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Crown Law Department,  
Perth, 23rd February, 1971.

THE undermentioned Regulations made under the provisions of the Licensed Surveyors Act, 1909, and amended from time to time up to and including the 17th August, 1970, are reprinted as so amended pursuant to the Reprinting of Regulations Act, 1954 by authority of the Minister for Justice.

W. J. ROBINSON,  
Under Secretary for Law.

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LICENSED SURVEYORS ACT, 1909.

### LICENSED SURVEYORS (GUIDANCE OF SURVEYORS) REGULATIONS, 1961.

Published in the *Government Gazette* on the 28th November, 1961, and incorporating the amendments thereto published in the *Government Gazette* on the 4th August, 1965 and the 24th February, 1970, and the amendments that, pursuant to the provisions of section 8 of the Decimal Currency Act, 1965, are deemed for the purposes of this reprint to be amendments to the regulations; and reprinted pursuant to the Reprinting of Regulations Act, 1954.



Reprinted pursuant to the Reprinting of Regulations Act, 1954 by authority of the Minister for Justice, dated 22nd February, 1971.

LICENSED SURVEYORS ACT, 1909.

LICENSED SURVEYORS (GUIDANCE OF SURVEYORS)  
REGULATIONS, 1961.

General.

1. These regulations may be cited as the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961. Citation.
  2. The general regulations for the guidance of surveyors published in the *Government Gazette* on the 24th June, 1910, as amended from time to time thereafter by regulations amending the same and duly made under the Licensed Surveyors Act, 1909, as amended are revoked. Revocation.
  3. In these regulations unless the context requires otherwise—  
 “plans” includes diagrams;  
 “surveyor” means a surveyor licensed under the Act whose name appears on the register;  
 “Surveyor General” includes as well any other person appointed by the Governor to approve plans of authorised surveys;  
 “the Act” means the Licensed Surveyors Act, 1909, as amended. Interpretation.
  4. It shall be the duty of every surveyor making surveys under these regulations to work in a professional manner and to study the interests of the State in all his operations; to disclose all doubts, discrepancies and difficulties, and afford to the Surveyor General all information obtained by him in the due performance of surveys entrusted to him. Before commencing a survey, the surveyor shall obtain the relevant survey information from the Department of Lands and Surveys, the Office of Titles and the Mines Department. Duty of surveyor.
  5. The necessity for the greatest practical accuracy cannot be too strongly impressed upon surveyors. In many instances no means exist by which errors can be immediately detected. If, therefore, it is found that a surveyor’s work is not up to the necessary standard of accuracy, or is generally unreliable, or that he has in other respects neglected to comply with these regulations, he will be dealt with under section 21 of the Act. Accuracy.
  6. A surveyor conducting authorised surveys under the regulations should make himself conversant with the provisions of the Act and all other Acts and regulations a knowledge of which is necessary to enable him to efficiently discharge his duties as a surveyor. Knowledge of Acts and regulations.
  7. A surveyor effecting any authorised survey under the Act shall comply with departmental instructions supplementary to these regulations. Other instructions.
- Field Notes.
8. Field notes shall be recorded in books provided or approved by the Surveyor General. The original notes taken in the field shall be lodged. Where, in cases of accidental destruction or mutilation, it is not possible to lodge the original notes, replacements or copies, with the written approval of the Surveyor General, may be lodged provided a written signed statement, stating which parts are copies, is made on the index page immediately following the certificate, referred to in regulation 15 of these regulations. The use of ball point pens and Biro type pencils is prohibited. Great care must be taken by a surveyor that his field notes show everything he does or finds to exist on the ground. Field books.

