Toitū Te Whenua
Land Information
New Zealand

Surveyor-General's Guidelines

Rules for Cadastral Survey 2010

Objective ID: A4888744

Office of the Surveyor General

THIS DOCUMENT WAS SUPERSEDED JULY 2022

22 July 2022

Te Kāwanatanga o Aotearoa
New Zealand Government

Note: this guideline is issued by the Surveyor-General under section 7(1)(ga) of the Cadastral Survey Act 2002 about the Rules for Cadastral Survey 2010 and is not legally binding.

Contents

Accuracy standards

Accuracy of non-boundary marks

The following information relates to rule 3.1 and the accuracy requirements for non-boundary marks on a cadastral survey.

Applying rule 3.1 ensures there is an accuracy framework for the network of non-boundary survey marks that enables boundary positions to be accurately determined in relation to one another and correctly reinstated in the future.

Two tiers and a cap for accuracy of non-boundary marks

In summary, the standard for survey accuracy [r 3.1] specifies two tiers of accuracies and a cap that applies between non-boundary marks. These are:

- a more stringent level of accuracy to be met between 95 % of new and old marks (a 95 % confidence level) [r 3.1, Table 1(a)],
- a less stringent level of accuracy to be met between all marks including cadastral survey network marks, but exempts other adopted non-boundary marks (100 %) [r 3.1, Table 1(b)], and
- a 0.5 m cap [r 3.1, Table 1(c)].

The following information explains these requirements in more detail

More stringent standard for accuracy of non-boundary marks

This first tier is more stringent and requires a 95 % likelihood that the relationship between the marks specified in the rules meets the specified accuracies. This 95 % standard applies to all new work but not to adopted work. The standard uses the root sum squared (RSS) method to calculate the accuracy value [r 3.1, Table 1(a)].

Less stringent standard for accuracy of non-boundary marks

This second tier is less stringent with tolerances approximately 50 % greater than the most stringent standard.

The standard requires the relationship between all (100 %) of the points specified in the Rules, including all adopted cadastral survey network marks to meet the specified standards. Other adopted non-boundary marks as part of an adopted 'traverse' used as evidence in locating an existing boundary point are exempt (refer to r 3.1(b)). A cadastral survey network mark is a mark with a Landonline order 6 or better (LINZR65302: Ruling on cadastral survey network marks).

The standard uses a simple sum method to calculate the accuracy value [r 3.1, Table 1(b)].

This means that up to 5 % of the relationships between new work are permitted to be outside the more stringent accuracy standard providing they are within the less stringent standard.

0.5 metre cap for accuracy of non-boundary marks

The accuracy standard has a cap of 0.5 m, which has an impact on widely spaced marks [r 3.1, Table 1(c)].

Application of accuracy standards for accuracy of non-boundary marks

The accuracy standards are distance dependent. Note that the cap comes into effect at 3130 m.

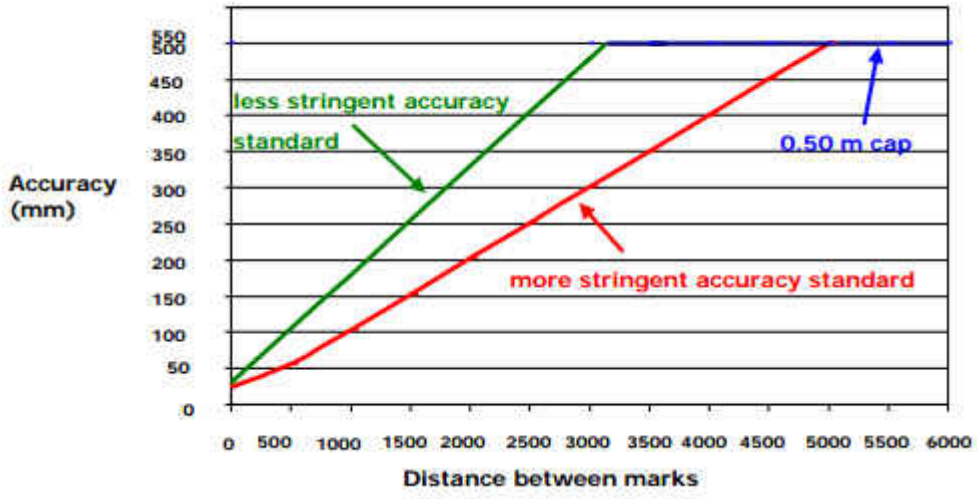


Figure 1: Accuracy between non-boundary marks

Meeting the accuracy levels for accuracy of non-boundary marks

Confidence levels can be estimated through a least squares analysis and are influenced by the number and location of the vectors connecting the points (the strength of the geometry), and the accuracy of those vectors. Good survey practice, strong geometry, accurate measurement, and the inclusion of additional vectors may provide assurance the required confidence levels are met.

Note that where circuits include new and adopted vectors, the circuit closure may not be a definitive indicator of the survey meeting the accuracy levels. This is because of the different accuracy specifications in rules 3.1(a) and 3.1(b).

