President Herbert Martell being unable to attend, the meeting was called to order at 2:15 p. m. by the Vice President, Walter Servant.

Members Present:

Vice President Walter E. Servant
R. E. Dickie
Donald E. Wagstaff
A. F. Chisholm
Errol B. Hebb
John E. MacKenzie
Eldon Adams
John A. McElmon
H. B. Robertson, Secretary Treasurer

Vice President Servant opened the meeting by calling for the reading of the minutes of the last meeting of the Council.

The Secretary then informed the meeting that the minutes of the last meeting of the Council had been printed and copies mailed out to all members of the Council, and asked that these minutes be accepted as printed.

Mr. Adams moved that the minutes of the last meeting be adopted as printed. Seconded by Mr. Dickie. Carried.

Vice President Servant then called for any business arising out of the minutes of the last meeting.

Mr. Adams said that on page 6 of the minutes of the last meeting, that part which applied to Mr. R. J. Norris of Sydney, N. S. who had applied for membership in the Association, that he did not agree with the decision of the Council, that Mr. Norris be given the same consideration as a graduate Engineer. Mr. Adams said that it was his opinion that Mr. Norris should be required to write the full examinations.

Vice President Servant advised Mr. Adams that this would be for the Board of Examiners to decide.

Mr. Adams then apologized for not being present at the past meeting of the Council, but that the pressure of business had been so that he had not been able to get away.

Mr. MacKenzie also apologized for not being present at the previous meeting, and added that it is very difficult for him to get away to attend the Council meetings.

Vice President Servant informed Mr. Adams and Mr. MacKenzie that the Council understood their situation, and welcomed them to this meeting.

Vice President Servant then called on the Secretary-Treasurer to report on the finances of the Association.

The Secretary informed the meeting that the Bank Balance on August 31 was four hundred and ten dollars and four cents and that since then we have twelve dollars in dues, and that we have paid out two hundred dollars to Mr. MacInnes as part payment of his legislation fees, forty five dollars to the Queens Printer for extra copies of the new Act, and three dollars and fifty-four cents for stationery, which leaves a balance of one hundred and seventy three dollars and forty six cents.

The Secretary then asked the meeting to consider the estimate of expenses in connection with the coming Annual Meeting. The estimate shows that the expenses for the Annual Meeting are expected to be about seven hundred and one dollars and the receipts are estimated to be about four hundred and fifty five dollars.

It was the feeling of the meeting that the estimate of expenses for the Annual Meeting were quite high in view of the limited finance of the Association at this time

The meeting then discussed the possibility of improving the finances of the Association.

The Secretary informed the meeting that there is more than seven hundred dollars outstanding in back dues.

The Secretary reminded the meeting that Mr. R. M. Schofield and himself had been appointed as a committee to study the finances of the Association, but that this committee had only had one short discussion on this subject, and at that time it had been the opinion of both Mr. Schofield and himself that the Association is going to need more finances, but that the both of them felt that the dues should not be raised to more than ten dollars a year.

Mr. Adams said that even if we had three hundred members, that a fee of ten dollars a year would only amount to an annual income of three thousand dollars. Mr. Adams said that he did not feel this to be enough of an income for the proper functioning of the Association.

The Secretary said that even if we hold our fees to ten dollars a year we are in danger of losing some of our members who are living in other Provinces, and are therefore getting very little benefit from the Association other than receiving the "Nova Scotian Surveyor" four times a year.

Prof. Chisholm suggested that we could set a lower rate of fees for those members who are not living in the Province.

Mr. Adams then gave notice of motion that he would make a motion at the coming Annual Meeting that the Annual Fees be increased to ten dollars a year, and that there also be a charge of two dollars for each Certificate of Membership that is issued.

Mr. MacKenzie said that we should not raise the fees unless they can be collected.

Mr. Adams said that we should inform all members of the Association who are behind in their dues, that under the new Act which comes into effect on the first day of October they are not eligible to practise surveying unless their dues are paid up to date.

In reference to the estimate of expenses for the Annual Meeting, Prof. Chisholm said that because of our limited finances, he was not in favour of spending the money for entertainment this year.

Mr. Hebb said that he was in favour of providing the entertainment, that it is well worth the extra money we will be required to spend.

Mr. Adams said that he was also in favour of having entertainment.

Mr. Wagstaff said that he was in favour of having entertainment at the Annual Banquet again this year.

Mr. Dickie said that he was also in favour of having entertainment.

Mr. MacKenzie said that he had not stayed for the entertainment last year, but if the others wanted it he would also be in favour of providing entertainment.

Vice president Servant said that at the last meeting of the Council, a motion had been passed to raise the registration fees from one dollar to one dollar and fifty cents, but that he questioned if this is enough. He said that he had attended the Atlantic Regional Housing Conference at Dalhousie University on September 24th, and that the registration fee at that meeting has been ten dollars per person, and that as far as he knew there had been no objection to this.

Mr. Adams then made a motion that the registration fees for the Annual Meetings be increased to two dollars and fifty cents per person.

After a brief discussion, Mr. Hebb moved an amendment to Mr. Adam's motion, that the registration fees for the Annual Meetings be increased to three dollars per year instead of two dollars and fifty cents as moved by Mr. Adams.

Seconded by Mr. McElmon. Carried

Vice President Servant then called for the report of the Committee on the forming of By-laws and the Code of Ethics.

Mr. Dickie said that Col. Ball, the chairman of this Committee was not available, but that he would meet with Mr. Tupper in Liverpool, and that later Mr. Tupper would meet with Col. Ball and Mr. McElmon so that the new By-laws could be drawn up and printed in time for the annual meeting in November.