- Making of field notes. 9. Field notes shall be kept in a neat and professional manner, and indexed and referenced in such a way that a qualified draftsman may be able to prepare a plan therefrom. Minute figuring or lettering must be avoided. A margin of at least a quarter of an inch must be left at each edge of the pages.
- Recording of field notes. 10. Field notes shall be recorded in the field in ink. When it is not practicable to use ink in the field a hard pencil may be used. In such cases the surveyor shall ink in the notes himself. No erasure shall be allowed and every alteration shall be made by striking once through the detail in error, placing the correct detail immediately above and initialling the alteration. Black or blue-black ink shall be used generally and may be used throughout. Red ink may be used to show offset or traverse lines and values, reference marks and values and such other detail as seems desirable in the interests of clarity. No other colours shall be used by the surveyor. The use of purple ink is reserved for the examining staff.
- Distances. 11. Measurements of length shall be entered as read in links to two decimal parts of a link; allowances for slope, sag and temperature shall be noted and the lengths deduced therefrom clearly shown to one place of decimals for boundary distances. Running chainages and intermediate distances must be shown. Measurements to offsets, reference marks, buildings and structures should be shown to the second place of decimals of a link. Measurements shall be corrected for temperature, slope and sag, and for that purpose all relevant particulars, including length, weight and standard temperatures of the tape, should be noted in the field book. Angles of slope should be prefixed by E. or D., according to whether they are elevations or depressions in the direction of chainage.
- Calculated or original values. 12. Any distance or angle not measured by the surveyor shall be designated "cal." or "orig." according to whether it has been calculated by him or copied from earlier survey data.
- Abbreviations and symbols. Reg. 13. amended by G.G. 4/8/65, P. 2223. 13. A boundary line shall be indicated by a full ink line; a traverse line or a tie line across a road by a broken black line or full red line. A circle shall indicate a post, peg or intermediate spike actually in position upon completion of the survey. A cross shall indicate a reference mark. A filled square will indicate a faced peg. Except in the case of newly placed marks each circle shall have its appropriate description or symbol—*e.g.*, "O.P." or "P.F.", etc. It is important to describe clearly the condition of old marks for which a search has been made; whether they have been found in a suitable condition to positively identify a point; or whether some remains have been found sufficient only to indicate the point approximately; or whether the mark has disappeared. A practise to be avoided is to show a circle with the description "O.P. gone." If the O.P. is gone and not replaced the circle should be cancelled by a cross. The use of the abbreviation "O.P.R." without any further explanation is not to be used. The position of all new trenches shall be shown in the field book.
- Survey marks. 14. (1) Any post, peg, spike, reference or other survey mark found in the field, which has been established previously in the course of a survey or a re-survey of any Crown allotment, location or public road, made under instruction from the Surveyor General and accepted by him, shall be recorded in the field notes thus "O.P.," "O.R.M." or "O.S." and, if competently searched for and not found, thus "O.P. gone," "O.R.M. gone" or "O.S. gone" as the case may be. If a new mark is placed so as to replace one which is gone, it should be noted in the field book as "O.P. gone, post put," "O.R.M. gone sp. put" and so on. Where an O.P., O.S. or O.R.M. is found in position, but is in a state of decay so that it should be replaced to preserve its identity for a longer period, it should then be replaced by a new mark and shown in the field book as "definite remains of O.P. etc. fd. O.P.R." "O.P.R., O.S.R., etc." should not be used unless there is sufficient evidence available to definitely fix the position from the remains.

(2) Any post, peg, spike, or other mark found in the field which is not an original of a Crown survey and is recorded on a plan or diagram deposited in the Office of Land Titles and passed by the Inspector of Plans and Surveys shall be shown in the field notes as post, peg, spike, or other mark "found" as the case may be.

15. Offsets to and intersections with natural or other features shall be recorded. The topographical features of the land, the nature of the water supply, soil and vegetation along and adjacent to the lines of survey shall also be recorded. **Topography.**

16. All known names of rivers, creeks, hills, lakes, localities, etc., shall be recorded. **Names.**

17. Each page of a field book, where notes appear, shall be initialled by the surveyor and shall bear the date on which the survey was made. The following certificate shall be signed by the surveyor at the end of the field book:— **Certificate.**

This is to certify that these field notes have been taken in the field by me personally (or under my own personal supervision, inspection and field check), are the actual results of the observations and measurements and the survey is in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961.

Date.....

.....  
Licensed Surveyor.