Non-boundary marks which accuracy tolerance applies to

With the exception of those adopted non-boundary marks as part of an adopted 'traverse' used as evidence in locating an existing boundary point (r 3.1(b)), the accuracy specifications apply to all new and old non-boundary marks including:

- permanent reference marks (PRMs),
- witness marks, and
- old or adopted cadastral survey network marks
- other non-boundary marks in the survey (traverse marks).

When survey accuracy standard applies

The standard applies between specified non-boundary marks:

- joined by measured vectors,
- joined by adopted vectors (for exceptions refer to less stringent standard for accuracy of non-boundary marks above),
- joined by calculated vectors, and
- not directly joined by vectors.

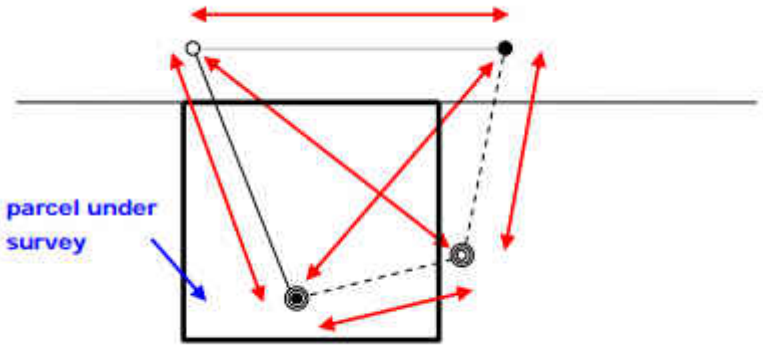


Figure 2: The accuracy standard applies between all marks

Adopted vectors and accuracy of non-boundary marks

All adopted vectors that define the spatial relationship between cadastral survey network marks or between boundary points must comply with the less stringent accuracy standard [r 3.1, Table 1(b)]. There is no provision for allowing the adoption of vectors that fail the new accuracy standards, but meet the survey accuracy tolerances in place at the time of the original survey.

Where adopted 'traverse' vectors are used as evidence in locating an existing boundary point, the points are not required to meet the accuracy standards in rule 3.1 [r 3.1, Table 1(b)]. An example could be an old centreline traverse.

These vectors must be copied correctly from the source data into the CSD [r 8.4] and be included in the Diagram of Survey noting that an adoption may incorporate a bearing adjustment [r 8.4].

Effect of accuracy standards for accuracy of non-boundary marks

The accuracy requirements for non-boundary marks [r 3.1], in combination with the accuracy requirements for witnessing [r 3.6], ensures there is a survey accurate relationship between the boundary point and non-boundary marks that are in close proximity.

This enables a boundary point to be confidently reinstated from any one of these non-boundary marks in the future.

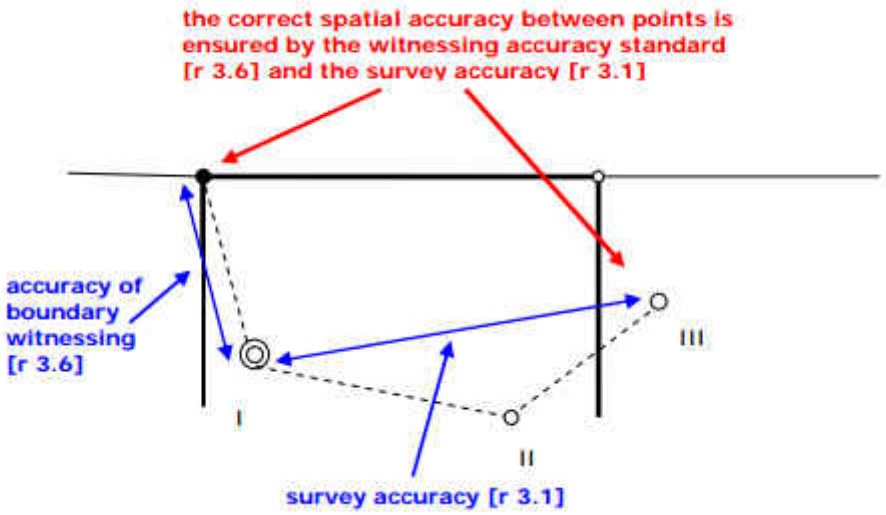


Figure 3: Ensuring correct spatial accuracy between points

Class of survey does not apply for accuracy of non-boundary marks

There is no specified class of accuracy for the survey accuracy standard. The same accuracies apply irrespective of the class of accuracy applicable to boundary witnessing [r 3.6] and boundaries [r 3.3].

Last Updated: 25 September 2017

Accuracy of boundary witnessing

The following information relates to rule 3.6 and the accuracy requirements that apply between witnessed boundary points and non-boundary marks on a cadastral survey.

Boundary witness accuracy applies to boundary points and stratum boundaries

The horizontal and vertical accuracy between a witnessed boundary point and all old and new non-boundary marks within the distances specified in rule 7.3.2 must not exceed the tolerances in rule 3.6.

The accuracy tolerances apply to boundary points that define both the horizontal extent of primary parcels and the vertical extent of primary and non-primary parcels in the case of a stratum boundary.

Boundary witness accuracy applies to all close non-boundary marks

The accuracy of boundary witnessing [r 3.6] applies between a boundary point and all non-boundary marks fixed in the field that are within the distances specified by rule 7.3.2.

