

GOVERNMENT NOTICES

DEPARTMENT OF LAND AFFAIRS

No. R. 1130
29 August 1997

REGULATIONS PROMULGATED IN TERMS OF SECTION 10 OF THE LAND SURVEY ACT, 1997

(ACT No. 8 OF 1997)

The Survey Regulations Board has in terms of section 10 of the Land Survey Act, 1997 (Act No 8 of 1997) made the following regulations. The regulations come into effect on 1 October 1997 and in terms of section 50(7) of the Land Survey Act, 1997 (Act No 8 of 1997) the regulations published in Government Notice No R1814 of 2 November 1962, as amended by Government Notices Nos R1395 of 11 September 1964, R533 of 21 April 1967, R1033 of 20 June 1969, R1126 of 4 July 1969, R2008 of 20 November 1970, R959 of 9 June 1972, R1804 of 13 October 1972, R2320 of 13 December 1976, R844 of 2 May 1977, R1817 of 24 August 1979, R1107 of 30 May 1980, R144.5 of 10 July 1981, R2562 of 27 November 1981, R178 of 28 January 1983, R291 of 24 February 1984, R1020 of 10 May 1985, R657 of 11 April 1986, R1577 of 17 July 1987, R1578 of 17 July 1987, R2018 of 18 September 1987, R829 of 28 April 1989, R2022 of 31 August 1990, R848 of 19 April 1991, R2430 of 4 October 1991, R664 of 28 February 1992, R1354 of 30 July 1993, R765 of 18 April 1994, R997 of 27 May 1994, R649 of 28 April 1995 and R1643 of 26 October 1995 are hereby repealed.

Definitions

1. In these regulations a word or expression to which a meaning has been assigned in the Act bears that meaning and, unless the context otherwise indicates,

"accurately determined" means determined with a standard of accuracy conforming to that prescribed in regulation 5;

an "arc" of observations means the mean of two rounds of observations to surrounding stations and beacons, one being taken in a clockwise direction and the other with the telescope transited, in an anti-clockwise direction;

"Chief Director" means the Chief Director of Surveys and Mapping appointed by the Minister;

"GPS" means the Global Positioning System of position determination;

"metre" means the unit of length as defined in Table 1 of the First Schedule to Government Notice R.1146 of 5 July 1974 published in terms of section 3 of the Measuring Units and National Measuring Standards Act, 1973 (Act 76 of 1973);

"middle of a river" means the line midway between the banks;

"original diagram" means the diagram of the property being surveyed, resurveyed or subdivided;

"right or left bank of a river" means that bank of the river which is on his or her right or left side, as the case might be, when the observer is looking downstream;

"rural land" means all land not situate in a township or in a settlement;

"settlement" means a group of pieces of land or of subdivisions of a piece of land which are used or intended for use mainly for farming or horticulture, and includes a combination of such groups, registered as such in a Deeds Registry;

"side", when used in relation to a figure on a diagram or general plan, means a straight boundary line represented thereon, or the imaginary line joining any two beacons between which the boundary is curvilinear, and includes the line joining an unbeaconed corner point with the indicatory beacon defining such point;

"the Act" means the Land Survey Act, 1997 (Act No 8 of 1997).

Survey Information

2. Before carrying out any survey in terms of the Act a land surveyor shall obtain all available information in respect of any previous surveys of the piece of land to be surveyed and of the adjoining pieces of land.

Field Measurements and Observations

3. (1) A land surveyor shall determine the positions of all stations and beacons within the limits of accuracy prescribed in regulation 5 and shall check every part of his or her survey.

(2) Unless otherwise adequately checked, the minimum requirements for the determination of the position of a point are:

- (a) when its position is determined by intersection or trilateration, the angle at the vertex of any triangle used in such determination shall not be less than 30 degrees nor greater than 150 degrees;
- (b) when its position is determined by resection, at least four favourably situated known points shall be used, and sufficient observations shall be made to ensure the required accuracy of determination of its position: Provided that at least one arc shall be observed;
- (c) when its position is determined by a single triangle only, observations shall be made at all three points and on at least two different parts of the circle;
- (d) when its position is determined by GPS, at least two known points or two independent vectors shall be used;
- (e) when its position is determined by photogrammetric methods, it shall:
 - (i) fall wholly within the perimeter of the ground control points;
 - (ii) be measured in at least two stereoscopic models where the base/height ratio shall not be greater than 0,80, or be measured in at least four photographs for bundle intersections, where the intersection for any pair of rays shall not be less than 30 degrees and not greater than 150 degrees;
 - (iii) be positively identified on the photographs by the land surveyor.

(3) When traversing between two known points, observations shall be taken at both known points, unless the orientation is otherwise adequately checked.

Connection to the National Control Survey System

4. (1) Any survey of land shall be based upon the national control survey system: Provided that the Surveyor-General, after reference to the Chief Surveyor-General, may in exceptional circumstances and subject to such conditions as he or she may deem necessary, exempt any survey from the requirements of this subregulation.