#### Field Work.

18. Before commencing authorised surveys the surveyor shall submit for the approval of the Surveyor General, or other duly authorised officer, the theodolites and other instruments to be used on such surveys, and during the performance of any surveys the Surveyor General, or other duly authorised officer may inspect the instruments being used. Any instrument or band condemned by the Surveyor General, or other duly authorised officer shall not be used upon any work entrusted to the surveyor. Any instrument subsequently acquired shall similarly be submitted for approval before use. **Instruments.**

19. Every surveyor shall keep a steel or invar band acceptable to the Surveyor General to be used solely as a standard; such standard band shall not be used on field work other than for testing field bands. **Measuring band.**

20. The surveyor shall hand all his bands to the Surveyor General for testing before use and at intervals not exceeding one year and at such times as the Surveyor General may direct. The Surveyor General shall arrange for a suitable standard, or standards, of measurement of length to be held by the Department of Lands and Surveys. **Field measuring bands.**  
**Reg. 20**  
**Amended**  
**by G.G.**  
**4/8/65.**  
**P. 2223.**

21. Field measurements shall be made with a steel or invar band, tested at frequent intervals with the surveyor's standard. Tension shall be applied by using a tested spring balance. Provided that with the prior approval of the Surveyor General measurements may be made with an electronic instrument. **Field measurement.**

22. Each survey must be connected to a previous survey by traverse or triangulation unless otherwise directed. In all re-establishment the position indicated by the reference marks should be generally accepted in preference to that indicated by the post or peg if there is disagreement between them. **Connection to old alignment.**

23. In all cases where a new survey is connected with an old one, the surveyor shall range sufficient of the old boundary to verify the alignment thereof. Normally a minimum of three reliable **Proof of old alignment.**

reasonably spaced marks in agreement constitutes a satisfactory alignment, provided that in special cases the Surveyor General may approve of a survey based on a lesser number. All portions of old survey lines so used shall be carefully measured and, if found to be in disagreement to the extent of more than one-quarter of a link in ten chains average with the previous value, they shall be re-measured.

Renovation of survey.

24. In connecting with old surveys, the surveyor must renew the posts and pegs, if at all decayed, and also clear out the trenches.

Re-establishment of surveys.

25. When re-establishing original Crown surveys the surveyor must adhere to the principle of the unchangeableness of the position of the boundary marks except as hereinafter mentioned, and where they have been originally established on the ground by a Government surveyor in pursuance of the survey system at that time in force they must be regarded as the true positions even if found by the new survey not to be in the exact position assigned to them; but to prevent the perpetuation of patent errors in original surveys and to guard against fraud in case where a material disagreement is found to exist between a new and an old survey, the surveyor shall forward a full report and a sketch showing the position of and describing all old survey marks and improvements on or near the boundary line. Where original intermediate marks are not truly aligned between the corners the surveyor may correct the alignment of them provided that no improvements are affected by the alteration. The original and amended positions of the marks must be clearly recorded in the field book and a full report thereon must be made to the Surveyor General.

New alignments.  
Reg. 26.  
Amended by  
G.G. 4/8/65,  
P. 2223.

26. (a) All new boundary lines shall be accurately ranged and chained except where distances and alignments can be computed from connections with another fully ranged line such as the opposite side of a road, an offset, traverse, or similar line parallel or nearly so. Boundaries with calculated distances shall be fully cleared and marked.

(b) Where a new survey line intersects an unsurveyed boundary of leasehold land or freehold land, the intersection shall be marked in accordance with these regulations.

Special surveys by photogrammetric methods.  
Reg. 26A.  
Added by  
G.G. 4/8/65,  
P. 2223.

26A. In special cases, such as where the value of the land does not warrant a normal ground survey, or where the rugged nature of the ground prevents an accurate survey by normal methods or where a natural boundary such as a river or the sea shore can be located with sufficient accuracy by photogrammetric methods, the Surveyor General may authorise a survey to be carried out by photogrammetric methods using aerial photographs and ground control by a licensed surveyor. In such instances special conditions may be laid down by the Surveyor General for marking boundaries.

Offsets and traverses.

27. In ranging an old line or running a new line, the true line should be run for preference. If an offset is necessary, a parallel offset should be used if possible. If a skew offset is necessary it should be in one line only for the full length of the true line or the portion picked up. In any exceptional case in which it is necessary to run a series of traverse lines in place of an offset line a special report must be lodged with the field book.

Connection traverse.  
Reg. 28.  
Substituted by G.G.  
4/8/65,  
P. 2223.

