The membership of the Alberta Land Surveyors’ Association met on April 30, 2020 online by GoToWebinar for a special general meeting to debate and vote on Recommendations #1-#4. The membership met again on May 21, 2020 online by GoToWebinar for a second special general meeting to deal with Recommendation #5.

For the sake of brevity and clarity, motions to amend, divide, table and withdraw are not included in this summary.

Wellsite Surveys – Recommendation #1

*It was MOVED by Hector Muniz, seconded by Rob Pinkerton, that Part C, Section 1.6 of the Manual of Standard Practice be revised and that definitions for “accuracy, absolute” and “accuracy, relative” be added to the Manual of Standard Practice.*

**Part C: Section 1.6 – Measurements and Accuracy**

This section adjusts vertical and horizontal accuracy standards for well site surveys to values achievable with current technologies in practice, such as GNSS positioning and remote sensing. The accuracy standards when using the method of misclosure were made equal to the standards specified in Part C section 1.3 and 1.4. for other surveys.

**Elevation Standards**

The following vertical accuracy standards shall apply to elevations (orthometric heights) published in wellsite survey plans:

- Elevations shall be referred to any of the recommended vertical datums for spatially referenced data in Alberta as specified in Part D, Section 1.2. The reference vertical datum shall be indicated in the plan.
- Elevations derived from a local benchmark are acceptable if it is accessible and clearly identified. The local benchmark and the published elevation shall be shown on the plan. (i.e. Elevations were derived from ASCM 12345 Elev.=999.99 metres, or Plant Site Control Pillar #6 Elev.=888.88 metres).
- Elevations shall be verified with sufficient redundant observations, and comparison with published values or checks to known control points.
- The geoid model used to derive elevations using GNSS or remote sensing observations shall be indicated in the plan.
- The vertical relative accuracy between any two points with elevations published shall be 0.30 metres or better at a 95% confidence level, independently of the distance between them, and the method used.
- The vertical absolute accuracy for elevations derived using Natural Resources Canada Precise Point Positioning Service (CSRS-PPP) shall be 0.30 metres or better at a 95% confidence level.

**Horizontal Accuracy Standards**

The following horizontal accuracy standards shall apply using the method of misclosure:

- When closing on the Surveyor’s own work in new surveys, the minimum accuracy standard shall be 1:7,500 or 0.02 metres.
- When closing on work performed by other Surveyors, the minimum accuracy standard shall be 1:5000 or 0.02 metres.

When using GNSS methods the horizontal relative accuracy for monumented positions shall be 0.05 metres or better. The horizontal absolute accuracy for monumented positions derived from Natural Resources Canada Precise Point Positioning Service shall be 0.10 metres or better at a 95% confidence level.
Proposed Additions to the Glossary:

accuracy, absolute The degree of conformity of a measured or calculated position to its true (actual) position. The absolute accuracy of any point is dependent upon the absolute accuracy of the known point(s) used to derive the coordinates and the relative accuracy of the connecting measurement to the known point(s).

accuracy, relative The degree of conformity of a measured or calculated position of a point relative to other points.

MOTION CARRIED

Hybrid Cadastre Surveys – Recommendation #2

It was MOVED by Patrick Myette, seconded by Ryan Dick, that Part D, Sections 14.1 and 14.2 be added to the Manual of Standard Practice as follows:

Part D: Section 14.1 and 14.2 – Hybrid Cadastre Surveys

This Section deals with public lands disposition surveys conducted under the Hybrid Cadastre Standards for Public Lands Disposition Surveys established by the Director of Surveys.

At the discretion of the practitioner, a hybrid plan of survey may be prepared in lieu of a conventional plan of survey as stipulated in Public Lands Administration Regulation (PLAR) Tables A1 and A2.

Before carrying out a survey for a hybrid plan or a survey interacting with a hybrid plan, the Alberta Land Surveyor should be familiar with the following documents available through the Alberta Environment and Parks website:

- Hybrid Cadastre Standards for Public Lands Disposition Surveys;
- Public Lands Administration Regulation (PLAR) Tables A1 and A2; and
- Content Requirements for Survey Plans and Sketches.

14.1 Adjoining or intersecting existing Hybrid Cadastre surveys

When a new survey adjoins or intersects an existing Hybrid Cadastre survey, sufficient Observed Coordinates shown on the existing plan shall be confirmed. As minimum, a measurement shall be made on one observed coordinate point and the difference between new and existing observed coordinates shall not exceed the absolute accuracy requirements outlined in the Hybrid Cadastre Standards.

14.2 Intersections

New boundaries shown on a Hybrid Cadastre survey must intersect all existing public lands disposition boundaries crossed that are monumented by either Statutory Iron Posts or Establishment Coordinates. Intersections should either be marked with Statutory Iron Posts or Establishment Coordinates.

MOTION CARRIED
Common Walls – Recommendation #3

It was MOVED by Kyle Sahuri, seconded by Greg Hebb, that Part D, Section 8.5.2 be added to the Manual of Standard Practice as follows:

Part D: Section 8.5 – Real Property Reports
The improvements to be shown on the plan for an Alberta Land Surveyor’s Real Property Report include, at minimum, the following:

1. All buildings and projections therefrom, together with their dimensions. Minimum setback dimensions shall be shown from the boundaries of the subject parcel to exterior walls and/or foundation as required by the municipality. A statement clarifying the extent of setback dimensions is to be shown.