(2) When beacons are co-ordinated by means of GPS techniques, sufficient GPS vectors shall be measured to determine the local relationship between the GPS reference datum and the national control survey reference datum by connection to at least three suitably positioned stations fixed on the national control system unless this relationship has been previously accurately determined.

Limits of Allowable Error in Field Work

5 The accuracy with which a survey shall be done is expressed by the following formulae, where

Class A refers to-

- (i) the determination of reference marks established in terms of regulation 16; and
- (ii) such other determinations as may be prescribed in these regulations;

Class B refers to-

- (i) the survey of new townships and settlements;
- (ii) the resurvey or subdivision of an erf in an existing township or a lot in a settlement;
- (iii) the survey for the replacement of a beacon in a township or a settlement; and
- (iv) the survey for the preparation of a diagram required under the law relating to the registration of mining titles in respect of precious stones and precious metals;

Class C refers to all surveys not included in Class A or B, and shall include surveys for mining titles in respect of base minerals- i

- (a) when the position of a point is determined by polars, traverse, triangulation, trilateration, GPS or a combination of these methods, the displacement between any observed ray, measured distance or GPS vector and the equivalent quantity derived from the final co-ordinates of the point fixed shall not exceed

for Class A: A metres;

for Class B: 1,5A metres;

for Class C: 3A metres;

where A is equal to

$$0,04 + \frac{S}{30\ 000}$$

and S is the distance between the known and the unknown point: Provided that in the case of a GPS vector the comparison is made between the vector derived from the final co-ordinates and the measured vector after the datum transformation has been applied: Provided further that in the case of a traverse the comparison is made to the misclosure of the traverse, where S is the total length of the traverse in metres;

- (b) when the position of a beacon in a township is checked by the measurement of distances from adjacent beacons, the difference between a single measured distance and the adopted final distance shall not exceed 0,10 metres:

Provided that for surveys carried out in terms of the Upgrading of Land Tenure Rights Act, - 1991 (Act No 112 of 1991), the Less Formal Townships Act, 1991 (Act No 113 of 1991) and when a permanent physical feature is being fixed as a beacon the difference shall not exceed 0,20 metres;

- (c) when the vertical position of a point is determined, the difference between any determination thereof and the finally adopted height shall not exceed 0,10 metres:

Provided that the Chief Surveyor-General, in consultation with the Surveyors-General, shall determine a standard of accuracy for any survey operation not specified in this regulation.

Limit of Allowable Difference from Original Survey

6. For the purpose of section 24 of the Act the limit of disagreement from the original diagram is

$$0,2 \sqrt{d}$$

where d represents the distance in metres derived from data on the original diagram between any two beacons affected by the subdivision. Any portion of a boundary line shall be deemed to be within the limit when the whole of such boundary line is within such limit.

Adoption of Data

7. (1) When the position of a terminal beacon has previously been properly identified and determined on the national control survey system, the coordinates of such beacon may be adopted for the purpose of alignment thereto: Provided that a beacon is not placed so close to such terminal beacon that its alignment could be appreciably affected by such survey errors as could normally be expected in the determination of the position of the terminal beacon.

(2) The data defining an unbeaconed point in relation to an indicatory beacon and obtained in the process of correcting the alignment of a beacon as prescribed in regulation 10, may be adopted without verification for the purpose of any new diagram.

(3) The co-ordinate value of any survey station or beacon whose position on the national control survey system has been accurately determined may after verification of its physical position by a land surveyor be used by him or her.

Curvilinear Boundaries

8.(1) (a) When the centre line of a railway forms, or defines an existing boundary, the intersections of such line with the rectilinear boundaries, and when necessary, the ends of the straights shall be accurately determined;

(b) The position of a railway curve defining an existing boundary shall be accurately determined: Provided that, unless the elements of the curve are accurately determined, or the curve is determined by photogrammetric methods, points surveyed on such curve shall not be more than 30 metres apart;

(c) Notwithstanding the provisions of paragraph (b), it shall not be necessary to re-determine the radius and the centre of a circular curve which forms or defines an existing boundary, when such curve has previously been accurately determined.

(2) Fences, railway lines, roads, streams which are liable to change course or any regular curves, or natural or artificial features, which are not permanently or clearly defined, shall not be adopted as new boundaries.

(3) When a land surveyor is prevented from obtaining access to the middle of a river forming a boundary, he or she may determine its position by surveying the position of one of the banks and the widths at critical points.

(4) When a river boundary is described on the original diagram in ambiguous terms, but the land is depicted as extending to a bank, and when the ambiguity is not removed in terms of section 33 of the Act, the position of such bank shall be determined for the purpose of representing it on a new subdivisional diagram.