This includes those marks without a direct connection to the boundary point and in some cases does not include the mark used to set out or tie to the boundary mark.

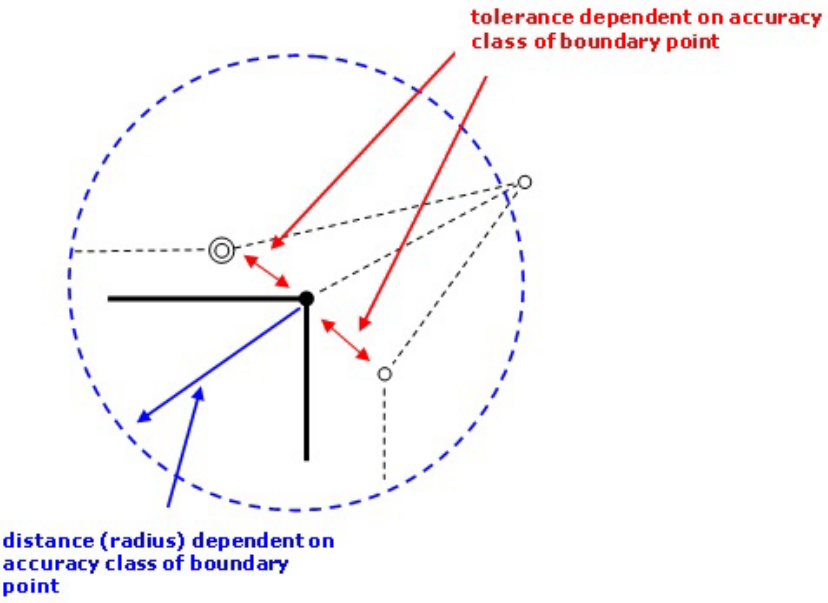


Figure 4: Distance (radius) and tolerance depend on accuracy class of boundary point

Boundary witness accuracy and primary parcels less than 0.4 ha

In the case of a class A primary parcel being subdivided, for a resultant parcel less than 0.4 ha the accuracy of boundary witnessing standard applies to new boundary points (as indicated in blue in the diagram below) and also to the existing boundary points (as indicated in red) where the larger parcel is less than 90% of the extinguished parcel. This is because rule 7.3.1(a) requires every boundary point on a primary parcel that is being defined by survey, to be witnessed, and all boundary points for a parcel less than 0.4 ha to be defined by survey [r 6.2(a)(iv)].

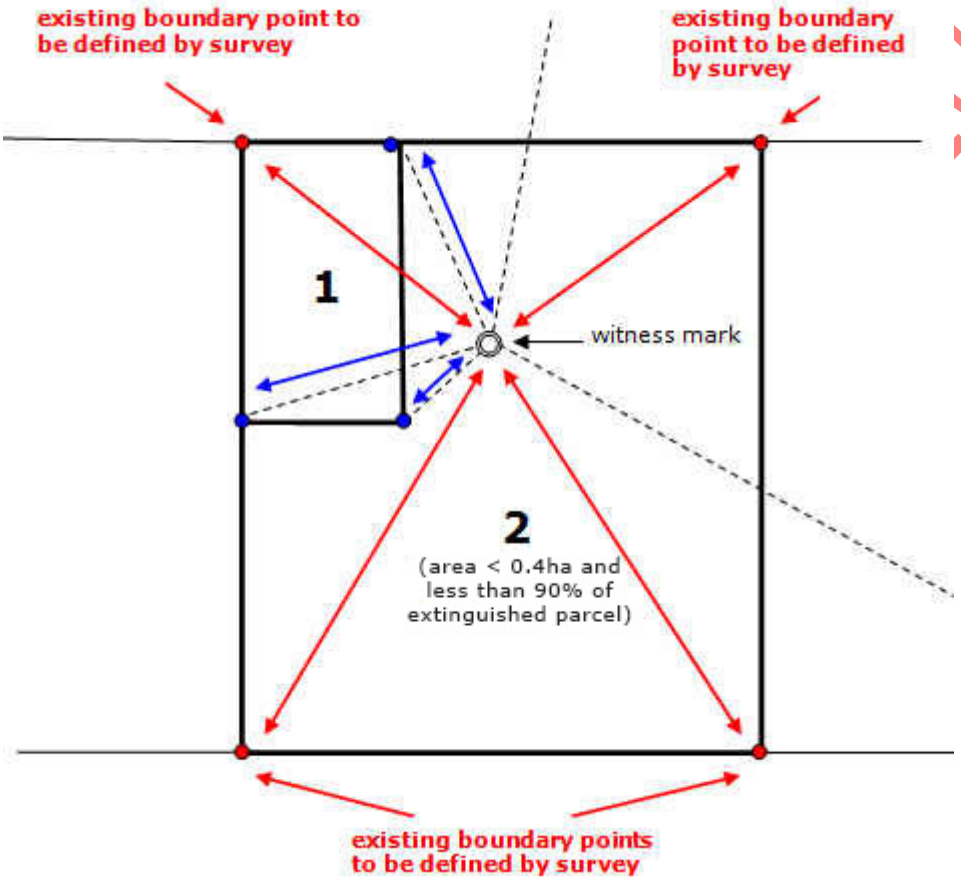


Figure 5: Accuracy standard applies to new and existing boundary points for new class A parcels less than 0.4 ha

Effect of boundary witness accuracy standards

The Rules emphasise the accuracy of a boundary position in relation to both witness marks and other non-boundary marks within the specified distances in rule 7.3.2. This enables the boundary point to be confidently reinstated from any one of these marks in the future.