Vice President Servant then informed the meeting that Mr. March was not available to report on the activities of the "Committee appointed to make recommendations to the Board of Examiners for Provincial Land Surveyors". He told the meeting that he had met with Mr. March, and that Mr. March had planned to prepare a report for presentation at this meeting.

Mr. Dickie again referred to the By-laws of the Association, and made the suggestion that, in the new By-laws, the Association should have the power to make amendments to the By-laws by a majority vote at the Annual or Special General Meetings without the necessity of a letter ballot to the full membership of the Association.

Vice President Servant then read a letter from the Association of Ontario Land Surveyors, in which they suggested altering the dates of their Annual Meetings to the Monday and Tuesday following the Annual Meeting of the Canadian Institute of Surveying which is held in Ottawa either during the latter part of January or the first week in February of each year. Their reason for this being that they feel that the delegates from the Provincial Association who are attending the meetings in Ottawa would also be able to attend the Ontario meetings at very little extra expense, and they have asked for the comments of the Provincial Associations on this matter.

The Secretary was instructed to write the Ontario Association and advise them that we feel their decision to alter the dates of their Annual Meetings to follow immediately after the meetings of the Canadian Institute of Surveying is an excellent suggestion, and that this Association will attempt to send a delegate to future meetings.

Vice President Servant then reported on the Second Annual Atlantic Regional Housing Conference, held at Dalhousie University on September 24th. He said that he had taken part in a panel discussion under the Chairmanship of Mr. Bill Thompson. On this panel, Mr. J. Philip Dumaresq represented the Architects and Planners, Mr. Don Weir represented the Halifax Metropolitan Home Builders Association, Mr. Arthur Speed represented the Realtors, Mr. Donald Bird, Director of Planning, Provincial Department of Municipal Affairs represented the Planners, and that he had represented the Surveyors.

Vice President Servant said that he feels that the discussion was worthwhile. He said that the meeting was mostly attended by Builders, and Contractors, and all seemed to feel that the meeting was a success. He said that there was very little discussion regarding surveyors. He said that the only complaint had been in connection with the design of sub-divisions, which had actually been meant for the planners.

Vice President Servant then brought up the matter of the Annual Meeting.

Mr. Adams made the suggestion that we approach the Hon. L. D. Currie as our Guest Speaker at the Annual Banquet.

The matter of appointing a Resolutions Committee to take up all the important business, and present them in the form of "A Resolution" during the business session on the final day of the meeting was brought up for discussion by the meeting. It was felt that this would do away with the most of the confusion which takes place during the regular business sessions of the Annual Meetings.

Mr. Dickie said that if the President makes a ruling that all persons who wish to speak should first stand, this would help to maintain order.

It was decided to refer the matter of the "Resolution Committee" to the Annual Meeting to be dealt with for future meetings.

The matter of charges of illegal surveying against the firm of Maritime Engineering was then brought up for consideration.

Vice President Servant reminded the meeting that copies of a letter from Mr. Eldon Adams charging that the firm of Maritime Engineering were carrying out land surveying in the Sydney area without the direct supervision of a registered Provincial Land Surveyor had been mailed to all members of the Council, and then asked the meeting for the comments on this matter, and on what action they feel that the Association should take.

Mr. MacKenzie asked what evidence we have in connection with this matter, and that we do not know how much supervision was done by a registered Provincial Land Surveyor on this particular job. Mr. MacKenzie said that as Mr. Adams had to leave the meeting for a while to attend to other business, he felt that we should wait for his return before proceeding too far. He asked that we

impress upon our own members to stay within their own profession. He said that we should be constant in our attitudes, that one of the first questions was what is considered necessary supervision. He said that after discussing the matter with Mr. Martell, he had attempted to contact the instrument-man who had worked on this job; also that he feels that there should be some field inspection.

Mr. Dickie said that there certainly should be enough checks to be sure that the instrument-man was doing his work properly. It is hard to lay down a hard and fast rule.

Mr. McElmon said that sometimes it requires quite a bit of supervision, and that they should always check the closure. He said that the surveyor should always have full knowledge of the job, so that he may answer any questions in connection with the job.

Mr. McKenzie said that the man assuming the responsibility should see and check the work on the ground.

Vice President Servant said that this hinges on determining what is direct supervision. He said that the surveyor is required to place a certain amount of trust in his help and pointed out that even if the surveyor assists in the chaining, he can only check one end of the tape as it is impossible for him to be at both ends at the same time.

Mr. McKenzie said that his interpretation of direct supervision, is that of actual supervision on the ground, but that the surveyor should know the qualities of his men, and should have faith in them.

Mr. Wagstaff pointed out that according to Mr. Adams' letter, the Maritime Engineering Company had been very careful not to set or mark corners, and that, a person is not required to be a registered Provincial Land Surveyor in order to make up descriptions of land.

After much discussion it was decided that more evidence is required, and that no further action should be taken without first notifying the Maritime Engineering Company. The members were also reminded that, Col. Ahern who is the President of the Company is also a Registered Provincial Land Surveyor, and is a member of the Association.

It was moved by Mr. Hebb that no further action be taken until more evidence supporting Mr. Adams' charge is laid.

Seconded by Mr. McElmon. Carried.

Vice President Servant then read a letter from Mr. W. E. Morrison of Cleveland, Richmond County, N. S., in which Mr. Morrison enquired if Mr. M. A. Ferguson was a legally qualified land surveyor on May 1, 1958 and if, at that time Mr. Ferguson was allowed to enter on lands to do surveying without first having the permission of the owner of the land.