(5) The Surveyor-General shall not permit a curvilinear boundary to be substituted by a boundary of another character in terms of paragraph (b) of subsection (6) of section 29 of the Act, unless he or she is satisfied that the two boundaries are so nearly co-incident that no material alteration in area of land has taken place by reason of the substitution. The survey records relating to a survey in terms of the aforesaid subsection of the Act shall include a plan showing complete details of the new boundary together with the relevant numerical data for inclusion in a new diagram that may be required to be framed on any property affected.

(6) Photogrammetric methods may be used for determining the position of any curvilinear boundary: Provided that the annotation of such boundary on an aerial photograph or orthophoto map shall be done in the field.

Physical Features Affecting Rights of Ownership

9. In the survey of any land sufficient observations, measurements and sketches shall be made to enable physical features affecting rights of ownership, such as roads and railways, to be determined: Provided that the positions of such features may be obtained from large scale modern maps or from aerial photographs: Provided further that the positions of such features which are liable to change shall be verified.

Alignment of Existing Beacons

10. (1) In surveying a piece of land, of which any existing beacon is supposed to be on a straight line boundary common to such piece of land and other properties, a land surveyor shall, subject to the provisions of subregulation (6) hereof, proceed, as follows:

- (a) When the terminals of the common boundary line are lawfully established beacons, or are well ascertained beacons recognised by all parties, the beacon if not on the straight line joining the terminals shall, subject to the provisions of subregulation (5) hereof, be replaced on line unless it is a lawfully established beacon, in which case it shall be adopted as a beacon of the land under survey;
- (b) When the terminals of the common boundary line are not lawfully established beacons, and the positions of one or both is doubtful, the beacon, if not on line, may be adopted provided it is a well ascertained beacon recognised by all parties and in respect of which an agreement substantially in accordance with the Form contained in Schedule 1 of the Act, signed by all parties concerned, is lodged with the Surveyor-General.

(2) When any beacon of a piece of land adjoining that under survey, which is supposed to be on the common boundary referred to in subregulation (1) is found to be not on line, it need not be dealt with if

- (a) it is a lawfully established beacon in which case it shall be adopted as a beacon of the land under survey;
- (b) it is a well ascertained beacon recognised by all parties and in respect of which an agreement substantially in accordance with the Form contained in Schedule 1 of the Act, signed by all parties concerned, is lodged with the Surveyor-General, in which case it may be adopted as a beacon of the land under survey.

(3) In cases not provided for above, a land surveyor shall investigate the matter thoroughly and collect all available information and evidence to enable him or her to place the beacons in the most likely positions and agreement as above mentioned, to all such beacons, shall be lodged if deemed necessary by the Surveyor-General. Cognisance shall be taken of the beacons and boundaries of a township along the straight line boundary. A full report detailing all the evidence on which the land surveyor based his or her action shall be submitted with the relative survey records.

(4) In correcting the alignment of a beacon as provided for in this regulation, such beacon shall, as a rule be placed at the intersection of the boundary line of which it forms a terminal, with the straight line on which it is supposed to be.

(5) For the purpose of this regulation a beacon shall be deemed to be not on the true and correct boundary when its displacement exceeds

$$0,06 \text{ plus } \frac{d}{4\ 000} \text{ metres}$$

with a maximum of 1,00 metre: Provided that a beacon need not be moved in order to correct its alignment when its displacement falls within the limit of

$$0,06 \text{ plus } \frac{d}{2\ 000} \text{ metres}$$

with a maximum of 1,00 metre, where "d" is the distance from such beacon to the nearest terminal or point justifiably adopted as a terminal in terms of this regulation: Provided further that, in cases where it is necessary to correct alignment, if the beacon is not replaced on line

- (a) it shall be used as an indicatory beacon for the unbeaconed point adopted as a corner of the land under survey; and
- (b) such data as may be necessary to define the position of such point in relation to such indicatory beacon, shall be recorded on any new diagram affected.

(6) When a land surveyor is able to identify a beacon previously placed on line, and in respect of which the survey records have been approved and the Surveyor-General is satisfied that the alignment was correctly effected, such beacon need not be re-tested for alignment.

Specifications for Beacons

11. (1) Except as provided in regulation 12, the corner points of every piece of land, shall be marked by beacons of a permanent nature in accordance with the following minimum specifications:

- (a) For land situate in a township or settlement: a 12 millimetre iron peg at least 400 millimetres long; and
- (b) For rural land: a 16 millimetre iron peg at least 500 millimetres long:

Provided that:

- (i) When it is not possible to drive the peg into the ground, the corner point shall be defined by a hole of sufficient depth drilled into the obstructing rock, pavement or structure;
- (ii) When a post forms part of a properly erected fence and occupies a corner point of land being surveyed, it may be adopted as a beacon;

- (iii) When the corner point co-incides with the corner of a permanent building, such corner shall be adopted as a beacon.

(2) Any departure from the prescribed types of beacons shall be reported to the Surveyor-General.

- (3) A trigonometrical station shall not be used as a new beacon.