Note the CSD is required to include sufficient vectors to ascertain and verify the relationships between the non-boundary marks and the boundary point [r 8.1(d)(iii)].

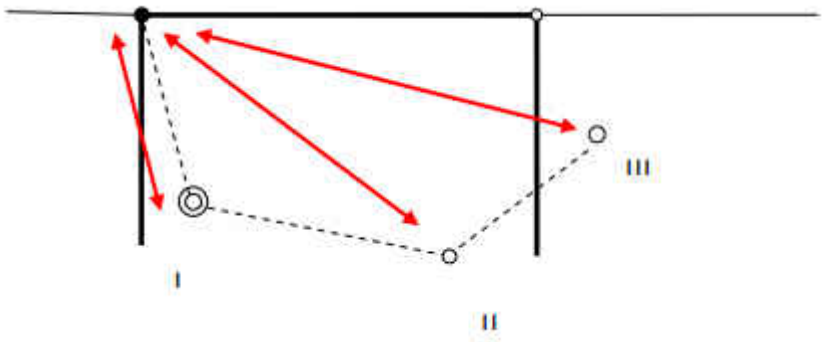


Figure 6: The boundary point is able to be reinstated from any of the non-boundary marks

Last Updated: 29 March 2017

Accuracy of boundaries

The following information relates to rule 3.2 and the accuracy classes that apply to boundaries and boundary points.

Historically, classes of accuracy were assigned to parcels and not boundaries. The assignment of some classes of survey was made on parcel size (that is, greater or less than 4 ha) which could result in anomalies. For example a small piece of land being taken for road in a rural environment required the more stringent urban class of accuracy. This is no longer applicable.

Classes of accuracy are now assigned to boundaries and boundary points and the criterion for increasing the accuracy class of survey in a rural area is now based on specific land use (intensive commercial, industrial, or residential purposes).

Hierarchy of boundary accuracy

The Rules provide four classes of accuracy which apply only to boundaries and boundary points. The four classes are defined in rule 3.2 as:

- class A (urban and the most accurate),
- class B (rural and not as accurate as class A),
- class C (used in specified rural circumstances where a less accurate boundary is acceptable), and
- class D (used in exceptional rural circumstances where the existing boundary accuracy is unknown or unable to be determined and it is appropriate to permit these inaccuracies to remain).

Accuracy class applies to boundary, not parcel

A class of accuracy applies to a boundary and its associated boundary points rather than to a parcel [r 3.2]. A parcel can be made up of a mixture of classes of boundaries. For example, see figure 7 below.

When class A or class B boundary accuracy applies

Class A is to be applied in an urban area and also in a non-urban situation where the boundaries and boundary points are associated with a parcel intended for intensive commercial, industrial, or residential purposes [r 3.2.1(b)].

Where there could be doubt as to whether a boundary should be class A or B, the surveyor will need to decide and, if class B is chosen, provide supporting information in the survey report to support the decision.

Any boundaries or boundary points may be surveyed to class A accuracy if the surveyor chooses to do so.

Boundaries 'defined by survey' must be class A or class B unless a lower accuracy class is approved by the Surveyor-General [r 3.2.5(b)].

When class B or class C boundary accuracy applies

Class C accuracy tolerances are not to be applied without first testing to determine if class B accuracy tolerances are applicable [r 3.2.3(a)(iii)].

Exceptions to the above are where: the title will remain limited as to parcels or an interim title [r 3.2.3(a)(iv)]; or the boundary is a water or irregular boundary [r 3.2.3(a)(v)]; or the boundary is for a covenant [r 16].

If a boundary meets either class C or class D criteria [r 3.2.3 and r 3.2.4], then either of the classes may be used.

If the boundary does not meet class C or D criteria, it must be resurveyed to class B standards [r 6.2(a)(vi)].

When class C or class D boundary accuracy applies

In specified circumstances where the accuracies of class B cannot be met, the use of class C [r 3.2.3] or class D [r 3.2.4] is permitted. These classes relate only to existing boundaries and boundary points except where a specific dispensation has been approved by the Surveyor-General [r 3.2.3(c)].

The use of class C is also permitted for new boundaries of covenants under rule 16 (refer to Alternative requirements for covenant parcels (rule 16)).