2. Where a building that is subject to a Real Property Report is a semi-detached dwelling, attached dwelling, or other form of construction where a shared common wall is present, and where there is an intent for a property line to fall within one or more common wall(s), measurements should be made to determine the location of the said common wall(s), and their relation to the property line should be noted on the report [Examples: “property line falls within the common wall” or “property line does not fall within common wall, see dimensions on Detail A”]. If measurements are not obtainable the surveyor shall make note on the report that the common wall(s) have not been measured and that either their location(s) shown have been assumed from dimensions on building plans, or that the wall(s) have not been shown.

MOTION CARRIED

Lot Grading – Recommendation #4

It was MOVED by Kyle Sahuri, seconded by Patrick Myette, that Part C, Section 1.7 and Part D, Section 14 be added to the Manual of Standard Practice as follows:

Part C: Section 1.7 – Lot Grading Certificates
The following vertical accuracy standards shall apply within the Surveyor’s own level circuits for each individual grading certificate survey, whether using published geodetic control monuments, their own established benchmarks, or assuming an elevation:
- Using the method of misclosure, the misclosure shall not exceed 30 millimetres
- Elevations shall be verified with sufficient redundant observations, and comparison with published values or checks to known control points.

A surveyor establishing geodetic benchmarks, for their own control closer to their survey site(s), shall ensure the same accuracy standards above, excepting that:
- Using the method of misclosure, the misclosure in millimetres shall not exceed 50√d where d is the distance in kilometres

Part D: Section 14 – Lot Grading Certificates
Lot Grading Certificates are documents prepared to identify the surveyed elevations of the ground surface and features built within a certain property, for submission to an approving authority for review and decision-making purposes. Often the certificate will illustrate a comparison between existing and design grades.

A Surveyor preparing a Lot Grading Certificate should include the following on the plan:
1. A clear statement identifying what is being certified.
2. The date of certification
3. The date(s) of survey
4. The Benchmark(s) from which the surveyed elevations have been derived, and their elevations
5. The source of any design elevations shown, where available.
6. Clear identification of the lands surveyed (i.e. Legal Description, Municipal Address, Rural Address)
7. When a certificate is intended for approval by a municipality, or other approving authority, a notification to users that the Alberta Land Surveyor is not the approving authority and/or identifying who the approving authority is.
8. Identification of the surface condition(s) surveyed (e.g. topsoil, sod, clay, concrete, etc.)
9. When existing and design elevations are both shown, the plan should clearly indicate which elevations are design and which are existing.

Other plan requirements may vary between approving authorities, it is advised that a Surveyor should become familiar with the requirements of an approving authority prior to a field visit.

When performing a survey for the preparation of a lot grading certificate the surveyor shall ensure:
- Field notes follow the standards identified in Part C, Section 6.
- Vertical accuracies meet the requirements of Part C, Section 1.7
- An assumed elevation is not utilised where an approving authority requires geodetic elevations,
- GNSS equipment is not used for portions of Lot Grading surveys, adjacent to taller structures, due to the risk of common GNSS errors such as multi-path and scattering.

MOTION CARRIED

Wellsite and Public Land Dispositions – Recommendation #5A

_It was MOVED by Reid Egger, seconded by Greg Hebb, that the existing Part D, Sections 5.8 to Part D, Section 5.14 of the Manual of Standard Practice replace the existing Part D, Section 6 to become Part D, Section 6.1 to Part D, Section 6.7._

PART D: Standard Practice for Surveys and Plans
SECTION 5: Wellsite and Public Land Dispositions

5.8 Public Land Dispositions Except Access Roads (Becomes Part D, Section 6.1)

It is necessary to accurately define the location of activities and dispositions on public lands so that the approving authority does not grant conflicting authorizations on the same land. This is accomplished by requiring applicants to provide a detailed plan showing the location of the land for which the applicant is applying in relation to known survey evidence.

Information about plan types, monument requirements, plan formats, and content requirements is available in the Alberta Environment and Parks (AEP) documents entitled _Public Lands Administration Regulation (PLAR) Tables A1 and A2_ and _Content Requirements for Survey Plans and Sketches_.

_Content Requirements for Survey Plans and Sketches_ specifies:
- when a survey is required and when a proposed plan or sketch plan, without a survey, is allowed;
- the content requirements for a proposed plan or sketch plan at the application stage; and
the content requirements for survey plans at the final stage after construction.

When determining the boundaries of public land dispositions, Surveyors should be guided by the following criteria:

- Where the disposition boundaries are surveyed and monumented, the boundaries shall be defined by the monuments placed for that purpose.
- Where the disposition boundaries are surveyed and not monumented, the boundaries shall be defined by the best evidence governing those boundaries.
- Where the disposition boundaries are not surveyed, the boundaries shall be defined by the best physical evidence governing those boundaries.