The Secretary informed the meeting that Mr. Ferguson received his certificate of Qualification as a Provincial Land Surveyor on June 1, 1956.

The Secretary was advised to reply to Mr. Morrison and inform him that Mr. Ferguson was a Registered Land Surveyor on May 1, 1958, and to quote the section of the Land Surveyors Act which states that a Land Surveyor may enter upon or pass over lands of any person in performance of his duties as a Provincial Land Surveyor.

The matter of ethics in advertising by Provincial Land Surveyors was then brought up for a brief discussion. It was the feeling of the meeting that only advertising using professional good taste should be used, and that advertising that is in any way detrimental to another surveyor should never be used.

Following a motion to adjourn made by Mr. Dickie and seconded by Mr. McElmon the meeting adjourned at 5:30 p. m.

The Ninth Annual Meeting

The ninth Annual Meeting of the Association of Provincial Land Surveyors of Nova Scotia met in the ball room of the Lord Nelson Hotel, Halifax, November sixteenth and seventeenth. This proved to be one of the most successful meetings since the formation of the Association, both as to attendance — there being a total registration of sixty-seven, as well as in the interest shown in the proceedings. This was also the first general meeting after the passage of the new Act.

The meeting was chaired by Herbert Martell, Sydney, President of the Association, who introduced the following visitors: Mr. Robert Thistlewaite, D.L.S., Surveyor General of Canada and a representatives of the Canadian Institute of Surveying; Mr. Lester B. Higbee, past President of the American Institute of Surveying and Mapping, also President of W. & L. E. Gurley & Company; Robert Robert F. Mucklestone, President of the Ontario Association of Land Surveyors; Lewellyn Schofield, President of the Massachusetts Association of Land Surveyors and Civil Engineers; Mr. Ralph Brown, President of the New Brunswick Association of Land Surveyors; Mr. Archie McLaughlin, also of the New Brunswick Association; Mr. James Canning, Secretary of the Newfoundland Association of Land Surveyors and Mr. LeCroix, Chief Engineer, Eastern Division of the Canadian Hydrographic Service.

General business of the Association occupied Monday morning session and in the afternoon a film was shown on efficient mapping followed by a paper by Mr. Robert Thistlewaite entitled "Legal Surveys and Aeronautical Charts Division".

At seven P. M. about one hundred and fifty persons, including members, their wives and guests, sat down to a delicious luncheon in the ball room of the Hotel. The Rev. Harry Rackham was the guest speaker, who regaled those present with an extremely interesting and amusing speech. This was followed by a floor show and sing song.

On Tuesday further business was carried on and the following papers were presented: "The Nova Scotia Land Survey Institute" by W. D. Mills, our new Director of the Vocational Training Division of Nova Scotia; "The New Brunswick Co-ordinate System" by Archie McLaughlin of New Brunswick; "Report on the Ottawa Meeting of Survey Education" by Colonel Spencer Ball, Halifax.

Election of Officers then followed, consisting of the following slate:

Walter E. Servant, Halifax, President.

Donald L. Eldridge, Truro, Vice-President.

H. B. Robertson, Halifax, Secretary-Treasurer.

John A. McElmon, Halifax City Division.

Prof. A. F. Chisholm, Halifax City Division.

John R. Fiske, Armdale, Halifax County Division.

Joseph Archibald, Dartmouth, Halifax County Division.

Donald Wagstaffe Brooklyn, Western Division.

Errol B. Hebb, Bridgewater, Westren Division.

J. Ronald Chisholm, Antigonish, Eastern Division.

Howard Murray, Earltown, Eastern Division.

John E. McKenzie, Glace Bay, Cape Breton Division.

Earl J. Verner, Sydney, Cape Breton Division.

A hearty vote of thanks goes out to Mrs. Ruskin March who so generously and graciously entertained upwards of thirty of the members wives and guests with a tour through the Nova Scotia Archives and the Canadian Broadcasting Corporation Building as well as tasty luncheons at Mrs. March's and the I.O.D.E. rooms. All of these functions were greatly enjoyed by the ladies.

A particularly interesting feature of this Convention was the exhibits displayed by the various companies allied with the Land Surveyors requirements and I feel that they played a considerable part towards an interesting and successful Convention.

Queens County had the enviable record of having the largest per capita representation of any section of the Province, amounting to ninety per cent of those presently in the County.

R. E. Dickie P.L.S.

Editorial

by R. E. Millard, P.L.S., Managing Editor.

Several years ago a group of Land Surveyors in the Province of Nova Scotia met at a home in Halifax to discuss the idea and possibility of forming an Association of Land Surveyors in Nova Scotia. The idea bore fruit and after several Meetings, invitations were sent out to other Land Surveyors in Nova Scotia asking them to meet in Halifax and discuss possibilities of forming a Land Surveyors Association.

Previous attempts to form an Association, and the failure of those attempts loomed large and foreboding. A few hardy souls realizing that an Association was needed urgently in this Province of Nova Scotia persisted and strove to find the true course to be followed. After several attempts a line of approach was determined and this approach turned out to be the right one. The great question was would all Land Surveyors join the Association. Several thought that a few would join, others that many would join if the matter was put to them. Many letters were written and in 5 years the groups interested went from 7 to 250 or more.