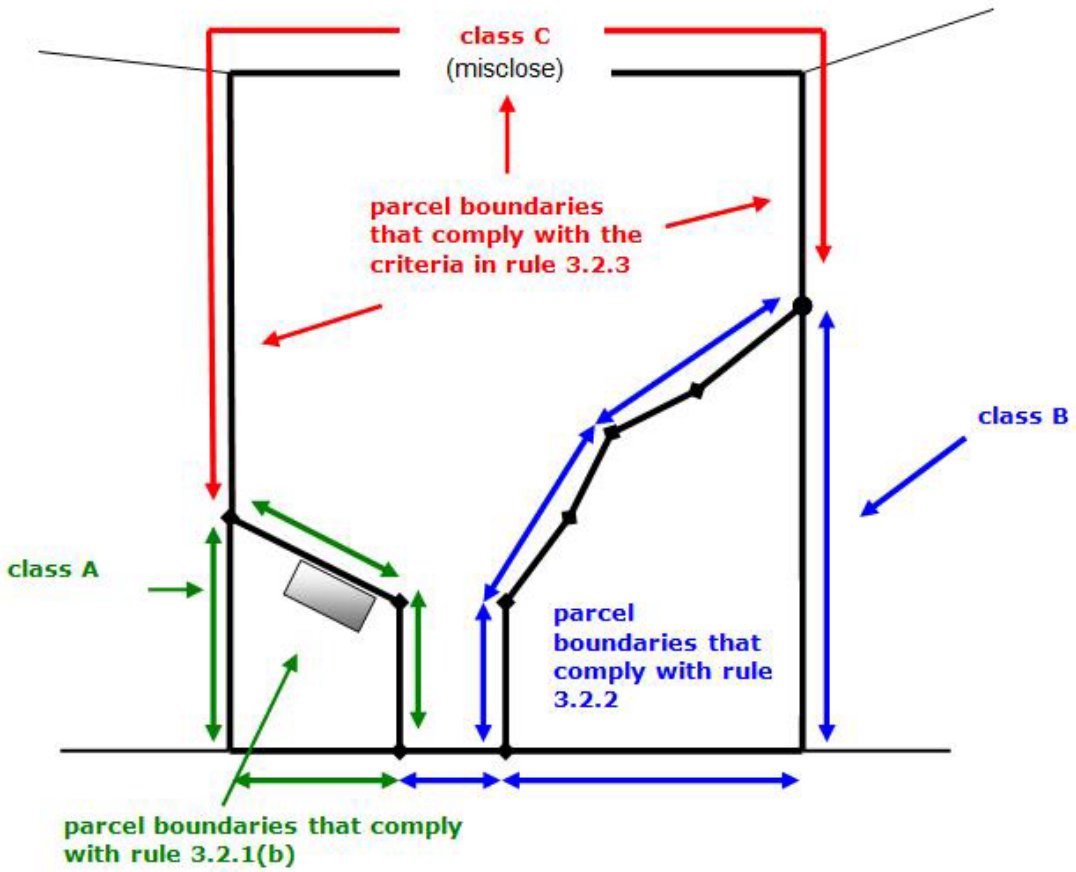


Figure 7: Boundary classes that comply with rule 3.2

Class of boundary vector

Where a boundary's end points are of different classes, the lower class of accuracy applies between these end points [r 3.3.1(b) and r 3.7].

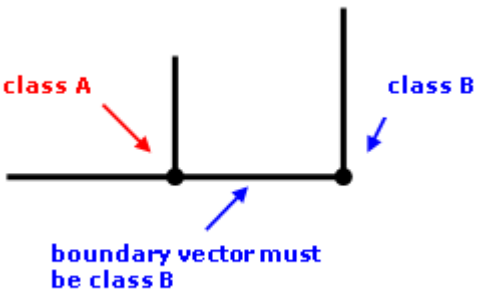


Figure 8: Accuracy class of boundary vector

Class of boundary point

The accuracy class of a boundary point is the highest accuracy class of the boundaries connected to that point [r 3.2.5(a)].

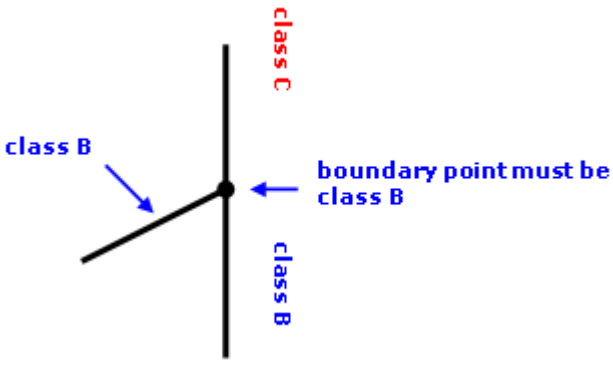


Figure 9: Accuracy class of boundary point

Boundary accuracy where non-primary boundary coincides with class C or D primary parcel

Where a new or existing non-primary parcel boundary coincides or intersects with a new or existing class C primary parcel boundary, the non-primary parcel boundary may also be class C [r 3.2.3(b)]. The same applies for a class D primary parcel boundary [r 3.2.4(b)].

Note that if the accuracy of the primary parcel boundaries is later upgraded upon resurvey, a non-primary parcel boundary that coincides with a primary parcel boundary may also need to be upgraded to a higher accuracy [r 3.3.1].

Also refer to class of boundary point above.