When conducting a survey and preparing a plan for a public land disposition, an Alberta Land Surveyor shall:

- Mark the positions of the boundary lines to be established by placing monuments at every change in direction and at the beginning and end of every curve. The type of monument to be placed is stipulated in the AEP document entitled *Public Lands Administration Regulation (PLAR) Tables A1 and A2*.
- Intersect and monument all surveyed section boundaries crossed.
- When surveying public land dispositions that require monumentation to be statutory iron posts, intersect and monument existing public land disposition boundaries that are defined by statutory iron posts and crossed by the new disposition.
- In surveyed territory, locate and confirm sufficient monuments within, on, or defining the section in which the disposition is located to determine the position of the disposition in relation to the section boundaries. The word “monuments” here refers to those placed in accordance with Part 2 or Part 3 of the *Surveys Act*.
- In Unsurveyed Territory, locate and confirm sufficient monuments to define the theoretical section in which the disposition is located in order to determine the position of the disposition in relation to the theoretical section boundaries. The word “monuments” here refers to those placed in accordance with Part 2 or Part 3 of the *Surveys Act*, those shown on a Wellsite Control Plan on file with the Director of Surveys Office, monuments shown on a plan of survey signed by an Alberta Land Surveyor and registered at Alberta Environment and Parks on or after August 1, 2009, or Alberta Survey Control Markers (ASCMs) integrated with the Alberta Survey Control System.
- Derive and reference the bearings of all surveyed lines in accordance with Part D, Section 1.2 (Datum or Origin for Bearings and Coordinates) on pages 39 to 40.
- Verify all bearings and distances to the level of accuracy specified in Part C, Section 1.6 (Wellsite Surveys) on page 14 except ties identified in Section 5.8.8 below.
- Make sufficient field measurements to ensure that there are no errors of layout or measurement, and show these measurements on the plan.
- Show and label on the plan all public land dispositions crossed or adjacent to the proposed activity.
- Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and the approving authority’s plan requirements.
- Certify the plan in accordance with the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys’ document entitled *Director of Surveys Policy – Surveys Act*. 
5.9 **Remote Sensing for Public Land Dispositions and Wellsites on Private Land** *(Becomes Part D, Section 6.2)*

An Alberta Land Surveyor preparing a disposition plan on public lands or wellsites on private land based on remotely sensed survey data such as LiDAR shall:

1. Use remotely sensed data only if it can be demonstrated that it meets accuracies of 0.5 m vertically and 2.0 m horizontally with respect to Alberta Survey Control Markers (ASCMs) or other published benchmarks in the area at the 95% confidence level. Verifying this may include obtaining the calibration data and testing the collection method for quality assurance, comparing the data to data for a sample of areas surveyed using proven techniques, and comparison with points that have published horizontal and vertical positions.
2. Visit the subject area to confirm that all relevant topography has been identified and shown on the plan. For example, the Surveyor may find small creeks that were not discernible in the data.
3. Locate and confirm monuments in accordance with Part D, Section 5.2 (Reference Boundary) on pages 54 to 55.
4. Identify the data collection technique prominently in the plan heading (e.g., LiDAR Survey).
5. Identify positions to be monumented (corners, changes in direction, and beginnings and ends of curves) with a symbol that is represented in the legend as a “remotely sensed position.”
6. Note on the plan when the remotely sensed data was collected.
7. Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and, if the survey includes public land, the approving authority’s plan requirements.
8. Certify the plan in accordance with the ALS Certification for Wellsites on Private Land (see Part E, Section 1, page 79) or the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys’ document entitled *Director of Surveys Policy – Surveys Act.*
9. If the survey includes public land, prepare a monumented as-built plan of survey within the time period specified by the approving authority in accordance with Part D, Section 5.8 (Public Land Dispositions Except Access Roads) on pages 57 to 59, Section 5.10 (Establishment of Disposition Boundaries for Existing Access Roads) on pages 60 to 61, and the approving authority’s plan requirements.
10. If the wellsite survey includes private land, prepare a monumented as-built plan of survey based on non-remotely sensed techniques within the time period specified by the approving authority (Alberta Energy Regulator) in accordance with the provisions of Part D, Section 5.2 (Reference Boundary) on pages 54 to 55, Section 5.3 (Surveys Act) on page 55, and Section 5.7 (Wellsite Plan Requirements) on page 57.

5.10 **Establishment of Disposition Boundaries for Existing Access Roads** *(Becomes Part D, Section 6.3)*

This sub-section does not apply to access roads included in a surface lease disposition with monumented boundaries.

An Alberta Land Surveyor performing a public land disposition survey for an existing access road shall:

1. Survey the location of the existing access road. The disposition boundaries shall be determined from the best available evidence, which will include but not be limited to adjacent surveyed disposition boundaries, existing survey plans, centreline of existing road, edge of ground disturbance, edge of surface vegetation disturbance, grade development, and surface improvements. The placement of monuments, marker posts, and bearing trees is not required.
2. Make ties to existing surveys as required to determine the relationship between the survey being performed and the Alberta Township System to the level of accuracy specified in Part C, Section 1.6.
(Wellsite Surveys) on page 14. Tie the beginning and end points of the survey to existing surveys, which include the Alberta Survey Control System, surveyed section boundaries, plans of survey registered at the Land Titles Office, Wellsite Control Plans, and monumented disposition surveys.

3. Derive and reference the bearings of all surveyed lines in accordance with Part D, Section 1.2 (Datum or Origin for Bearings and Coordinates) on pages 39 to 40.