28. Long lines of feature and connection surveys shall be marked in accordance with regulation 47 of these regulations.

Angle reading.

29. Angles shall in every case be measured and repeated with instruments "Face left" and "Face right" alternately to a total of four readings. The first and final readings shall be recorded in the field book as well as the adopted mean value of the angle.

30. The direction of a survey line with reference to the meridian shall be determined by solar or stellar observation, or by applying the correction for convergence from the nearest point of observation for azimuth. A bearing may be adopted from an adjoining survey unless there appears reason to doubt its accuracy. Carried on bearings of survey lines shall be adjusted so as to show true bearings in the field book to the nearest minute. Observations for azimuth shall be obtained at intervals of not more than five miles.

Azimuth.

31. The particulars, date, time of day, point of observation, point of referring mark, and bubble readings of all astronomical observations for azimuth and the latitude and declination used for reducing them shall be shown in the field book followed by the resulting true bearing for each observation and the mean result. Observations shall be taken to the specification of the Surveyor General.

Observations.

32. The actual measurement of each old line chained must be recorded in the field book and if in rural lands it does not disagree with the distance previously adopted more than a quarter of a link in ten chains or proportionately as between marks found the distance so measured shall be adjusted to agree with the previously accepted distance. If the difference is greater the line or part of a line shall be measured again. Upon confirmation of the discrepancy the newly measured distance shall be adopted.

Adjustment of distances.

33. The actual measurement of each angle in a rural survey for which a value has been supplied as survey information shall be recorded in the field book. If it does not differ by more than 30 seconds in value from the previous value it shall be adjusted to the previous value. If the difference exceeds 30 seconds the reading shall be repeated and upon confirmation of the discrepancy the newly measured value shall be adopted.

Adjustment of angles

34. The normal limits of error of closure are set out in sections (a) and (b) herein, provided that the Surveyor General may vary the limits on consideration of the particular survey and the examining officer's report. As accurate surveys and a high standard of work shall be the first object of surveyors, they will be expected to obtain as nearly as possible a true closure.

Limits of error of closure.

(a) Angles:

City and suburban ... .. 10 seconds per angle  
 Rural ... .. 15 seconds per angle

For lines with intermediate set-ups add five seconds for each.

The position of intermediate set-ups should be shown in the field book and marked by a spike without trenches.

Limit of closure:

City and suburban ... .. 1 minute  
 Rural ... .. 3 minutes

(b) Chainage:

Chainage error shall be determined by the following formula:—

The square root of the sum of the squares of the errors in latitude and in departure in links, divided by the total perimeter in miles, and then compared with the table:—

Links per Mile.

Type of Country.	City and Suburban.	Rural.
Level or undulating ... ..	1	2
Rough and Hilly ... ..	1½	3

Distribution  
of misclose.

35. Angular miscloses shall be distributed evenly between angles unless there is good reason to the contrary. Linear miscloses shall be distributed according to the Bowditch Rule:—

As the total length of the traverse is to the length of each line, so is the whole error in latitude or departure to the correction of the corresponding latitude or departure, each correction being so applied as to diminish the whole error in latitude or departure.

For areas of less than two acres, latitudes and departures shall be calculated to hundredths of a link and for more than two acres to tenths of a link. When the resulting calculation for area does not exceed two acres it shall be recorded to the nearest tenth of a perch. All other areas shall be recorded to the nearest perch.

#### MARKING RURAL LANDS (EXCEPT FEATURE SURVEYS).

Specifica-  
tions for  
survey  
marks.

36. Posts or pegs shall be of approved hardwood, rot and termite resistant such as jarrah, jam or wandoo, from which the bark shall have been entirely removed, or of concrete, reasonably reinforced, and of approved specification. The sizes will vary according to the area enclosed by the particular perimeter upon which they are placed. In the case of two adjoining perimeters of different category, the larger size shall be used on the angles of the common boundary.

(a) Over 10 acres:

A hardwood post not less than four inches square, pointed on the top, 30 inches long, sunk 18 inches in the ground, well rammed and firmly fixed. The number of the location, allotment, etc., shall be neatly cut on the side of the post and the departmental mark on the point; or a concrete block two and a half inches square, 18 inches long, sand to cement ratio 2 to 1, of a design approved by the Surveyor General, sunk 15 inches in the ground, fitted on top with a brass or copper plate two inches square x 20 gauge or thicker, securely anchored into the block and drilled with a hole to show the centre. Numbers to be stamped into the brass plate with quarter-inch stamps.

