

## **BACKGROUND**

Most surveying in Alberta has been done on the basis of the Third System of Township Surveys. Under this system, land is first designated as being west of either the 4th, 5th or 6th meridian. Meridians are lines of longitude which run north and south and converge at the poles. The 4th meridian forms the border between Alberta and Saskatchewan (110 longitude), the 5th meridian runs through Stony Plain and Calgary (114 longitude), and the 6th meridian passes through Debolt and Jasper (118 longitude). Between the meridians are columns called ranges which are numbered in consecutive order moving westward from each meridian. Townships are rows which cross meridians and ranges. The row adjacent to the U.S. border is called Township 1 and the number increases from south to north until Township 126 which is the row adjacent to the Northwest Territories border. The townships numbered from 1 to 34 are in the former South Alberta Land Registration District while townships 35 to 126 are in the former North Alberta Land Registration District. The word "township" is also used to describe the area formed by the intersection of a township row with a range. This township is approximately six miles (9.7 kilometers) square and contains 36 sections. Each section is approximately one mile square and contains approximately 259 hectares (640 acres). The 36 sections within a township are numbered in a serpentine fashion commencing at the southeast corner of the township.

Each section is divided into 4 quarter sections each containing approximately 160 acres (approximately 64.7 hectares). Quarter-sections are designated as being North-West, South-West, North-East or South-East. There are 16 legal subdivisions or L.S.D.'s in a section each containing approximately 40 acres (approximately 16.2 hectares). (See [APPENDIX A.](#))

Land which has been surveyed under the Third System of Township Surveys (i.e., commonly referred to as unsubdivided land) is legally described according to its legal land identifier (i.e., quarter-section, section, township, range and meridian, e.g., NW 24-46-18-5). The legal description of land in city or townsite subdivisions may be further defined by a plan number, block number and lot number. Condominium units are referred to by plan and unit number only.

There are a few exceptions to the survey system such as settlement plans, river lots, group lots, Indian Reserves, Hudson's Bay Reserves and national and provincial parks. These surveys cover comparatively small areas and were made to accommodate local settlements. Most of these plans were created around 1900 and have no fixed pattern but very often the parcels are very long and narrow lots fronting onto a river or lake.

The settlements were generally given a local name such as St. Albert Settlement.

Occasionally, land was given a metes and bounds description rather than using a plan of survey. This is a method of describing a parcel in words with reference to surveyed boundaries and distances. Metes and bounds descriptions are no longer acceptable to create new parcels.

## **REGISTRATION PROCEDURE**

The following is a list of requirements for plans submitted to the Land Titles Office for registration. While the requirements are generally applicable to all situations, there may be special cases where compliance with the requirements is not possible or where some deviation from them is desirable. Deviations must be approved by the Director of Surveys or the Land Titles Office, as applicable.

1. **Size of Plans and Format to be Used** - Any plan intended for registration must be in a digital format approved by the Registrar. See the Registries website <http://www.servicealberta.gov.ab.ca/1075.cfm> regarding policy and procedure for the preparation of digital plan. The plan must not be more than 75 centimetres in width or 300 centimetres in length unless in the opinion of the Registrar a plan of greater width or length is necessary. No plan should be smaller than 35 centimetres by 40 centimetres.
2. **Accuracy, Quality and Text Size** - All plans being presented for registration must be neat, of good quality draftsmanship and drawn accurately to scale. The minimum text size should be 2 millimetres.
3. **Margin** - A marginal outline not less than 2 centimetres from the edge of the plan is to be drawn around all sides of the plan. No information is to appear outside the marginal line.
4. **Outlining** - The area of the plan to be registered is to be outlined. Neither the symbols nor the data on the plan should be obscured by the outline. When outlining a plan, careful consideration is to be given to the line weight. The outline is to be 3 to 4 times the thickness of the normal line weight of the plan. It must be bold enough to eliminate any possibility of confusion as to the area that is to be registered under the plan.
5. **Heading** - Each plan must bear a heading, preferably on the top right-hand side, which states:
  - a) the nature or type of plan,  
e.g., "Plan showing survey of Public Work (Road)"  
"Plan showing survey of Oil Pipe Line Right of Way"  
"Plan showing survey of Subdivision of Lot 1, Block 7, Plan 8810001 within the NW 1-20-4-4"
  - b) the location of the area affected described by quarter section, section, township, range and meridian or by river lot or by lot, block and registered plan number and the

quarter section, section, township, range and meridian. If the area shown on the plan is a re-subdivision of part of an area, the words "part of" are to be included in the heading. If a plan shows a river lot or settlement lot, the theoretical township identifier must be shown.

- c) the full name of the municipality
- d) the scale of the plan

No company logos are permitted on the plans.

6. **Scale** - The 1, 2 and 5 scale (i.e., 1:1, 1:2, 1:5), the National Standard of Canada scale, should be adhered to. No plan should be on a ratio scale of less than one to five thousand. In addition to the scale statement in the heading, scales are to be shown graphically.