4. Verify all bearings and distances to the level of accuracy specified in Part C, Section 1.6 (Wellsite Surveys) on page 14 except ties made under Part D, Section 5.10.5 below.

5. Show and label on the plan all public land dispositions crossed or adjacent to the proposed activity.

6. Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and the approving authority's plan requirements.

7. Certify the plan in accordance with the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys' document entitled Director of Surveys Policy – Surveys Act.

5.11 Wellsite Disposition Plan Amendments for Mineral Surface Leases (MSLs) (Becomes Part D, Section 6.6)

An Alberta Land Surveyor performing a wellsite (maximum 10 hectares) disposition plan amendment shall locate and confirm by measurement sufficient evidence within, on, or defining the disposition to allow the determination of the boundaries. The amendment field survey shall not span more than 24 months.

The Surveyor shall:

- indicate pre-existing disposition survey evidence as found, restored, or re-established; and
- indicate the actual dates of the amendment field survey.

For information on public land disposition amendments, refer to the Alberta Environment and Parks document entitled Survey Manual – Public Land Surveys.

5.12 Statutory Declarations (Becomes Part D, Section 6.7)

Section 14.0 (Final Submission) of Alberta Environment and Parks’ Enhanced Approval Process (EAP) Manual refers to the submission of a completed Alberta Land Surveyor’s Statutory Declaration form for disposition types that require a Plan of Survey.

Before signing a statutory declaration, an Alberta Land Surveyor shall confirm in the field that all the facilities were constructed entirely within the survey boundaries as represented on the disposition Plan of Survey on file with Alberta Environment and Parks, and shall ensure that the field verification is documented in accordance with Part C, Section 6 (Field Notes) on page 30.

In the event that the pipeline activities subject to a PLA disposition, as described in Public Land Administration Regulation (PLAR) Table A2, were not constructed entirely within the survey boundaries as represented on the PLA disposition Plan of Survey on file, a Plan of Survey for the amendment of the PLA disposition should be prepared. The amended disposition boundaries must cover all constructed pipeline activities under the PLA disposition.

5.13 As-Built Surveys for Disposition Amendments and Renewals (Becomes Part D, Section 6.4)

An Alberta Land Surveyor performing an as-built survey for the purpose of disposition amendment or renewal shall ensure that the survey is a current representation of the constructed extents of the disposition and that the survey fully stands on its own merits. Found and placed evidence from the precedent
disposition plan should be confirmed, restored, or re-established as necessary in accordance with the applicable sections of the Manual of Standard Practice.

5.14 **Disposition Plans Showing Activity on Private and Public Lands (Becomes Part D, Section 6.5)**

When surveying linear activities on private and public lands, an Alberta Land Surveyor shall refer to the acceptable methods listed in the AEP document entitled *Content Requirements for Survey Plans and Sketches*.

Factors to be considered when determining which method to use may include:

- the disposition type (PLA/DPL, LOC/DLO, EZE);
- the relative length on private and public lands;
- whether or not the plan is also being used for purposes other than land application, such as construction and/or licensing; and
- whether the plan is a pre-construction plan or an as-built plan.

If preparing a single plan, the Alberta Land Surveyor shall ensure that areas are segregated and that the plan clearly differentiates between private and public lands.

**PART D: Standard Practice for Surveys and Plans**

**SECTION 6: Other Surveys in Unsurveyed Territory**

When performing a survey in Unsurveyed Territory pursuant to Part 3 of the *Surveys Act*, in addition to complying with the requirements of the Act, the Surveyor shall:

1. Make ties to existing surveys as required to determine the relationship between the survey being performed and the theoretical section boundaries in accordance with the accuracies specified in Part C, Section 1.1 (Method of Misclosure) or Part C, Section 1.2 (Method of Least Squares) on page 12.

2. Ensure that the bearings for all surveyed lines are derived and verified relative to either the astronomical meridian passing through the centre of the range in which the survey lies or the reference meridian appropriate to survey control.

**Wellsite and Public Land Dispositions – Recommendation #5B**

*It was MOVED by Reid Egger, seconded by Greg Hebb, that the title and preamble to Part D, Section 5, Part D, Section 5.2, Part D, Section 5.3 and Part D, Section 5.7.4 of the Manual of Standard Practice be amended as follows:*

**PART D: Standard Practice for Surveys and Plans**

**SECTION 5: Wellsites and Public Land Dispositions**

This Section deals with the survey of petroleum-related facilities and other public land dispositions, drilling locations that required AER licensing. Surface tenure on patented lands is normally protected by caveats registered at the Land Titles Office or the Métis Settlements Land Registry, whereas interests in unpatented public lands are handled by the Minister responsible under the *Public Lands Act* and covered in Section 6 of this Manual.

Before carrying out surveys involving public lands, an Alberta Land Surveyor should be familiar with public land disposition types and the approving authority's plan requirements.
Information about public land dispositions is available in the Alberta Environment and Parks (AEP) document entitled Handbook of Instruments Pursuant to Public Lands Act & Public Land Administration Regulation (PLAR) and on the Alberta Energy Regulator (AER) website.

A list of disposition types is available in the AEP documents entitled Public Lands Disposition Application Requirements Reference Table and Public Lands Administration Regulation (PLAR) Tables A1 and A2.