When Beacons are not Required

12. (1) It shall not be necessary to place a beacon :

- (a) when the corner point is in such close proximity to the corner of a building that a beacon cannot be conveniently placed in position, in which case the position of the corner of the building shall be accurately determined for use as an indicatory beacon;
- (b) when the area affected by a servitude is of defined width, in which case it shall be necessary to place beacons along one side only of the area, or on a convenient line indicatory to such side;
- (c) at the ends of the straight of a railway line forming a boundary;
- (d) when the purpose of the beacon will fall away by consolidation of title;
- (e) in the case of a servitude based on visible physical features of a permanent nature.

(2) The Surveyor-General may waive the requirements to erect or restore any beacon, when it is evident that such beacon would serve no useful purpose.

Indicatory Beacons

13. (1) When a corner point of a piece of land or the beacon of a real right falls in an inaccessible or insecure position, or in a position where it is deemed inadvisable to place a beacon, such position shall be preserved by means of an indicatory beacon or beacons.

(2) Except as otherwise provided in subregulation (5) of regulation 10, an indicatory beacon shall be placed on each of two of the rectilinear boundaries meeting at such corner point, and as close thereto as will be consistent with its safety: Provided that it shall not be necessary to place an indicatory beacon when it cannot be placed on line due to an obstructing building or permanent structure.

(3) An indicatory beacon shall be placed on a rectilinear boundary to define its intersection with a curvilinear boundary.

Marking of Survey Stations

14. All favourably situated main survey stations which are not likely to be disturbed, shall be marked in a permanent manner.

Damage to and Removal of Trigonometrical Stations

15. (1) A trigonometrical station shall not be moved or demolished except on written authority of the Chief Director.

(2) If it comes to the knowledge of a land surveyor that a trigonometrical station has been or is likely to be damaged or destroyed, he or she shall immediately report the circumstances to the Chief Director.

Reference Marks

16 (1) In the survey, involving more than 10 subdivisions, of new townships, extensions to existing townships or the subdivision of an erf, reference marks shall be placed at convenient intervals and in suitable positions: Provided that-

- (i) not less than two such marks shall be placed;
- (ii) in general such marks shall be placed in the order of 300 metres from each other;
- (iii) reference marks need not be placed when the survey is connected to at least two town survey marks situate within 1000 metres;

(2) A reference mark shall consist of an iron peg at least 12 millimetres in diameter and at least 700 millimetres long, set in concrete at least 200 millimetres below the surface of the ground, or any other permanent mark.

Surveyor-General may test Survey

17. If the Surveyor-General has reason to doubt the accuracy, correctness or authenticity of any survey performed under the Act or any information supplied in connection with such survey, he or she may, after having given notice of his or her intention to the land surveyor concerned, depute a land surveyor who may be an officer in the service of the State to test such accuracy, correctness or authenticity, and thereafter take such action as he or she may deem fit.

Survey Records

18. (1) The survey records referred to in paragraph (c) of section 11 of the Act shall comprise

- (a) a copy of each statutory consent relating to the survey, if applicable;
- (b) a comprehensive report on the survey and on matters incidental thereto;
- (c) field or other records from which positions of beacons were established;
- (d) a co-ordinate list;
- (e) a plan on which the following are recorded

- (i) the designations of the land under survey and the adjoining properties;
- (ii) the relative positions, descriptions and designations of all beacons, stations or points used, adopted, fixed and calculated during the course of the survey: Provided that it shall not be necessary to reflect beacons placed and represented on a general plan submitted simultaneously for examination:

Provided further that descriptions of beacons, stations or other points need not be shown if they appear on the co-ordinate list;

- (iii) the positions of all curvilinear boundaries, which shall be plotted to the scale of the diagram to be framed or to a scale of 1/7500, whichever is the larger;
- (iv) the following certificate, which shall be signed and dated by each land surveyor involved in the survey:

"Surveyed by me in accordance with the provisions of the Land Survey Act, No 8 of 1997 and the regulations framed thereunder.

.....

Date of survey Professional Land Surveyor

(Name) (Registration Number)"

(f) a data comparison plan which shall include:

- (i) the data derived from the survey;
- (ii) the data obtained or deduced from the original and adjoining properties, in brackets;
- (iii) the data finally adopted for the survey, which shall be underlined;
- (iv) a comparison of the original, surveyed and adopted coordinates, if the original survey and the new survey are based on the same system of co-ordinates:

Provided that the data comparison may be furnished on the plan provided in paragraph (e).

(2) When a survey for the replacement of beacons involves only their replacement into co-ordinate positions previously established on the national control survey system, the land surveyor need only submit a copy of the relevant diagram or general plan on which the beacons replaced are indicated, together with a report in which any variations in the descriptions of beacons are mentioned.