Following the increase in members, a committee was set up to study and recommend revision of the Provincial Land Surveyors Act. After 3 years of work, disappointments and continued perseverance the revised Act was completed, but ahead lay the mountain of Convincing. Could we convince the Government that such a revision was necessary? The only way to answer that question was try, and try again. We did just that.

The Association at its Annual Meeting set up a Legislation Committee and authorized that committee to proceed with and bring to a conclusion a revised Act governing Land Surveyings in Nova Scotia.

The Legislation Committee worked and at times must have felt that it was hardly worth the effort, but under the pressure of the Chairman of the Legislation Committee, the real qualities that make a good Land Surveyor were brought out and finally after a successful meeting with the Provincial Legislative Committee, the Revised Provincial Land Surveyors Act was assented to on March 26th, 1959, by the Government of the Province of Nova Scotia, and on October 1st, 1959, became law under the title "The Provincial Land Surveyors Act", Chapter 8 of the Revised Statutes of the Province of Nova Scotia.

This proves beyond any question of doubt that a group interested in the welfare of the people of Nova Scotia can succeed in a worth while endeavour. It also indicates that there is a great deal of other work to be considered, studied and worked upon to improve the position and standards and quality of the Land Surveyor and his work and his standing in the Province of Nova Scotia.

Report On Colloquium

on Survey Education held at Ottawa on October 29th and 30th, 1959.

Mr. President,

In accordance with the instructions of the Council, I attended the colloquium on Survey Education, at Ottawa, held under the sponsorship of the Canadian Institute of Surveying, on the 29 and 30 October, last.

The attendance was surprisingly large and consisted of representatives from the Dominion and Provincial Government Departments, Provincial Land Survey Associations, Universities of Canada, Britain and the United States, Commercial and Consulting Firms.

After a welcome by Mr. Armand Dumas, M.P., Q.L.S., President of the Canadian Institute of Surveying, the proceedings were opened by Mr. S. G. Gamble, Chairman, Education Committee, Canadian Institute of Surveying. Mr. Gamble stated that the object of the meeting was to try to arrive at an agreed opinion on the course of Survey Education in Canada, and the scope of the subjects to be covered, to supply adequate opportunity for training of Surveyors, to meet the rapidly expanding field of survey. In order to do so he had invited all the bodies referred to above, to send representatives, and the response was far beyond his highest hopes. The agenda consisted of papers by delegates from the federal and provincial departments, and commercial firms on the annual requirements for Surveyors and their qualifications, followed by a discussion. Papers were then read on the present status of survey education in Europe, the Commonwealth, the United States and in Canada, and finally a panel on the Universities views on survey education.

Almost without exception the speakers pointed out the urgent need for up-grading the training of surveyors everywhere. Our pre-conceived ideas that our problems were peculiar to our province were quickly dispelled and we heard the same story of inadequate training and inadequate opportunities for thorough training from the length and breadth of Canada and the United States.

However, throughout the first group of papers and the discussions which followed, there was very evident a common thread which could be traced through the masses of irrelevant material which inevitably finds its way into such conferences. This common thread was the rapidly growing need for Surveyors to be given much better training in all phases of survey, and for their training to be carried to the point where their foundation in mathematics and physics would enable them to proceed to master the more advanced work in geodesy, photogrammetry and cartography, which are assuming ever increasing importance today.

The present status of education as shown by the papers was woefully inadequate, taken as a whole, to meet the need as outlined by the first group of speakers. There are, however, bright spots in the general gloom, which can be used as bridgeheads from which the situation can be met, at least in Canada, and from which with some extension of the Universities' programme, an adequate supply of competent surveyors could be drawn to meet the highest scientific demands. It happens that two Universities in Canada, Toronto and Laval, offer courses leading to a degree, and these are of long standing; both are well situated to make whatever adjustments might be considered necessary to meet the requirements for high level training in mathematics and physics.

These two Universities would probably meet the needs of Eastern Canada for some years, but at present there are not any provisions for university training in comparable level west of the Great Lakes. The delegates from the University of British Columbia were extremely helpful, and promised their full support in attempting to have similar courses offered at their university. Should this come to pass there would be sufficient provision for the training of surveyors at the degree level for some years to come.

It was the considered opinion of most authorities that opportunity for post graduate work should be provided to enable urgent research to be carried on; such research centres would be strictly limited in number on account of the heavy expense in providing necessary equipment and staff.

While the papers presented were, as a whole, extremely interesting and valuable, I should like to draw attention particularly to that of Dr. L. E. Howlett of the National Research Council, Ottawa. A scientist of outstanding ability and prominence in applied physics, Dr. Howlett has been for many years working in close co-operation with the survey departments of the Federal Government in Ottawa, and has the unique experience of combining intimate knowledge of the demands of advanced survey science with the fundamental sciences of mathematics and Physics, on which they depend.

Regarding the need for a new approach to survey training, allow me to quote from Dr. Howlett's paper; "It has been quite apparent that the Canadian Universities show a strange indifference toward this science and a consequent neglect of its educational needs"; and again "The really basic fact that we must grasp very clearly is that surveying as a science has changed out of all recognition during the last fifty years". Referring to the traditional course of training in the Universities, Dr. Howlett comments; "Most Universities still think of surveying in this latter context and do not realize that the science of surveying has swept far, far beyond this. Photogrammetry has come to full stature and importance. Through it many new complicated theories and instruments are involved. Optics and photography run through survey science in a variety of complex ways with great perils for the amateur expert. New fundamental principles have been borrowed from the physical sciences to develop new instruments and new techniques. Electronics and electromagnetic theory come to the aid of distance measurement, both vertical and horizontal. "The new degree course is wanted for training an entirely different sort of man who will practise professionally in a broad and difficult science that is not yet properly recognized — while this lack of recognition is in part due to the failure of Universities to realize that a new science awaits their study "It is not a really difficult complex or extremely costly undertaking. It does not require an internal revolution at the university. The new surveyor requires a thorough foundation in mathematics and physics. Suitable courses for this groundwork are already being given in all universities — although few who end up in surveying take them. These are the same courses that other branches of engineering will soon be using in common. Combined with these courses there must be in the last year or so subjects on professional specialties in order to give the graduate some prospective for starting his working career".