Information about plan types, monument requirements, plan formats, and content requirements is available in the AEP documents entitled Public Lands Administration Regulation (PLAR) Tables A1 and A2 and Content Requirements for Survey Plans and Sketches.

5.1 Environmental Conditions Affecting Well Licensing

Alberta requires operators of upstream oil and gas facilities in environmentally sensitive areas to conserve and reclaim land and to mitigate the effects of their activities. For specifications and guidelines, consult the Alberta Environment and Parks Fact Sheet entitled Siting an Upstream Oil and Gas Site in an Environmentally Sensitive Area on Private Land.

5.2 Reference Boundary

1. An Alberta Land Surveyor performing a survey for the location of wellsites and related facilities in surveyed territory shall locate and confirm sufficient monuments within, on, or defining the section in which the facilities are located to determine the position of the wellsites and related facilities in relation to the section boundaries. The word “monuments” here refers to those placed in accordance with Part 2 or Part 3 of the Surveys Act.

2. An Alberta Land Surveyor performing a survey for the location of wellsites and related facilities in Unsurveyed Territory shall locate and confirm sufficient monuments to determine the position of the wellsites and related facilities in relation to the theoretical section boundaries. The word “monuments” here refers to:
   - monuments placed in accordance with Part 2 or Part 3 of the Surveys Act;
   - monuments shown on a Wellsite Control Plan on file with the Director of Surveys Office;
   - monuments shown on an Establishment of Monuments for Wellsite Control Plan registered at the Land Titles Office;
   - monuments shown on a plan of survey signed by an Alberta Land Surveyor and registered at Alberta Environment and Parks on or after August 1, 2009; or
   - Alberta Survey Control Markers (ASCMs) directly connected to Part 2 or Part 3 monuments that define the theoretical section boundaries.

Theoretical section boundaries shall be determined using the Supplement to the Manual of Instructions for the Survey of Canada Lands.

5.3 Surveys Act

Where the boundaries of a wellsites or related facility purport to define a property boundary, the said boundary shall be defined in accordance with the Surveys Act, excepting thereout the provisions of Sections 44(3) and 46(3), to define the boundaries of the parcel.
However, when a related linear facility (an access road) in Surveyed Territory crosses or terminates on a property boundary, the intersection may be calculated, in which case the plan shall clearly indicate that the intersection is calculated.

5.4 **Wellsite Control**

Wellsite Control Plans were formerly called Wellsite Traverse Plans or Wellsite Control Traverse Plans. Plans submitted prior to December 1, 1997 are still available from the Director of Surveys Office.

When performing a survey for a wellsite in Unsurveyed Territory, an Alberta Land Surveyor is required to place wellsite control monuments if the wellsite is more than 10 kilometres from the monuments required to satisfy Part D, Section 5.2.2.

When placing wellsite control monuments, the Surveyor shall:

1. Place a minimum of two statutory iron posts not further than 1,000 metres from the wellsite.
2. Show the wellsite control monuments on the wellsite plan signed by the Surveyor for registration at Alberta Environment and Parks.
3. Meet the requirements of Part C, Section 3.9 (Establishment of Monuments Plan) if the wellsite plan is not registered at Alberta Environment and Parks.

5.5 **Monumentation**

Refer to Part C, Section 3.10 (Wellsites and Related Facilities) on page 20.

5.6 **Accuracies**

Refer to Part C, Section 1.6 (Wellsite Surveys) on page 14.

5.7 **Wellsite Plan Requirements**

1. A Wellsite Survey Plan shall include, at minimum, the following administrative information:
   - name of licensee (applicant);
   - name of survey corporation and/or Alberta Land Surveyor;
   - dates of survey and any revisions; and
   - ALS Certification for Wellsites on Private Land (see Part E, Section 1, page 79) or ALS Statutory Declaration for Public Land Dispositions.

2. For technical requirements and guidelines, consult *Directive 056: Energy Development Applications and Schedules*.

3. A Wellsite Survey Plan in Unsurveyed Territory shall clearly identify the survey evidence used as the datum and show the coordinates of the datum point or points relative to the northeast corner of Section 33 on the Base Line that governs the positions of the theoretical Alberta Township System (ATS) boundaries in the vicinity of the wellsite.

4. Surveys performed under Part D, Section 5.7 (Wellsite Plan Requirements) shall also meet the requirements in Part D, Section 6 (Other Surveys in Unsurveyed Territory) on page 64.
Datum or Origin – Recommendation #5C

*It was MOVED by Reid Egger, seconded by Greg Hebb, that Part D, Section 1.2.3 (second bullet) of the Manual of Standard Practice be amended as follows:*

PART D: Standard Practice for Surveys and Plans
SECTION 1: General Plan Requirements

1.2  Datum or Origin for Bearings and Coordinates

1.2.3  A Surveyor who prepares a plan of survey in Unsurveyed Territory shall ensure that it meets the following requirements:

- Bearings are referred to either the astronomical meridian passing through the centre of the range in which the survey lies or the reference meridian appropriate to survey control, and an explanatory note stating the origin of the bearings is placed in the legend.
- *When performing wellsite and official surveys, ensure* connections to survey control or existing surveys are verified, and positions for all monuments can be determined relative to the position in the Alberta Township System (ATS) of the northeast corner of Section 33 on the Base Line that governs the positions of the theoretical ATS boundaries in the vicinity of the survey.
- The bearings of lines derived from astronomical observations are shown as such on the plan.
- On Establishment of Monuments for Wellsite Control Plans, coordinates are shown in a table for points in the survey relative to the northeast corner of Section 33 on the closest Base Line in the range in which the survey lies, oriented to the astronomical meridian through the NE 33.