Diagrams

19. (1) A diagram intended to be approved by the Surveyor-General shall comply with the following requirements:

- (a) It shall be prepared in black print of good quality on one or more sheets of good, durable paper on any of the following metric sizes: A0, A1, A2, A3 and A4: Provided that when a diagram comprises more than one sheet, a note to that effect and the relevant sheet number shall appear in a prominent position on each sheet of the diagram;
- (b) Only one side of the sheet shall be used;
- (c) Margins 40 mm wide along the binding margin and 10 mm along the other sides shall be provided for A3 and A4 diagrams and 180 mm along the binding margin of the first sheet with 40 mm on subsequent sheets and 30 mm along the other sides for A0, A1 and A2 diagrams: Provided that such margins shall be left free of any writing or drawing: Provided further that the right-hand margin may be used for initialling alterations;
- (d) Land shall be represented by a figure and be plotted to a standard scale: Provided that when beacons are in such close proximity to each other that their relative positions cannot be clearly shown, they shall be represented on an inset;
- (e) The positions and designations of contiguous properties shall be indicated on the diagram;
- (f) When it is necessary for the purpose of registration to represent on the diagram the boundaries of properties held under different tenures or conditions of title, such boundaries shall be represented by broken lines and shall be lettered;
- (g) A diagram shall contain a clear and concise description of each beacon;
- (h) All linear dimensions and co-ordinates recorded on a diagram shall be in metres to two decimal places;

- (i) The following numerical data shall be recorded on a diagram:
- (i) Co-ordinates of every corner point defining the rectilinear figure, every indicatory beacon, every corner point in respect of which connecting data are furnished, two favourably situated trigonometrical stations and, if applicable, sufficient points to uniquely identify a curve which forms part of a boundary: Provided that coordinates need not be stated on a diagram framed from an approved general plan, unless the co-ordinates of each corner point of the land concerned are stated on the said general plan;
 - (ii) The lengths of the sides of the rectilinear figure and, if applicable, the radius of every circular curve forming part of a boundary;
 - (iii) Angles of direction to the nearest one second of all sides: Provided that-
 - (a) when the length of the side is less than 1000 metres the direction to the nearest one second of all sides: Provided that-
 - (b) when the side is part of a boundary, determined during the course of a survey, and whose length exceeds 1000 metres, the direction of such side shall be expressed to single seconds;
 - (c) on a diagram of land in a township, the direction of all lines less than 1000 metres in length shall be expressed to the nearest 10 seconds;
 - (d) angles may be recorded on the diagram of an erf if the erf is represented on an approved general plan on which angles are recorded;
 - (iv) The area, which shall be expressed in square metres to the nearest square metre when the area is less than one hectare, or in hectares to four decimal places if the area is equal to or greater than one hectare;
 - (v) Such data as may be necessary to define the limits of a figure representing a servitude;
 - (vi) Such connecting data as may be necessary to ensure that the figure represented on the diagram can be uniquely identified in relation to surrounding properties and to demonstrate that correct alignment of beacons has been established;
 - (j) The co-ordinate system and the constant by which the coordinates have been reduced shall be recorded;
 - (k) The numerical data recorded on a diagram shall be numerically consistent within the following limits:
 - (i) The closure of a data traverse computed round the rectilinear figure shall not exceed:

$$0,02 + \frac{P \sqrt{n}}{10\ 000} \text{ metres,}$$

(ii) The inconsistency in the area of the rectilinear figure as computed from its sides and angles, or directions, shall not exceed:

$$\frac{2 + \frac{P^2}{n}}{80\,000} \text{ metres,}$$

where p represents the perimeter in metres and n represents the number of sides of the rectilinear figure;

- (iii) The allowable maximum discrepancy in the recorded data of a curvilinear boundary shall be the area contained between the curvilinear line and a line parallel to it, displaced at a distance corresponding to one millimetre on the scale adopted for the plan referred to in regulation 18(1)(e)(iii);
- (I) The direction of true north shall be indicated on each diagram;
- (m) A clear definition of the limits of the figure shall be recorded as follows:
- (i) In the definition shall be recorded, clockwise and in the order in which they occur, the letters or letters and numbers by which the corner points are indicated, and if applicable a description of the curvilinear boundary;
 - (ii) When a river, stream, water-course, wall, krans, or other well-defined permanent feature forms a new boundary, it shall be distinctly recorded in the definition of the figure which specific part of the feature forms such boundary;
 - (iii) Where the same piece of land consists of two or more parts and such parts meet at one or more common points, or such parts are disconnected by the prior deduction of a strip of road or railway reserve, the definition shall be recorded in such a manner as not to reflect separate figures.
- (n) The designation of the figure, including references to the province, administrative district or registration division, township and local authority area, where applicable, shall be recorded: Provided that on a diagram compiled for consolidation of title, references to the component properties, together with the relevant diagram and deed numbers, shall be recorded;
- (o) Each diagram shall contain such references as the Surveyor-General may require;
- (p) The responsible land surveyor shall sign and date each sheet of a diagram and certify that it was either framed in terms of the proviso to section 16 of the Act, compiled for consolidation of title, or surveyed by him or her, as the case may be. The name of the land surveyor and his or her professional registration number shall also be recorded on the diagram.
- (2) Notwithstanding the requirements of subregulation (1)), a diagram compiled without resurvey for the purpose of consolidation of title, shall contain no beacon descriptions nor numerical data other than the area, which shall agree exactly with the sum of the transfer areas of the component properties.
- (3) The Surveyor-General may refuse to approve any diagram should he or she be of the opinion that it is dilapidated, framed in a careless manner or its appearance is spoilt by amendments or additions.