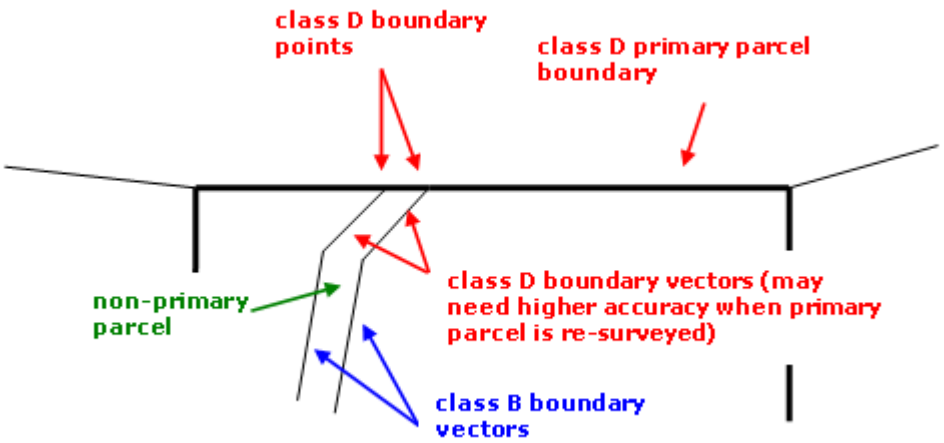


Figure 10: Boundary intersects with class D boundary

Accuracy of boundaries and risk of overlap

The following information relates to the determination of boundaries to a sufficient level of accuracy to address the risk of incompatible rights overlapping.

Risk of boundary overlap and adopted boundaries

A boundary is not permitted to be defined by adoption or accepted where there is a risk of it intersecting or overlapping a new boundary and creating incompatible rights [r3.3.2].

Note the risk of intersection / encroachment applies to all forms of adopted and accepted boundaries including right-line, irregular, and water boundaries.

Accuracy of underlying parcel boundaries

The accuracy between a new non-primary boundary and an existing underlying parcel boundary must comply with rule 3.3.1 (class A or B), rule 3.2.3(b) (class C), or rule 3.2.4(b) (class D) as appropriate.

Where the **relationship** between **all** of the new non-primary parcel boundaries and the underlying parcel boundaries cannot be accurately determined, rule 17 will apply (refer to Alternative requirements for non-primary parcels (rule 17)).

See also "Boundaries of underlying parcels may be defined by adoption".

Risk of boundary overlap requires more precise accuracy

In some circumstances that cannot be foreseen by regulation, the tolerances specified by rules 3.3 and 3.4 will not be adequate. This is particularly where new and existing boundaries are close to each other and the errors in the old surveys are either unknown or unable to be specifically located with confidence.

In these circumstances, the relationship between the boundaries must be determined to more precise accuracies to determine if the boundaries intersect or overlap [r 3.3.2, 3.4(a) and 6.3(a)].

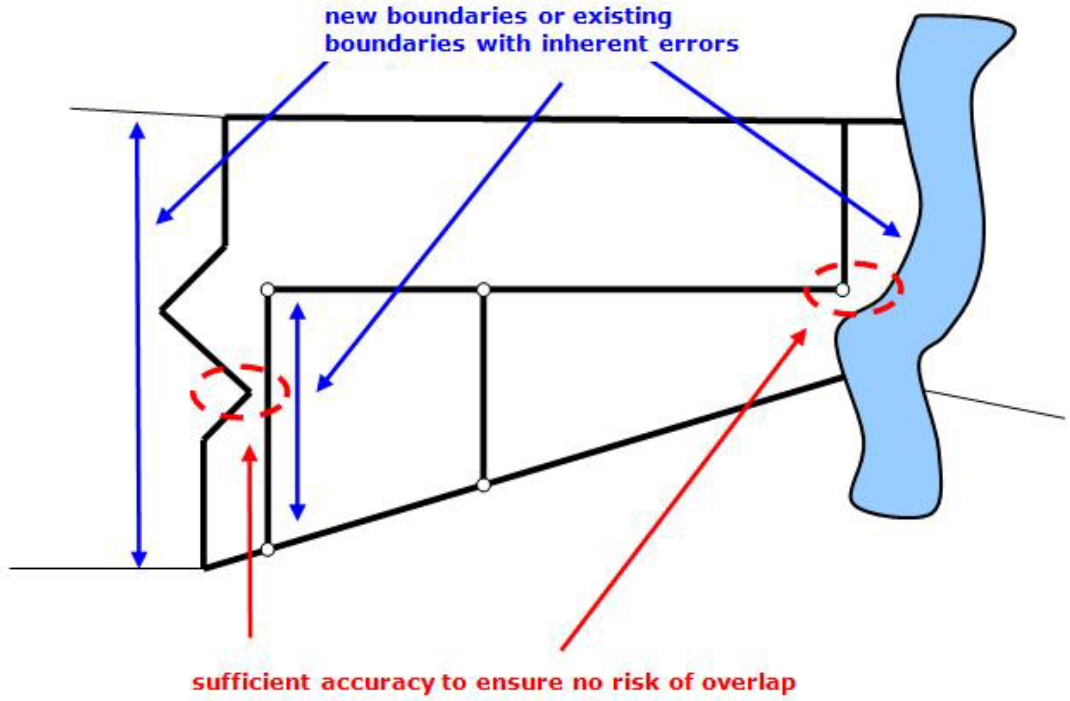


Figure 11: Accuracy standard to ensure no risk of overlap

Last Updated: 29 March 2017

Accuracy of right-line and arc boundaries

The following information relates to rule 3.3.1 and the accuracy requirements for boundary points on right-line and arc boundaries that are defined on a cadastral survey.