7. **Details** - Details should be shown in an enlargement when any portion of a new plan of survey requires excessive information or where the scale of the plan is such that all of the information cannot be shown in the body of the plan. The scale of the detail must always be shown and should follow the 1:1, 1:2 and 1:5 scale.

8. **Arrangement of Data** - All data is to be legible and must be placed on the plan so that it can be read from left to right or from the bottom to the top of the plan. Survey control data shown on the plan must not cross lot lines. In cases where this becomes necessary, a separate network for control ties should be shown on the plan. If the control ties are shown on the body of the plan, they must be shown in broken lines.

9. **Orientation** - The north direction of the reference meridian must be indicated by an arrow drawn on the plan. The area shown on the plan should be oriented in such a way that the direction of north is towards the top of the plan.

10. **Plan Registration Information** - The following is to be drafted on the top right hand corner of the plan:

Plan No. \_\_\_\_\_  
Entered and Registered on \_\_\_\_\_  
Instrument number \_\_\_\_\_

\_\_\_\_\_  
A.D. Registrar

11, **Surveyor's Affidavit** - All plans of survey must be accompanied by an affidavit ([SURVEY-FORM 1](#)). The following information is to be drafted on the plan:

Permit Stamp (if applicable)  
Name of the Surveyor:  
Surveyed between the dates of \_\_\_\_\_ and \_\_\_\_\_ in accordance with  
the provisions of the Surveys Act.

12. **Legend** - The legend is to contain an explanation of all symbols and abbreviations or other information required to interpret the plan of survey. An example of a legend is:

- Area to be registered shown outlined thus \_\_\_\_\_ and contains \_\_\_\_\_ hectares (area segregations where applicable)
- Statutory iron posts found shown thus \_\_\_\_\_
- Statutory iron posts planted shown thus \_\_\_\_\_
- Lots designated PUL are Public Utility Lots
- Distances are in metres and decimals thereof
- Lots designated MSR are Municipal and School Reserves
- Distances on curves are arc distances
- School authority is \_\_\_\_\_ and its address is \_\_\_\_\_.





13. **Abbreviations** - The following abbreviations are to be used on the plan and explained in the legend. All other abbreviations used are also to be explained in the legend.

ASCM	- Alberta Survey Control Marker
Blk.	- block
Bdy.	- boundary
B.C.	- beginning of curve
B.M.	- bench mark
B.T.	- bearing tree
Calc.	- calculated
Ck.m.	- check measured
Chd	- chord
Cop.	- copied
C.S.	- countersunk
C. of T.	- certificate of title
Conc.	- concrete
Cor.	- corner
D.H.	- drill hole
E.C.	- end of curve
EDM.	- electromagnetic distance measurement
Fd.	- found
ha	- hectare
I.	- iron post
I.Bar	- iron bar
I.R.	- Indian Reserve
L.P.	- lead plug
L.S.	- legal subdivision
M.	- mound or meridian
Mp.	- marker post
Mkd.	- marked
Mon.	- monument
Obl.	- obliterated
P.	- standard C.L.S. Post (Brass Cap)

P.C.C.	- point of change of curvature
P.I.	- point of intersection
Pl.	- placed
P.C.	- point of curvature (tangency)
Pit	- 4 pits
R.	- radius
Ref.	- reference
Rge.	- range
Re-est.	- re-established
Res.	- restored
R/W	- right-of-way
Rly.	- railway
Sec.	- section
S.M.	- stone mound
S.T.	- sub-tangent
T.	- trench
Twp.	- township
Wo.	- wooden post
Wit.	- witness
△	- central angle of curve

14. **Symbols** - Monuments found or placed are to be indicated on the plan by the use of the following symbols. Descriptive notes are to be shown in accordance with item 13, where it is necessary, in order to clearly show what was found and what was left at every corner used or established by the survey.

- statutory iron post placed
- statutory iron post found (including D.L.S. pattern or brass cap post)
- wooden post placed
- wooden post found
- ◇ iron bar placed
- ◆ iron bar found
- ◎ witness monument placed
- witness monument found
- ▲ Alberta Survey Control Marker found
- ⊗ auxiliary monument placed (e.g., describe as drill hole placed, lead plug placed, cut cross placed, etc.)

-  auxiliary monument found (e.g., describe as drill hole found, lead plug found, cut cross found, etc.)
-  traverse station placed
-  traverse station found
-  well head

Note: for wellsite surveys, see "Unsurveyed Territory", in the Survey Regulations, A.R. 150/88.

#### 15. **Original Boundaries**

- a) The plan must show the original boundaries of the quarter section, settlement lot or other surveyed parcel to the extent necessary to clearly identify the location of the area surveyed. The original section, settlement lot or parcel boundaries outside the area being registered are to be shown in full black lines and interior quarter section boundaries are to be shown in broken lines.
- b) The registration numbers of previously registered adjacent plans must be shown.
- c) Where it is unclear, the designation of the original quarter section or parcel boundaries is to be shown by a notation made beside them on the plan (e.g., "North Bdy. of N. E. 9-28-7-5").
- d) The boundaries or limits of the area, road or right of way must not be shown in broken lines.