General Plans

20. (1) A general plan intended to be approved by the Surveyor-General shall be provided when required under any law or when the property is subdivided into 10 or more pieces of land, and shall comply with the following requirements:

- (a) It shall be prepared in black print of good quality on one or more sheets of durable material at the following metric sizes; A0, A1, A2, and A3:

Provided that if the layout of the pieces of land is depicted on more than one sheet, the first sheet shall contain a key plan indicating the sheet numbers and divisions: Provided further that each sheet shall be numbered;

- (b) The provisions of paragraph (c) of sub-regulation (1) of regulation 19 which are applicable to a diagram shall, with the necessary changes, apply to a general plan: Provided that these requirements may be relaxed with the prior consent of the Surveyor-General;
- (c) The provisions of paragraphs (e), (f), (g), (h), (i), (j), (k), (l), (n) and (p) of subregulation (1) of regulation 19 which are applicable to a diagram shall, with the necessary changes, apply to a general plan.
- (d) The following information shall be provided in respect of the subdivisions:
 - (i) The co-ordinates, which shall be tabulated, of, in the case of rural land, all corner points and any indicatory beacons defining any such point or in the case of urban land, the corners of blocks of erven and reference marks;
 - (ii) The length and direction of each side, which shall be recorded within the figure whenever it is feasible to do so: Provided that when the sides of two or more adjoining erven in a block are parallel, it shall only be necessary to record the directions of the first and last of such parallel sides:

Provided further that the value of the direction of a side shall be recorded within the figure so as to represent the clockwise direction of such side;
 - (iii) The areas, which shall be tabulated consecutively and separately for each erf, shall be expressed in accordance with the provisions of paragraph (l) of subregulation (1) of regulation 19;
 - (iv) The widths of roads, when uniform, which shall be recorded in the figure of the road;
 - (v) Sufficient numerical data to connect the blocks with each other and with the boundaries of the outside figure: Provided that such data shall be furnished in the figure of the plan, or in an inset;
 - (vi) The designation of each erf shall be written within the figure;
 - (vii) The Surveyor-General may in exceptional circumstances and subject to such conditions as he or she may deem necessary, relax any of the requirements of this subregulation.

(2) When the Surveyor-General, at the request of the land surveyor who signed a general plan, has under section 14 of the Act provisionally approved such general plan, the responsible land surveyor shall within five months after the date of such approval submit the final general plan to the Surveyor-General for approval: Provided that the Surveyor-General may extend the period of five months by a period of four months if prior to the expiry of the period of five months, the land surveyor furnishes him or her with reasons why it is not possible to submit the final general plan within the said period of five months: Provided further that if the final general plan is not submitted within the periods prescribed in this subregulation, the Surveyor-General shall notify the Registrar accordingly, after which no registration of any erf shall take place until the final general plan is submitted.

(3) The Surveyor-General may refuse to approve any general plan should he or she be of the opinion that it is dilapidated, framed in a careless manner or its appearance is spoilt by amendments or additions.

Servitudes

21. (1) When a new subdivisional boundary falls in close proximity to an existing servitude which is not indicated on the diagram of the relevant subdivision, the land surveyor shall furnish the Surveyor-General with a certificate to the effect that the subdivision is not affected by such servitude.

(2) When it is intended to create a servitude over a portion of land upon transfer of such portion, unless represented on a separate diagram, the features or boundaries defining such servitude may be represented on the relevant sub divisional diagram together with a note describing such servitude. The note shall be in the form of a direct statement and shall contain no condition which it is proposed to attach to the servitude.

(3) If upon transfer of a portion of land a servitude is to be registered against the remainder or against contiguous or neighbouring land, the features or boundaries defining such servitude may be represented and described on the subdivisional diagram. If the figure or the servitude cannot conveniently be represented to the scale of the diagram it may be shown in an inset plotted to a different scale.

(4) When a servitude is not registered in a Deeds Registry and the only indication of its existence is a note on a registered diagram, the identical words used on such diagram shall be reproduced in a similar position on any subdivisional diagram representing land affected by such servitude: Provided that such note shall not be altered or omitted except as a result of an order of competent authority, the registration of a notarial deed to remove any uncertainty, or of a lapsing by merger.

(5) When a servitude encumbers land extending beyond the limits of the feature determining the position of the servitude, the servitude note shall, whenever practicable, refer to the area concerned as a servitude area.