Two tiers for accuracy tolerances

In summary, the accuracy standard specifies two tiers of accuracies:

- a more stringent level of accuracy to be met between 95% of new and old points (a 95% confidence level) [r 3.3.1, Table 2(i), (iii), and (v)], and
- a less stringent level of accuracy to be met by all points (100%) [r 3.3.1, Table 2(ii), (iv), and (vi)].

These accuracies differ depending on whether the boundary points are classes A, B, or C.

The following information explains these requirements in more detail.

More stringent standard for accuracy of right-line and arc boundaries

The more stringent tier requires the survey to provide **95% likelihood** (confidence) that the relationship between the marks specified in the Rules meets the specified accuracies. This 95% standard applies to all new work but not to adopted work. The standard uses the root sum squared (RSS) method to calculate the accuracy value [r 3.3.1(a)(i), (iii), and (v)].

Less stringent standard for accuracy of right-line and arc boundaries

This second tier is less stringent with tolerances approximately 50% greater than the more stringent standard.

The standard requires the relationship between all (100 %) of the points specified in the Rules, including all adopted points to meet the specified standards. The standard uses a simple sum method to calculate the accuracy value [r 3.3.1(a), (ii), (iv), and (vi)].

This means that up to 5 % of the relationships between new work are permitted to be outside the more stringent accuracy standard providing they are within the less stringent standard.

Application of right-line and arc boundary accuracy standards for class A

For new and old boundary points, the accuracy tolerance remains at about 0.04 m for points up to 100 m apart.

For new and adopted boundary points, the tolerance increases from 0.06 m at a steady rate of 0.015 m per 100 m.

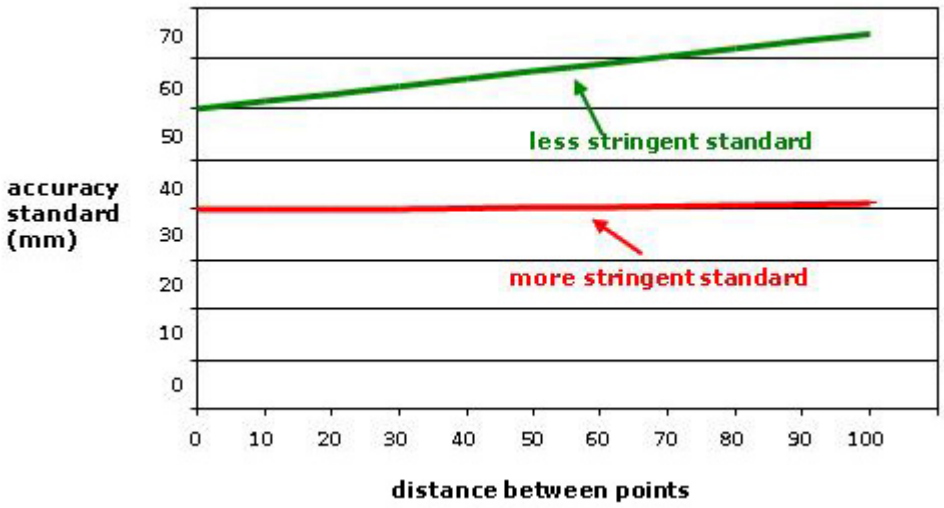


Figure 12: Accuracy standards for class A

Application of right-line and arc boundary accuracy standards for class B

For new and old boundary points, the tolerance approximates 0.20 m for points up to 150 m apart and increases steadily as marks get further away.

For new and adopted boundary points, the tolerance increases from 0.30 m at a steady rate of 0.06 m per 100 m.

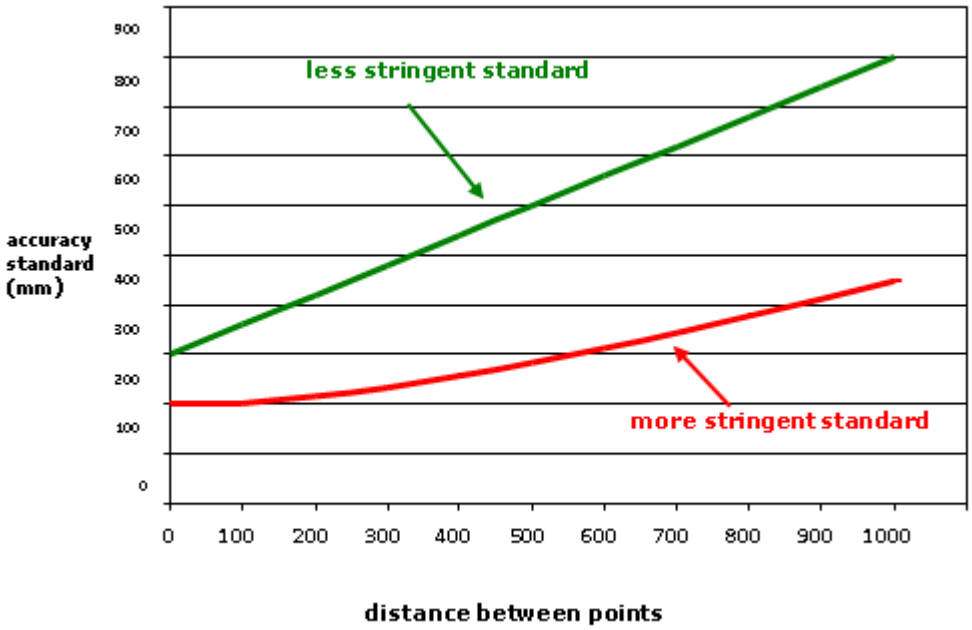


Figure 13: Accuracy standards for class B

Meeting the accuracy standards for right-line and arc boundary

Confidence levels can be estimated through a least squares analysis and are influenced by the number and location of the vectors connecting the points (the strength of the geometry) and the accuracy of those vectors. Good survey practice, strong geometry, accurate measurement, and the inclusion of additional non-boundary vectors may provide assurance the required confidence levels are met.