16. **Natural Boundaries** - When the land in an area shown on a plan is bounded by the bank of a body of water, the current bank must be shown on the plan and plotted at the final plan scale to an accuracy of 0.5 mm. The position of the natural boundary(s) can be determined by any method including a ground survey network, aerial photographs, maps, digital imagery, or another information source. The plan must contain the appropriate statement such as:

"Banks of the Saskatchewan River surveyed by John Doe, A.L.S. (Date),"

or

"Left Bank of Little River plotted from \_\_\_\_\_(Identify the aerial imagery or other remotely sensed data used, the method of data capture, and the date of data capture)."

If the bank of the water boundary is located using a ground survey network, the distance between bank identification points will not exceed 30 metre intervals and the plan must contain all relevant survey data. If the bank is plotted from aerial photographs, maps, digital imagery, or another information source that the Surveyor has not prepared, the

plan must contain all ground verification survey data.

The name or number of the lake or river is to appear on the plan and the direction of the flow of the water, in the case of streams or rivers, is to be indicated by an arrow.

Only water boundaries are to be plotted by a sinuous line. All other boundaries must be defined by surveyed lines. Unusual cases and exceptions in displaying water boundaries usually require approval by the Land Division of Sustainable Resource Development.

#### 17. **Original Monuments**

- a) When it is necessary to re-establish original boundaries in order to accurately locate and tie in the boundaries of the areas being surveyed, all original monuments or other evidence by which such original boundaries are re-established must be shown on the plan.
- b) It is to be indicated on the plan if any original monument found is in poor condition, as this is often valuable information when subsequent surveys are made in the same area.
- c) The restoration of any original monument found is to be noted on the plan.

18. **Incomplete Monuments** - When posts are not placed in accordance with the requirements of the Surveys Act, R.S.A. 2000, c. S-26 the reason for the omission is to be stated on the plan.

19. **Areas** - When required, areas must be shown in hectares and decimals thereof using the following guidelines:

0.001 ha. to 0.999 ha.	show to 0.001 ha.
1.00 ha. to 9.99 ha.	show to 0.01 ha.
10.00 ha. and up	show to 0.1 ha.

Areas are not to be shown to more than 3 decimal places. In no case, other than a condominium plan, are the areas to be shown in square metres.

#### 20. **Measurements**

- a) Linear measurements, defined as horizontal distances at ground elevation, are to be shown on the plan in metres and decimals thereof. They should not be shown to more than 3 decimal places.
- b) When it is necessary to show linear measurements to original monuments located at considerable distances from the boundaries of the area being surveyed, the lines on which such ties are made may be shown on the plan as a broken line.
- c) All calculated lengths and bearings are to be shown on the plan as calculated.
- d) It is assumed that linear measurements and bearings refer to the distances between the two nearest monuments on the line on which the distance is shown if their extent is not indicated by arrows. Where there is any doubt as to the points between which the distance shown is intended to refer, the extremities of the tie should be indicated by arrows.
- e) All angular measurements of the survey are to appear on the plan as full circle bearings on the various surveyed lines.

f) Sufficient linear and angular tie measurements between the corners or boundaries of the newly surveyed areas and previously surveyed lines or existing corner monuments must be shown on the plan in order to accurately fix the location of the surveyed area in relation to original land boundaries. The purposes of making ties are to accurately locate the area surveyed in relation to the boundaries already established and to permit the data of the new survey to be checked against that of previous surveys. Ties should be made and shown on the plan with those objectives in mind.

g) Where part of any boundary or right of way has been surveyed as an arc of a circular curve, the length of the curve and its radius are to be shown on the plan. The length of the subtangent and the central angle may also be shown, but this data is not essential if the first two quantities are shown.

21. **Reference Line** - The reference line of the survey must be clearly indicated. Normally it is allotted an assumed bearing and related to the basic township survey system. If the survey is subject to the provisions of a "Declared Survey Control Area", grid bearings are to be shown.

22. **Errors in Previous Surveys** - When a portion of a previous survey is retraced or remeasured in a new survey and any measurements shown on the old plan are found to be in error and the surveyor confirms his measurements by measuring each distance or angle again, the measurements shown on the new plan are to be accompanied by either the notation "Check - Measured" or an explanation of the discrepancy.

23. **Topography** - In general, the only topographic features which should be shown on a plan are those which form an essential part of the survey, such as a river bank or lake which constitutes a property boundary. Non-essential topography and designations of parcels such as church sites, cultivated land, describing the purpose for which the land is used or is intended to be used are to be omitted from the plans which are to be registered. In no case should contour lines be shown on any plan which is to be registered.

24. **Fees** - [Tariff item 8\(1\)](#) is charged for the registration of a plan. [Tariff item 8\(1\)\(a\)](#) is charged for each parcel created by a plan of subdivision or road plan including the cancellation, issuance or amendment of certificates of title even if a new certificate of title is not issued such as in the registration of a road plan. In addition, except for plans within the City of Calgary, a National Park, an Indian Reserve or Metis patented land as defined in the Surveys Act, a cadastral mapping fee is charged pursuant to Alberta Regulation 94/2000 made pursuant to Surveys Act.