Public Land Dispositions – Recommendation #5D

*It was MOVED by Reid Egger, seconded by Greg Hebb, that Part D, Section 6 of the Manual of Standard Practice be amended as follows:*

PART D: Standard Practice for Surveys and Plans
SECTION 6: Other Surveys in Unsurveyed Territory Public Land Dispositions

Before carrying out surveys involving public lands, an Alberta Land Surveyor should be familiar with public land disposition types and the approving authority’s plan requirements.

Information about public land dispositions is available in the Alberta Environment and Parks (AEP) document entitled Handbook of Instruments Pursuant to Public Lands Act & Public Land Administration Regulation (PLAR) and on the Alberta Energy Regulator (AER) website.

A list of disposition types is available in the AEP documents entitled Public Lands Disposition Application Requirements Reference Table and Public Lands Administration Regulation (PLAR) Tables A1 and A2. Information about plan types, monument requirements, plan formats, and content requirements is available in the AEP documents entitled Public Lands Administration Regulation (PLAR) Tables A1 and A2 and Content Requirements for Survey Plans and Sketches.
6.1 Public Land Dispositions except Access Roads

It is necessary to accurately define the location of activities and dispositions on public lands so that the approving authority does not grant conflicting authorizations on the same land. This is accomplished by requiring applicants to provide a detailed plan showing the location of the land for which the applicant is applying in relation to known survey evidence.

Information about plan types, monument requirements, plan formats, and content requirements is available in the Alberta Environment and Parks (AEP) documents entitled *Public Lands Administration Regulation (PLAR) Tables A1 and A2* and *Content Requirements for Survey Plans and Sketches*.

*Content Requirements for Survey Plans and Sketches* specifies:

- when a survey is required and when a proposed plan or sketch plan, without a survey, is allowed;
- the content requirements for a proposed plan or sketch plan at the application stage; and
- the content requirements for survey plans at the final stage after construction.

When determining the boundaries of public land dispositions, Surveyors should be guided by the following criteria:

- Where the disposition boundaries are surveyed and monumented, the boundaries shall be defined by the monuments placed for that purpose.
- Where the disposition boundaries are surveyed and not monumented, the boundaries shall be defined by the best evidence governing those boundaries.
- Where the disposition boundaries are not surveyed, the boundaries shall be defined by the best physical evidence governing those boundaries.

When conducting a survey and preparing a plan for a public land disposition, an Alberta Land Surveyor shall:

1. Mark the positions of the boundary lines to be established by placing monuments at every change in direction and at the beginning and end of every curve. The type of monument to be placed is stipulated in the AEP document entitled *Public Lands Administration Regulation (PLAR) Tables A1 and A2*.
2. Intersect and monument all surveyed section boundaries crossed.
3. When surveying public land dispositions that require monumentation to be statutory iron posts, intersect and monument existing public land disposition boundaries that are defined by statutory iron posts and crossed by the new disposition.
4. In surveyed territory, locate and confirm sufficient monuments within, on, or defining the section in which the disposition is located to determine the position of the disposition in relation to the section boundaries. The word “monuments” here refers to those placed in accordance with Part 2 or Part 3 of the *Surveys Act*.
5. In Unsurveyed Territory, locate and confirm sufficient monuments to define the theoretical section in which the disposition is located in order to determine the position of the disposition in relation to the theoretical section boundaries.

i. The word “monuments” here refers to those placed in accordance with Part 2 or Part 3 of the *Surveys Act*, those shown on a Wellsite Control Plan on file with the Director of Surveys Office, monuments shown on a plan of survey signed by an Alberta Land Surveyor and registered at Alberta Environment and Parks on or after August 1, 2009, or Alberta Survey Control Markers (ASCMs) integrated with the Alberta Survey Control System.
6. Derive and reference the bearings of all surveyed lines in accordance with Part D, Section 1.2 (Datum or Origin for Bearings and Coordinates) on pages 39 to 40.
7. Verify all bearings and distances to the level of accuracy specified in Part C, Section 1.6 (Wellsite Surveys) on page 14 except ties identified in Section 5.8.6.1.8 below.
8. Make sufficient field measurements to ensure that there are no errors of layout or measurement, and show these measurements on the plan.
9. Show and label on the plan all public land dispositions crossed or adjacent to the proposed activity.
10. Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and the approving authority's plan requirements.
11. Certify the plan in accordance with the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys' document entitled Director of Surveys Policy – Surveys Act.