(6) For the purpose of registering a servitude or lease which is not situated at ground level, the difference in height between the servitude or lease and two permanent survey stations in the near vicinity shall be recorded.

Certified Copies of Diagrams or General Plans

22. A certified copy of an approved diagram or general plan shall not be issued by the Surveyor-General prior to the registration thereof, unless the written consent of the land surveyor concerned, or of any person legally entitled to act on his or her behalf, is produced to the Surveyor-General:

Provided that such consent shall not be required

- (i) if the Surveyor-General has been supplied with evidence that such land surveyor has unreasonably withheld his or her consent or has failed to respond in a reasonable time to a notice requesting authorisation for the issue of a certified copy;
- (ii) if one or more original copies of the diagram are produced by the applicant to the Surveyor-General;
- (iii) after a period of five years from the date of approval of the diagram or general plan.

Deductions, Alterations, Endorsements

23. (1) No deduction, note, alteration or endorsement shall be made on a registered diagram or general plan except by the Surveyor-General.

(2) An approved diagram or general plan may be amended, prior to the registration thereof, only by the Surveyor-General who shall in appropriate circumstances notify the land surveyor thereof.

(3) Alterations to any diagram or general plan under examination shall be initialled by the land surveyor or in special circumstances the Surveyor-General, who shall, in appropriate circumstances, notify the land surveyor thereof.

Correction of General Plans

24. (1) If it is necessary for the Surveyor-General to correct a general plan and such correction affects the extent or designation of an erf represented on the general plan he or she shall inform the Registrar accordingly.

(2) If the Surveyor-General requires a correction sheet to be submitted he or she shall call upon the responsible land surveyor to submit such sheet as may be necessary.

(3) When the Surveyor-General is convinced that the correction sheet is in order he or she shall make the appropriate endorsement on his or her copy of the existing general plan and on the copy in the Deeds Registry and shall advise the land surveyor accordingly to enable him or her to take steps as may be necessary to ensure the suitable amendment of the title deeds of all affected erven.

(4) The numbering of the erven shown on a correction sheet shall be the same as the numbering of the existing general plan, unless a change in such numbering is required by the Surveyor-General.

Certificate of Township or Registered Title

25. (1) When an area to be laid out as a township or a settlement does not comprise the whole of the land represented by an approved diagram, a subdivisional diagram of the portion to be so laid out shall be framed for the purpose of annexure to a certificate of township, settlement or registered title.

(2) When an area to be subdivided in any manner not provided for in sub-regulation (1), does not comprise the whole of the land represented on an approved diagram, a diagram of the portion so being subdivided, shall be framed for the purpose of annexure to a certificate of registered title, if deemed necessary by the Surveyor-General.

Replacement of Beacons

26. When a land surveyor has replaced a beacon or redetermined the position of one or more boundaries he or she shall report the circumstances to the Surveyor-General and, within three months of such replacement or redetermination, shall submit to that officer, for examination, acceptance and for permanent filing, the survey records relative to such replacement or redetermination: Provided that in exceptional circumstances the Surveyor-General may permit a longer period of time.

Fees of Office

27. The Surveyor-General shall not accept a diagram or general plan for examination unless the relevant fees of office have been paid.

Arbitration Proceedings

28. (1) Any person who has called upon a contiguous owner to sign an agreement in terms of subsection (2) of section 29 of the Act, shall preserve a record of the hour and day on which, and the place at which, he or she so called upon him or her, or if he or she called upon him or her in writing, he or she shall preserve a copy of the letter and any reply thereto he or she shall receive. In the event of such contiguous owner refusing to sign the agreement, the person calling upon him or her to do so shall, if possible, obtain the signature of such owner to such record of such day, hour and place, and also the signature of any witness present.

(2) Whenever it becomes necessary to proceed to arbitration in terms of the Act, the Surveyor-General shall serve notice as presented upon every owner concerned, or to his or her fully authorised agent, requiring him or her within a period of one month after the date of notification, or if he or she was not in South Africa upon such date, within three months thereafter, to complete and sign before two witnesses, and to return to him or her, a deed of submission substantially in the following form:

DEED OF SUBMISSION

I,the registered owner of the piece of land called,
situate atin the district of Province of
hereby undertake to submit the question of the disputed beacon and boundary
common to the land called..... and to the land called to the
decision of an arbitrator or arbitrators to be appointed by the
Surveyor-General of the said province under the provisions of Act No 8 of
1997, and to acceptaward in regard to such
beacon and boundary, and to the costs of or incidental to such arbitration
as final and conclusive. I further agree that, for the purpose of giving
effect to any award or order made in terms of the arbitration this deed
shall be deemed to be a-submission under the laws relating
to arbitration in the Province of....., and that at the
instance of either party it may be made the subject of an order of court.
(Signed)
Witnesses (2): (Signed).....(Signed).....