There we have in a nutshell the picture of a rapidly growing science. We are indeed fortunate that in the east we have the Universities of Laval and Toronto, where the immediate needs of our survey education may be met, and where, we hope, progressive additions and adjustments may be made in the future to assure the professional education of surveyors in this rapidly developing country of Canada.

In closing I wish to pay tribute to the wisdom and foresight of the Canadian Institute of Surveying in arranging this colloquium, which has, I know been of inestimable benefit to the departments of the federal and provincial governments, the surveyers' associations, and the commercial firms associated with survey. I also wish to express my appreciation of the splendid organization of the conference and the extremely hospitable treatment accorded to the delegates.

(Spencer Ball)

ASSOCIATION MEMBERS 1959 DUES ARE NOW OVERDUE

SEND MONEY ORDER, addressed to Secretary-Treasurer
The Association of Provincial Land Surveyors of Nova Scotia
P. O. Box 1541, Halifax, N. S.

Financial Report

for period September 30th, 1958 to October 31st, 1959.

Bank Balance September 30, 1958	\$ 598.34	
Receipts	1,977.70	
Expenditures		\$2,433.49
Bank Balance October 31, 1959		142.55
	<hr/>	<hr/>
	\$2,576.04	\$2,576.04

Royal Typewriter	\$	135.00
Postage		45.58
Stationery		105.50
Printing "The Nova Scotian Surveyor"		339.94
Editors Expenses re: "The Nova Scotian Surveyor"		6.14
Springhill Disaster Relief Fund		100.00
150 Programs for the Eighth Annual Meeting		12.00
Expenses re: Meetings of the Council and Legislation Committee		81.50
Entertainment at 1958 Annual Dinner		100.00
Pocket Cards for Eighth Annual Meeting		5.78
Ladies' Entertainment at Eighth Annual Meeting		53.25
Lord Nelson Hotel: Annual Meeting and Dinner		497.85
J. A. H. Church: Refund on overpayment of dues		4.00
W. J. MacInness: Attendance to obtain copies of Registry Act, and Town Planning Act. Amending these Acts to date ..		10.00
Telegram to British Columbia Land Surveyors		3.45
Delegate to 52 Annual Meeting, Canadian Institute of Surveying		151.50
Delegate to Annual Meeting of Newfoundland Association		62.50
Delegate to Annual Meeting of New Brunswick Association		49.27
Post Office Box Rental		6.00
W. J. MacInnes: Partial payment of fees (800.00) for services rendered in connection with amendment to the Provincial Land Surveyors Act		600.00
Telegram to Quebec Land Surveyors		1.15
Queens Printers: 300 copies of Provincial Land Surveyors Act		45.00
		<hr/>
	\$	2,415.51

BANK CHARGES

Bank operating charges		5.00
Exchange on cheques (not deducted on deposit)		12.98
		<hr/>
	\$	2,433.49

Respectfully submitted,

H. B. Robertson, P. L. S.,
Secretary - Treasurer.

Provincial Land Surveyor's Associations

in the Light of the Colloquium on Education by James A. H. Church, P.L.S.
Nova Scotia

It is my considered opinion that the Colloquium was organized for the purpose of obtaining from the Universities research and advanced training in mathematics, physics, electronics, photogrammetry, etc. for the higher echelons of the Federal Agencies concerned with survey and scientific work connected therewith. No one should cavil at this program for it is indeed an urgent necessity but it impinges only to a very small degree upon the problems of the Provincial Land Surveyor.

APPENDIX A

The following is the work of Mr. A. C. Hamilton, Chairman of the Colloquium Committee of the Canadian Institute of Surveying, is illustrative of the classification and inter-relation of surveys as they are regarded by the Institute and may well serve as a key to understanding the problems of Education confronting all Provincial Associations or Corporations of Land Surveyors. This indicates that Land Surveyors training should entail in some degree at least, knowledge of:—

1. Geodetic survey procedure
2. Topographic survey (field work and computation)
3. Town Planning
4. Appraisal: and Land Valuation

To expand the above

1. The surveyor must be competent to use the data supplied by the Geodetic Survey for the transformation of Geographical Co-ordinates into Rectangular and VICE VERSA. He must be conversant with the principles of map projections in general and with the Plane Rectangular, the Universal Transverse Mercator, Polyconic, and Special Projections as in the case of New Brunswick. This, of course, entails his having some knowledge of drafting.

2. He must be thoroughly versed in all the field practices used by the Topographic Service and their computation in approved form. He must be trained in Spherical Trigonometry and Field Astronomy to the extent of being competent to observe Azimuth to specification of one minute in Arc and Time to 5 seconds, as a minimum.

OUTLOOK TODAY

In the following it must be recognized that the case of the Corporation of Quebec Land Surveyors for certain is not considered because they have a course of 5 years duration arranged with Laval University which seems to meet all requirements for the training of surveyors. This course does not preclude an Apprentice Surveyor qualifying for a certificate of proficiency but it does make it a hard job.