6.2 Remote Sensing for Public Lands Dispositions and Wellsites on Private Land

An Alberta Land Surveyor preparing a disposition plan or a portion of a plan on public lands or wellsites on private land where monumentation is not required in accordance with the PLAR Tables, and where there are no affected adjoining interests, based on remotely sensed survey data such as LiDAR shall:

1. Use remotely sensed data only if it can be demonstrated that it meets accuracies of 0.5 m vertically (if applicable) and 2.0 m horizontally with respect to Alberta Survey Control Markers (ASCMs), NAD83 (CSRS) active reference frame or other published benchmarks in the area at the 95% confidence level. Verifying this may include obtaining the calibration data and testing the collection method for quality assurance, comparing the data to data for a sample of areas surveyed using proven techniques, and comparison with points that have published horizontal and vertical positions.
2. Visit the subject area to confirm that all relevant topography has been identified and shown on the plan. For example, the Surveyor may find small creeks that were not discernible in the data.
3. Make ties to existing surveys in accordance with Part D, Section 6.3.2.
4. Locate and confirm monuments in accordance with Part D, Section 5.2 (Reference Boundary) on pages 54 to 55.
5. Identify positions to be established monumented (corners, changes in direction, and beginnings and ends of curves) with a symbol that is represented in the legend as a “remotely sensed position.”
6. Note on the plan the data collection technique used and when the remotely sensed data was collected.
7. Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and, if the survey includes public land, the approving authority's plan requirements.
8. Certify the plan in accordance with the ALS Certification for Wellsites on Private Land (see Part E, Section 1, page 79) or the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys' document entitled Director of Surveys Policy – Surveys Act.
9. If the survey includes public land, prepare a monumented as-built plan of survey within the time period specified by the approving authority in accordance with Part D, Section 5.8 (Public Land Dispositions Except Access Roads) on pages 57 to 59, Section 5.10 (Establishment of Disposition Boundaries for Existing Access Roads) on pages 60 to 61, and the approving authority's plan requirements.
10. If the wellsite survey includes private land, prepare a monumented as-built plan of survey based on non-remotely sensed techniques within the time period specified by the approving authority (Alberta Energy Regulator) in accordance with the provisions of Part D, Section 5.2 (Reference Boundary) on pages 54 to 55, Section 5.3 (Surveys Act) on page 55, and Section 5.7 (Wellsite Plan Requirements) on page 57.
6.3 Establishment of Disposition Boundaries for Existing Access Roads

This sub-section does not apply to access roads included in a surface lease disposition with monumented boundaries.

An Alberta Land Surveyor performing a public land disposition survey for an existing access road shall:

1. Survey the location of the existing access road. The disposition boundaries shall be determined from the best available evidence, which will include but not be limited to adjacent surveyed disposition boundaries, existing survey plans, centreline of existing road, edge of ground disturbance, edge of surface vegetation disturbance, grade development, and surface improvements and information gathered from remote sensing data as indicated in section 6.2. The placement of monuments, marker posts, and bearing trees is not required.

2. Make ties to existing surveys as required to determine the relationship between the survey being performed and the Alberta Township System to the level of accuracy specified in Part C, Section 1.6 (Wellsite Surveys) on page 14. Tie the beginning and end points of the survey to existing surveys, which include the Alberta Survey Control System, surveyed section boundaries, plans of survey registered at the Land Titles Office, Wellsite Control Plans, and monumented disposition surveys.

3. Derive and reference the bearings of all surveyed lines in accordance with Part D, Section 1.2 (Datum or Origin for Bearings and Coordinates) on pages 39 to 40.

4. Verify all bearings and distances to the level of accuracy specified in Part C, Section 1.6 (Wellsite Surveys) on page 14 except ties made under Part D, Section 5.10.5 below.

5. Show and label on the plan all public land dispositions crossed or adjacent to the proposed activity.

6. Prepare the plan in accordance with Part D, Section 1 (General Requirements for Plans) on pages 38 to 41 and the approving authority’s plan requirements.

7. Certify the plan in accordance with the ALS Statutory Declaration for Public Land Dispositions as shown in the Director of Surveys' document entitled Director of Surveys Policy Surveys Act. A common boundary or parallel overlap between an existing access road disposition and other existing dispositions can be shown on the plan using a combination of sufficient monument ties and measurements from the existing disposition plan. Only significant gaps and overlaps must be labelled on the plan.

6.4 As-Built Surveys for Disposition Amendments and Renewals

An Alberta Land Surveyor performing an as-built survey for the purpose of disposition amendment or renewal shall ensure that the survey is a current representation of the constructed extents of the disposition and that the survey fully stands on its own merits. Found and placed evidence from the precedent disposition plan should be confirmed, restored, or re-established as necessary in accordance with the applicable sections of the Manual of Standard Practice.

6.5 Disposition Plans Showing Activity on Private and Public Lands

When surveying linear activities on private and public lands, an Alberta Land Surveyor shall refer to the acceptable methods listed in the AEP document entitled Content Requirements for Survey Plans and Sketches.

Factors to be considered when determining which method to use may include:
• the disposition type (PLA/DPL, LOC/DLO, EZE);
• the relative length on private and public lands;
• whether or not the plan is also being used for purposes other than land application, such as construction and/or licensing; and
• whether the plan is a pre-construction plan or an as-built plan.

If preparing a single plan, the Alberta Land Surveyor shall ensure that areas are segregated and that the plan clearly differentiates between private and public lands.