(3) Upon receipt of deeds of submission from every owner affected by an objection, or from his or her duly authorised agent, the Surveyor-General shall appoint an arbitrator or arbitrators to determine the matter in dispute, but shall, unless he or she deems it otherwise desirable, appoint one arbitrator only. If, however, half or more than half of the persons affected by the objection demand that more than one arbitrator shall be appointed, he or she shall appoint at least three arbitrators: Provided that in no circumstances shall he or she appoint more than one arbitrator for the settlement of a dispute under section 25 of the Act. In the event of three arbitrators being appointed, the decision of any two of them shall determine all questions under submission.

(4) Before any arbitrator enters on a reference under the Act he or she shall make and subscribe to the following declaration before a justice of peace or commissioner of oaths:

I,, do solemnly and sincerely declare that I will faithfully and honestly, without fear or favour, and to the best of my skill and ability, hear and determine the matter referred to me under the Land Survey Act, 1997 (No 8 of 1997).

(5) The appointment of an arbitrator shall not be revoked without the consent of all parties affected by the objection, nor shall the death of any such party act as the revocation of an appointment.

(6) An arbitrator or arbitrators shall submit his or her or their award to the Surveyor-General within sixty days after his or her or their appointment, but the Surveyor-General may for particular reasons to be recorded in writing extend the time in which the award may be made.

(7) If an arbitrator dies or becomes incapable of acting before making his or her award, or fails or refuses to make his or her award within sixty days after his or her appointment, or within such extended period as may have been allowed by the Surveyor-General, the Surveyor-General shall appoint another arbitrator in his or her place. Every arbitrator so appointed shall have the same powers and authorities as were vested in the arbitrator in whose place the appointment is made.

(8) An arbitrator acting under a submission shall have the power to summon and hear witnesses, to administer oaths or take affirmations, to call for the production of papers and documents, and to enter upon and inspect any land for the purpose of determining the matter in dispute.

(9) The issue of a subpoena or summons on a witness to compel his or her attendance, and the production of documents before an arbitrator may be procured by such arbitrator or by any party to a submission, in the same way and subject to the same conditions as if the matter were an action pending in a magistrate's court.

(10) The parties affected by an objection shall submit to be examined by the arbitrator or arbitrators upon oath or affirmation in relation to the question in dispute and to all matters appertaining thereto, and shall produce before the arbitrator or arbitrators all documents within their possession or power respectively which he or she or they may call for or require, and shall do all other things which during the arbitration the arbitrators may require in connection therewith. Any party affected by an objection shall have the right to be represented by counsel or an attorney or both.

(11) As far as possible, written notes shall be taken of the oral evidence of witnesses by the arbitrator or arbitrators before whom it is given, and such notes shall be submitted to the Surveyor-General, together with the award, for purposes of record.

(12) The arbitrator or arbitrators may proceed ex parte in case any party to a dispute or any person affected by an objection, after reasonable notice has been given to him or her, shall neglect or refuse to attend on a reference.

(13) In every award the arbitrator or arbitrators shall direct by whom the cost of and consequent upon arbitration, or any part thereof, shall be paid, and may decide upon or tax the amount of the cost or part thereof to be so paid except the fees payable to the arbitrator or arbitrators: Provided that if no direction be given as to the scale on which costs are to be taxed they shall be taxed according to the tariff allowed in magistrates' courts.

(14) The scale of the fees to be paid to an arbitrator shall be determined by the Surveyor-General prior to the appointment of such arbitrator, and the Surveyor-General may, upon such appointment being made, require that the parties affected by an objection, or any of them, shall deposit with him or her a sum of money equal to the estimated amount of the fees of the arbitrator, and of the expenses which will be incurred by him or her in travelling and subsistence, or shall give satisfactory security therefor. In case the amount of such fees and expenses is subsequently found to exceed the deposit, the Surveyor-General may withhold the award until the amount of the excess has been paid. The amount due to an arbitrator by way of fees, on the scale determined by the Surveyor-General as aforesaid, and by way of travelling and subsistence expenses, shall be taxable by the Surveyor-General.

(15) The Surveyor-General shall certify in writing the amount due by any person affected by an objection. Such certificate shall be final, and the person named therein shall be indebted to the Surveyor-General in the amount stated therein: Provided that the Surveyor-General may rectify any error in such certificate.

Service and Publishing of a Notice

29 (1) The service of a notice referred to in sections 23(1), 25(3), 29(5) and 41(3) of the Act shall be effected by personal delivery or by registered post, and in the case of service by registered post the date of service shall be deemed to be the date upon which the letter containing such notice would in the ordinary course reach the post office from which it is to be delivered to the addressee thereof.

(2) A notice referred to in sections 19(1), 22, 23(2), 25(7), 26(2), 27(1)(a) and 34(5) of the Act shall be published in two consecutive issues of the Gazette and once every week during two consecutive weeks in at least two newspapers approved by the Surveyor-General, issued respectively in a different official language, and circulating in an area within which the affected piece of land is situated.