Land Surveyors have relied upon an apprenticeship system for training aspirants and it has been, on the whole, an adequate and honourable system. The recent introduction of electronic and optical instruments for measuring distance, the former to a precision hithertofore impossible, together with photogrammetric techniques has revolutionized survey practice. The Universities, generally speaking, seem to be more concerned with the pure science of the business than with the application thereof in the field and drafting room.

The cost of electronic equipment and to a very much greater degree that of photogrammetric equipment will preclude the average land surveyor from making much use of such instruments for some considerable time except in so far as he may avail himself of the services of AIR SURVEY and/or Photogrammetric organizations such as are being set up across Canada; and who will make or process the control surveys as required.

THE PROBLEM

Any Land Surveyors Association is an aggregation of practitioners ranging chronologically from the Old Age Pensioner to the 21 year old, and competently from the thoroughly capable through the mediocre to the incompetent. These men have been making a living in their varying degrees of success and will ultimately be liquidated in the order in which each fails to respond to the requirement of the new age.

That process has always operated in other professions so it is no use feeling sorry for ourselves, it is one of the three inevitables — death, taxes and obsolescence. It would appear that the services of the Land Surveyor, as now known, will be required for the foreseeable future.

SUGGESTED SOLUTION

If the stipulation, that the function of the University is training in pure science and mathematics, be accepted it can not be the source from which a sufficient number of prospective Land Surveyors may be obtained — the competition in the engineering field for graduates will be too keen and the salaries there paid will prevent any appreciable number of graduates from entering the Land Surveyor field.

The solution then must be sought at the below University level as has been done in British Columbia Technical Branch, Department of Education, Vancouver.

Alberta: Course in Surveying, Technical High School, Calgary.

Nova Scotia: Land Survey Institute, Lawrencetown, Annapolis County, Vocational Education Division, Department of Education, Halifax.

Being somewhat involved in the last it would be invidious for the writer to make any comparison of these courses but it is permissible for him to give a brief outline of the Nova Scotia course.

1. The Instructors are both Registered Provincial Land Surveyors in Nova Scotia.

2. The duration of the course is approximately 1000 hours in each of the two years.

3. Entrance requirements are 70% in Mathematics and Physics and 65% in English Language, marks shown on Junior Matriculation Certificate (Grade XI N. S.)

4. In terms of the Land Surveyor's Act (1959) it is obligatory that a student desirous of getting in his statutory time as "Surveyor in Training", spend his vacation period (some 5 months) working on surveys under a Nova Scotia Land Surveyor.

5. 1st. year of the course prepares for the Intermediate Examination, and the 2nd. year for the Final Examination.

6. Courses in Photogrammetry and Cartographic Drafting will commence in September 1960. Survey students will be exposed to tuition in each course to the extent approved by the Department of Mines and Technical Surveys, Ottawa, whose untiring interest and advice is gratefully acknowledged.

This is indeed an ambitious program which required improvisation from the very start and which may be regarded as a strictly co-operative effort on the part of the Division of the Vocational Education, Nova Scotia Association of Provincial Land Surveyors, students of the Institute, the local Branch of the Canadian Legion, the people of Lawrencetown, Mr. J. F. Doig and myself. So far the program may be considered as an effort to meet the conditions as of today but the requirements for the not distant future will entail some higher standard for entrance than Junior Matriculation and some close liaison between the Vocational High Schools and the Institute will be necessary if we are to give such instruction in optics and electronics as field maintenance celebration or checking may require. The final outcome will probably be a 3 year course unless the Provincial Standards for Matriculation be raised. Please understand this paragraph is only the personal opinion of the writer and very specifically not even semi official.

CONCLUSION

Experience gained during the 2nd World War of every belligerent showed very conclusively that the education of the new drafts of recruits in all branches of the services was woefully below the standard requisite to make them half decent cannon fodder, so everywhere schools of training at all levels were set up. The fault, therefore, lies very evidently with the Primary and Secondary schools, not with the teachers therein who have been scandalously underpaid and overworked for the past two decades. The fault has been almost entirely that of an outdated system of financing and supervision with the resultant overcrowding in classrooms and a curriculum which in the emergency showed itself to be wanting in all essentials for mechanized civilization.

A similar outdated, indeed parochial, financing and organization has bedeviled our Universities; everywhere a clamour has arisen for bigger and better classrooms and residences to accommodate the larger enrollment of students. In 1957 the Bursar of one of our leading (1) Universities recorded the fact that 33% of all Freshmen entering that University failed for academic reasons. Undergraduates at another tell me that the percentage of failures in Engineering in 1959 were of the order of 50%. It would appear to an outsider that upward revision of the matriculation standard were more important than new accommodation.

It is probable that the Land Surveyors Association should seek a solution of the Education problem along the lines of setting up schools below the University level as has been done apparently in British Columbia and Alberta and certainly in Nova Scotia, rather than to look for a sufficient number of recruits from University graduates. It would be well to emphasize the absolute necessity that the students, attending such survey schools, spend their summer vacation doing survey work under a Provincial Land Surveyor.

Finally these survey schools might well be organized on a regional, rather than a Provincial basis. The problems of housing equipment, very particularly in photogrammetry, and instructional staff may perhaps be simplified by such grouping.

James A. H. Church, P.L.S.
Nova Scotia Registration No. 20

Recommended Regulations

for the Direction of Land Surveyors appointed under the Provincial
Land Surveyor's Act — Statutes of Nova Scotia 1959, Chapter 6.