6.6 Wellsite Lease Disposition Plan Amendments for Mineral Surface Leases (MSLs)

An Alberta Land Surveyor performing a wellsite (maximum 10 hectares) lease disposition plan amendment (maximum 10 hectares) shall locate and confirm by measurement sufficient evidence within, on, or defining the disposition to allow the determination of the boundaries. The amendment field survey shall not span more than 24 months.

The Surveyor shall:
• indicate pre-existing disposition survey evidence as found, restored, or re-established; and
• indicate the actual dates of the amendment field survey.

For information on public land disposition amendments, refer to the Alberta Environment and Parks document entitled Survey Manual – Public Land Surveys.

6.7 Statutory Declarations

Section 14.0 (Final Submission) of Alberta Environment and Parks' Enhanced Approval Process (EAP) Manual refers to the submission of a completed Alberta Land Surveyor's Statutory Declaration form for disposition types that require a Plan of Survey.

Before signing a statutory declaration, an Alberta Land Surveyor shall confirm in the field that all the facilities were constructed entirely within the survey boundaries as represented on the disposition Plan of Survey on file with Alberta Environment and Parks, and shall ensure that the field verification is documented in accordance with Part C, Section 6 (Field Notes) on page 30.

In the event that the pipeline activities subject to a PLA disposition, as described in Public Land Administration Regulation (PLAR) Table A2, were not constructed entirely within the survey boundaries as represented on the PLA disposition Plan of Survey on file, a Plan of Survey for the amendment of the PLA disposition should be prepared. The amended disposition boundaries must cover all constructed pipeline activities under the PLA disposition.

From the Registrar

Council approved placing Jay Abbey, William Akehurst, Bruce Beairsto, Craig Hughes, David Marquardt, Andrew Miles, Jeffrey Stockdale and Dwight Wiberg on the register of retired members.

Council accepted, with regret, the cancellation of retired membership from Derrick Lipinski and Gerald Whaley.
Council accepted, with regret, the cancellation of registration of Stephen Howard and Jim Lysons from the register of Alberta Land Surveyors.

Council approved the cancellation of the registration of Chinook Surveys Inc. as a surveyor's corporation.

Council approved Continental Geomatics Land Surveying Inc. as a surveyor's corporation under the supervision direction and control of Gordon Linnell, ALS.

Council approved a name change from WSP Surveys (AB) GP Ltd. to GeoVerra (AB) GP Ltd. effective June 1, 2020 and a further name change from WSP Surveys (AB) Limited Partnership to GeoVerra (AB) Limited Partnership effective June 1, 2020.

Council directed the Registrar, for the 2020/2021 term, to cancel the registration of any practitioner pursuant to Section 31 of the Land Surveyors Act, following the expiration of 30 days from the date of the written notice, unless the practitioner complies with the notice.

Council authorized Dwayne Edmundson, ALS to consent to the correction of plan 972 3410 (Roy Wilkins, ALS (Deceased)) as per Section 92 of the Land Titles Act.

**Honorary Life Membership – Allan W. Nelson**

Allan W. Nelson was made an honorary life member of the Alberta Land Surveyors' Association.

Mr. Nelson received his commission in 1977 and retired in 2019. He served on countless committees while with the Alberta Land Surveyors' Association, along with Council in 2003-2006 and was president in 2004-2005. In 1993, he took the position of Director of Practice Review with the Alberta Land Surveyors' Association where he remained until 1997, at which time he left to join Focus Surveys Ltd.

Allan W. Nelson was awarded honorary life membership in recognition of his signal service to the Alberta Land Surveyors' Association in building relationships in so many ways across the entire profession.

**Professional Recognition – Garry Schirrmacher**

Garry Schirrmacher was made an honorary life member of the Alberta Land Surveyors' Association.

Mr. Schirrmacher received his commission in 1972 and is currently with Don Wilson Surveys Ltd. He was a member of Council from 1978-1979 and served on the Legislation Committee for many years. He had previously served as chairman of the Practice Group.

Garry Schirrmacher was awarded professional recognition in recognition of his signal service to the Alberta Land Surveyors' Association and quiet dedication to the profession and professionalism.

**50 Year Members**

- Paul Ellegood, ALS (Retired)
- Syd Loeppky, ALS (Honorary Life)
- Bill Winthrop, ALS (Retired)
- Lawrence Grudecki, ALS (Retired)
- Don Molesky, ALS (Retired)
25 Year Members
Jay Abbey        Bruce Barnett        Greg Boggs        Dwayne Westacott

New Members
Thomas Cortens, ALS        Pascal Desmarais, ALS        Andrew Healy, ALS
Blake Lange, ALS        Noelle Machon, ALS        Justin Maunder, ALS

2021 AGM
The 112th annual general meeting of the Alberta Land Surveyors’ Association will be held April 14-17, 2021 at the Calgary Hyatt in Calgary, Alberta.

2020-2021 COUNCIL
Bruce Drake, ALS, President        John Byrne, ALS, Vice-President
Steve Yanish, ALS, Past-President        Steven Van Berkel, ALS, Secretary-Treasurer
Bryan Bates, ALS Councillor        Ben de Jong, ALS, Councillor
James Durant, ALS, Councillor        LeMont Edwards, ALS, Councillor
Steve Meehan, ALS, Councillor        Michelle Merrick, ALS, Councillor
Russ Barnes, Public Member