(b) One acre to 10 acres:

A hardwood peg, flat topped, three inches square, 15 inches long, pointed at the lower end, sunk 12 inches in the ground, with numbers and departmental mark cut or stamped on the top, centre marked with galvanised nail, or

a concrete block as specified in (a) above.

(c) Under one acre:

A flat-topped hardwood peg, not less than two inches square and 15 inches long, pointed at the lower end, sunk 12 inches in the ground, with numbers cut or stamped on the top, centre marked with a galvanised nail, or

a concrete block, two inches square, 12 inches long, sunk 10 inches in the ground, fitted with a brass plate as specified in (a) above.

(d) Where the marks as in (a), (b) and (c) are not reasonably available, substitute marks of steel of substantial section in good condition may be used instead of posts or pegs and marks of glass such as bottles may be used for reference or intermediate marks.

(e) All the exposed portions of the posts, pegs and blocks specified in this section shall be painted white, when practicable.



37. At every angle of a location, allotment, etc., containing an area exceeding 10 acres and at key points for smaller areas or at the angles of any other boundary lines, two reference marks shall be placed so that one shall be exactly on an alignment, or the production thereof and the other at right angles to that alignment. While it is permitted to place these marks at any distance from the angle according to the judgment of the surveyor it is preferred that the distance shall be five links. The distance between the two marks shall be measured and recorded in the field book to the nearest hundredth of a link.

Where to place reference marks.

A single reference mark without trenching shall be placed under the theodolite at every instrument point not being otherwise permanently marked. A set-up for producing a line shall be so marked. The chainage to these marks shall be recorded.

38. A reference mark shall be either an iron spike at least half an inch in diameter and 10 inches long sunk at least two inches below the natural surface or a concrete block as specified in paragraph (c) of regulation 36 of these regulations. Where these are not reasonably available glass bottles may be used.

Specifications of reference marks.

39. On all permanent boundaries that exceed  $12\frac{1}{2}$  chains in length spikes, at least half an inch in diameter and 10 inches long driven flush, shall be placed exactly on the alignment and at intervals of about 10 chains but at such distances that from each spike at least one other spike is visible forward and backward. In reasonably level country the spikes shall be placed at regular distances of 10 chains. Substitution of a block as specified in paragraph (c) of regulation 36 of these regulations may be made, and where neither of these are reasonably available glass bottles may be used.

Intermediate marks.

40. If the length of any boundary exceeds 120 chains, numbered referenced mile posts shall be placed on the boundary. Posts and reference marks shall be similar to those placed at angles.

Mile posts.

41. When two or more adjoining boundary lines are five chains or less in length the mark to be placed at the angle between them may be as specified in paragraph (c) of regulation 36 of these regulations. If, as in the case of traverse of a natural feature or the marking of a winding road or a railway boundary, there are more than five consecutive boundaries less than five chains long, reference spikes may be omitted from every second pair of angles.

Shorter boundaries.

42. When marking both sides of a new road, the angle posts on both sides will be referenced according to regulation 37 of these regulations. Where a surveyor is instructed to mark only one side of a road, he shall set out posts for the angle points on the opposite side of the road, according to its width and reference them, as specified above, but without intermediate marks or trenches or line clearing.

Road surveys.

43. All posts on a road shall be marked on the side facing the road with the letter "R."

Road frontage posts.

44. At each corner of every isolated block of rural land, the nearest sound tree (if within two chains of the corner) shall be marked with a broad arrow, and under it the number of the block, cut into the solid wood (the sap-wood having been first removed) at least three quarters of an inch. The bearing and distance of the broad arrow (which is the point of reference) from the corner must be carefully recorded in the field notes and on the diagram or plan. Reference marks shall be placed as required by regulation 37 of these regulations.

Isolated surveys.