Section 9

(e) Respecting the inspection and testing of instruments.

The Board may appoint an inspector of instruments. The inspector shall when required inspect any instrument used for surveys in order to ensure it fulfills the following requirements:—

Transit

The transit shall have a horizontal circle reading with a least count of not more than one minute. The vertical circle reading shall have a least count of not more than one minute.

Surveyors Compass

Surveyors Compass must be of a size and sensitivity to permit bearings to be read to five minutes.

Chain or Steel Tape

Either the 100 foot steel tape or the 100 link steel tape may be used for linear measurements. Longer tapes of the same type may be used. The surveyor shall provide himself with one or both of these, not to be used in the field, but kept as a standard, its accuracy checked and certified by the Association. The Association shall for this purpose keep available a 100 foot steel tape and a 100 link steel tape of certified accuracy.

Other Instruments

Dumpy and Y. levels, Sextants, Aneroid barometers, etc., shall be of manufacture by reputable makers.

Distant measurements by means of Stadia, Tellurometer, Geodimeter and similar instruments can now be made of an accuracy far greater than that usually attained with the steel tape, and the use of these instruments by properly trained surveyors shall be permitted.

(f) Respecting the manner of making measurements, monuments, plans and descriptions:

Transit Surveys

The permissible error of closure for the angles of a closed transit survey shall be one minute times the square root of the number of angles.

Maximum closing error for transit surveys shall be one part in two thousand.

Surveys with the transit shall be made with reference to a true meridian, or indirectly, but in neither case shall the magnetic needle be employed to fix the direction of a line or to measure an angle, but the magnetic bearing may be taken as a check upon the transit and to determine the amount of declination, or may be used in connection with topographical notes and sketches or work of a like character.

Astronomic bearings used to fix the direction of lines surveyed with the transit shall be given to the nearest minute or less. The point of observation must be given, and the initial meridian shall be the mean of at least two observations which must agree within two minutes.

When the derivation of the meridian cannot be obtained by observation, the specific monuments or evidence defining the line from which the bearings are derived shall be noted and described.

The position of a point on the centre line over which the transit is to be placed, shall be indicated by a tack or small nail driven into a stake, stump, projecting root, etc., or a mark may be cut in a firmly embedded stone, a witness stake standing about three feet above the ground upon which the chainage is legibly marked, being placed directly opposite. Such points shall be known as "hubs" and the chainage of each hub shall be entered in the field book. Upon long lines the position of a sufficient number of hubs should, where possible, be fixed by bearings and distances to permanent surroundings objects, to enable parts of the centre line to be re-established without the necessity of retracing the whole.

Short sights, except those necessary to fix desired points are to be avoided.

In all closed surveys the bearings of the line first located shall be again determined from that of the last line of the survey, and the bearing so obtained shall be noted together with the former bearing, and should these bearings fail to agree, or the sum of the exterior angles differ from 360 degrees by an error greater than the permissible error of closure, such survey shall not be accepted until the errors have been found and corrected. A calculation of the latitudes and departures of the courses shall be made, and the correction necessary for balancing shall not exceed one-twentieth of one per cent of the length of the courses.

An independent transit survey shall mean one on which the bearings of the lines with reference to a true meridian are not necessary, and where full accuracy of transit surveying is required, usually of small but important areas. Where such surveys are made special care shall be taken to fix permanent marks on a line of the survey, so that, upon the establishment of a meridian line in the district a correction may be made and the bearings from the said meridian line accurately ascertained.

In triangulating, the angle opposite the base shall be, wherever practicable, at least thirty degrees.

Monuments shall not be less substantial than $\frac{3}{4}$ " x 30" iron posts. At important corners, durable monuments of stone, concrete, metal, etc., may be erected under special instructions from the Crown Lands Department. Wood post of durable timber may be used for corner boundaries, particularly of woodland lots. Posts shall be not less than six inches square, driven firmly in the ground and surrounded with stones, the top of the post standing two feet or more above the ground. A tack or nail is to be driven into the post indicating the intersection point of the boundary lines; the bearings and distances to witness trees shall be recorded and the surveyor shall fix such reference points as will best serve to relocate the precise position of the corner post, should it be removed or become decayed or obliterated.

Metal posts shall be used to mark the boundaries of building lots. (IT IS HIGHLY IMPORTANT THAT A STANDARD METAL CORNER POST BE ADOPTED FOR USE BY MEMBERS OF THE ASSOCIATION.)

When surveys are conducted that affect in any way the boundaries of the Crown Lands, a complete copy of all field notes of such surveys shall be forwarded to the Deputy Minister of Lands and Forests, at Halifax.

Compass Surveys

On compass surveys, all boundary lines shall be well cleared and brushed out; such large sound trees as intercept the centre line are to be blazed "fore and aft", and marked with three notches or hacks made by striking upwards with the axe; the adjacent trees standing within two feet of the centre line are to be blazed fore and aft; and on the side toward the centre line without notches or hacks other trees standing at a distance not exceeding five feet from the centre line are to be blazed only on the side toward the centre line; piles of stone in the form of three stones of diminishing size, with the top stone on line shall be frequently erected wherever the necessary materials are to be found.

Should a growing tree not less than six inches in diameter, be found in the correct position for a corner boundary, it shall be blazed on three or more sides and marked with the initial letters of the names of the owners or lessees of the adjoining lands. If stones can be obtained they shall be piled about the foot of the tree to a height of not less than two feet; other trees standing near are to be blazed on the side toward the corner with the letters C.W. (Corner Witness); the bearings and distances to these witness trees are to be recorded in the field book, together with the bearings and distances to any conspicuous permanent objects in the vicinity.

When no suitable tree is found in the correct position, the corner boundary shall be marked by a post of the most durable wood in the vicinity, not less than six inches in diameter, set firmly in the ground; it shall be hewn and marked on three or more sides and surrounded by a pile of stones as directed for a corner tree. Special corner monuments may be erected under instructions from the Crown Lands Department.

Plans and Reports for Crown Land Surveys

Upon the completion of a survey in any way connected with or relating to the Crown Lands of the Province, the surveyor shall prepare a plan according to the directions received from or on the form furnished by the Department of Lands and Forests.

Unless otherwise directed, it shall be drawn to a scale of 20 chains to an inch, shall be dated and signed and on it shall be clearly shown the True and Magnetic meridians, with the amount of magnetic declination, the bearings and lengths of all boundary lines, the monuments erected at the corners with the witness or reference marks referring to the same, the outlines of the adjoining lots with the names of the grantees or lessees thereof, the former and present bearings of old lines, the position of brooks, rivers, lakes, roads, buildings, cleared or cultivated lands and other topographical features.

Topography that is sketched in approximately shall be shown in dotted lines; full lines shall indicate that an accurate survey has been made of the object represented.

Each plan shall be accompanied by a report signed by the surveyor including a copy of the field notes from which the bearings and distances shown on plan may be checked and giving the names of the chainman and other assistants employed; also the names of persons from whom any evidence as to the position of old boundaries may have been obtained, with the nature of such evidence, and describing, if any, at which positions local attraction was encountered, and the deviation of the magnetic needle due thereto; also describing fully the witness and reference marks to corner monuments to centre line marks, character of soil, the kinds of timber growing on the land, indications of mineral deposits, possible water powers, etc.

It is most important that all available information in reference to the magnetic declination throughout the Province in past years be collected and arranged; and to this end particular attention shall be given to observing the present bearings of old lines met with, even if not directly connected with the survey in hand, and this together with the former bearing, date and bearing of original survey, if known, should be included in the report.

Plans and Descriptions

Plans for filing at the registry offices shall be hand drawn in India Ink or a suitable substitute, on tracing linen of width not greater than 30 inches.

Plans for filing at registry offices and sub-division plans shall be made according to statutory regulations.

When so directed the surveyor shall prepare a description of any lot of land surveyed by him, which should be clearly worded and all parts of which convey the intended meaning only.

The place of beginning (not necessarily the point where the survey commenced) should be carefully chosen; it should if possible be a point capable of being relocated at any time without doubt or uncertainty, either technical or legal; in any case the point which most nearly fulfills these conditions should be selected.

The bearings and lengths of boundary lines shall be clearly stated; if the bearings refer to a true meridian the point at which such meridian was established must be described, if to the magnetic meridian the year in which the survey was made shall be mentioned, with the magnetic declination existing in that year.

Corner monuments shall be fully described with their positions in relation to any adjoining lots of which they form common boundaries.

Care must be taken to avoid conditions that are impossible of fulfillment, as attempting to determine the position of a boundary by only giving a definite distance measured along the sea shore at high water mark, or along the various courses of the bank of a river or lake or other irregular line, such natural boundaries shall be described as following such shore, etc. and terminating at a point the position of which can be determined accurately, and no boundary shall be described as parallel to any irregular line.

The description shall be such as to enable another surveyor at any future time to retrace the line and renew the corner monuments described therein, without doubt or hesitation as to its true intent and meaning.

When old lines or lines run by another surveyor form part of a new survey they shall be traced throughout all that part of their length that is included in the new survey, and if any errors are found the same shall be fully described and shown on the plan, and the surveyor shall be responsible for the correct description and representation of these lines as they exist on the ground to the same extent as for the accuracy of his own work.

On trial lines run in order to locate old corners, etc., no trees shall be blazed or any permanent marks established, and should a line be run and marked with the intention of establishing a boundary and thereafter found incorrect, all permanent marks or monuments shall be removed therefrom and nothing left that might in future be mistaken for a true line. When doubt exists as to the correct location of a line, no permanent marks shall be established therein until its position is fully confirmed; in this case temporary marks shall be made from which permanent marks can, if required be set up with the least delay and if possible, without the second use of an instrument.

In retracing old lines, care should be exercised not to destroy old marks or monuments; old blazes should not be disturbed but new blazes made above or below them, nothing should be done that might obscure the evidence as to the age of an old line or corner monument, as that is frequently of the greatest importance.

Linear measures may be all expressed in feet and decimals thereof, or all expressed in chains and links and decimals thereof but in no case shall both measures be used in one survey.

Chainmen shall be sworn according to the prescribed form.

Canadian Surveyors Want Better Training For New Men

OTTAWA — Canadian surveyors want Canadian universities to provide better training in this vital field. The consensus of 70 delegates at a meeting here during November was that a tape, a theodolite, level, staff, compass, a modicum of mathematics and a smattering of local law are no longer enough to qualify a person to map the Canadian countryside or city lots.

The session, called by the Canadian Institute of Surveying in conjunction with the federal Mines Department and the National Research Council, felt Canada's surveyors must upgrade their educational standards if they are to keep pace with the revolution in survey science. They suggested Canadian universities are lagging in their survey courses. Said Afmand Dumas, Institute president and Liberal member of Parliament for Villeneuve constituency in Quebec: "We now need a Moses to lead us out of the wilderness so we are throwing out a challenge to our universities to help us and we are sure they will take up."

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