## MARKING OF TOWN AND SUBURBAN LANDS.

Town  
corner pegs

45. Each corner of a street or right-of-way shall be marked by a peg or block as specified in paragraph (b) of regulation 36 of these regulations with the exposed portion painted red, marked with numbers and letters and departmental mark as for rural lands. Reference spikes will be placed at each street corner in accordance with regulation 37 of these regulations, except that they will be 15 inches long, half an inch in diameter and sunk at least six inches below the surface. At truncated corners the intersection shall be marked by one spike and both truncation pegs shall be referenced by two spikes. Where the corners are not intervisible the intermediate instrument point will be marked by a spike without trenches and the chainage to it recorded.

Town  
subdivision  
pegs.

46. The remaining corners and angles of allotments shall be marked by pegs or blocks as specified in paragraph (c) of regulation 36 of these regulations, with the exposed portion painted white.

## MARKING PASTORAL AND TIMBER LEASES.

47. The boundaries of pastoral and timber leases shall be marked in a similar manner to other rural lands, with the exception that the intermediate marks may be placed at intervals of not more than 40 chains. These marks may be flat-topped pegs, three inches square, and 15 inches long, sunk 12 inches in the ground, with consecutive numbers clearly cut or stamped thereon, or spikes or bottles. Mile posts shall be placed as provided in regulation 40 of these regulations.

## MARKING GENERALLY

48. The Departmental marks referred to in these regulations to be placed on posts, pegs, trees, etc., shall be—

Lands and Surveys Department ↑  
Mines Department △  
Land Titles Office T

Centring  
of marks.

49. In all marking carried out under these regulations, the centre of every post, peg, block or spike shall be placed with precision over the point which it is intended to indicate and such post, peg, block or spike shall be truly perpendicular.

Size and  
position of  
trenches.  
Reg. 50.  
Amended  
by G.G.  
4/8/65.  
P. 2223.

50. All posts, pegs, concrete blocks and intermediate marks (but not reference marks) shall be trenched except where improvements already indicate the direction of the line or make trenching impracticable.

The size of trenches shall be four links long, one link wide and one link deep.

All pegs, etc., will be trenched in the direction of boundary lines commencing seven links from the peg, except in the case of the intermediate marks as specified in regulation 39 of these regulations where they will commence five links from the mark.

Method of  
marking  
where  
trench  
cannot be  
made.

51. In any place where, on account of rock or other causes, a hole or trench cannot be sunk or cut, a cross shall be cut in the rock to indicate the exact position of the corner post or intermediate mark, and the post or mark must be placed exactly over the cross and protected by a cairn of stones, with neat pointers of stones, four links long in the direction of the boundary lines.

Line  
clearing.

52. All boundary lines shall be cleared to a width of not less than one foot by the removal of all scrub, and trees (if on the line) of a less diameter than two feet, shall be cut down. The trees within two feet shall be blazed on the sides facing the line. If the boundary line passes through a tree which is too large

to remove, the tree is to be marked on each side with a triangular mark cut into the wood, and the apex of the triangle shall be on the boundary line. Rocks which may be on the boundary line are to be marked in suitable places with the departmental mark cut into the rock if the character of the rock will permit. If, after running a line, it is found necessary to offset the posts or pegs, the true line shall in all cases be cleared out and marked.

53. The removal or defacement of any survey mark is a misdemeanour under the provisions of The Criminal Code. Any such misdemeanour coming under the notice of a surveyor should be reported to the Surveyor General.

Damage to survey marks.

53A. Where a plan or diagram of a survey is not lodged within two years from the time of ground marking, the surveyor shall lodge a certificate to the effect that the survey has been inspected and that all marks are intact.

Reg. 53A. Added by G.G. 24/2/70 P. 553.

DRAFTING

54. The following certificate, signed and dated by the surveyor shall be written on every original plan:—

Certificate on plan or diagram.

I hereby certify that this survey was performed by me personally (or under my own personal supervision, inspection and field check) in strict accordance with the Licensed Surveyors (Guidance of Surveyors) Regulations, 1961.

Date.....

.....  
Licensed Surveyor.

55. Plans shall be accurately plotted in accordance with the requirements of the Department concerned.

Drafting

56. Any person committing a breach of any of the foregoing regulations, either by act or omission shall on conviction be liable to a penalty not exceeding forty dollars.

Penalty.