Note that where circuits include new and adopted vectors, the circuit closure may not be a definitive indicator of meeting the confidence levels because of the different accuracy specifications in rule 3.3.1.

Boundary points that the right-line and arc boundary accuracy tolerances apply to

The accuracy tolerances apply to all horizontal and vertical boundaries and all their associated boundary points that are on a parcel being surveyed.

The affected points include:

- adjacent points on a boundary line,
- all points on the same boundary line,
- points not directly joined by boundary lines,
- points on intersected boundaries where the severed existing boundary is being replaced by two new shorter boundaries,
- a non-primary parcel boundary point and an underlying parcel boundary point; for example, an easement boundary point and an associated primary parcel boundary point.

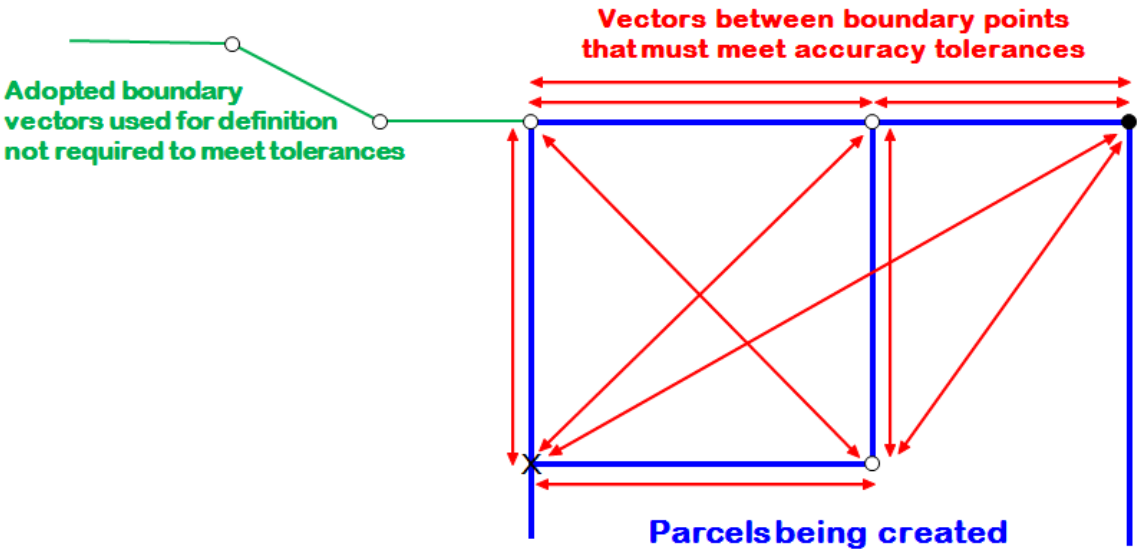


Figure 14: Accuracy tolerances apply to the relationships between all boundaries and their associated boundary points

Accuracy of adopted boundaries used for definition

Accuracy tolerances do not apply to adopted boundary vectors that:

- are not between boundary points on parcels being created on the survey, and
- which are used for the purposes of boundary definition (in the same manner as poor quality traverse vectors are permitted to be used as evidence in locating an existing boundary point [r 3.1,Table 1(b)].

This is illustrated in Figure 14 above (in green).

Adopted boundary vectors used for the purposes of boundary definition must be included in the Diagram of Survey [r 9.6.13(d)]. If these vectors do not provide a fit within applicable accuracy standards between reliable survey marks on the survey, there will usually be a conflict that needs to be resolved and boundary points to be defined by survey.

Details of any conflict and how it was resolved, and details of decisions relating to boundaries defined by survey must be included in the survey report [r 8.2(a)(v) & (ix)]. Calculation sheets and diagrams can greatly assist with illustrating this information. When used, they must be included in the CSD and referred to in the survey report [r 8.2(b)(i)].

The computed boundary vectors between boundary points on parcels being created on the survey, resulting from resolving the conflict, must comply with the accuracy standards.

Note that the capture of adopted boundary vectors used for the purposes of boundary definition, where they fit poorly with other data captured in the CSD, will generate Landonline pre-validation adjustment report test failures. An assessment of actions taken

to address these failures is required to be included in the survey report (Lodgement Standard 7).

Right-line and arc boundary accuracies where parcels are separated

The boundary accuracy tolerances specified in rule 3.3.1 do not apply to the relationship between boundary points where the boundary points are on parcels that are not contiguous with other parcels being surveyed.

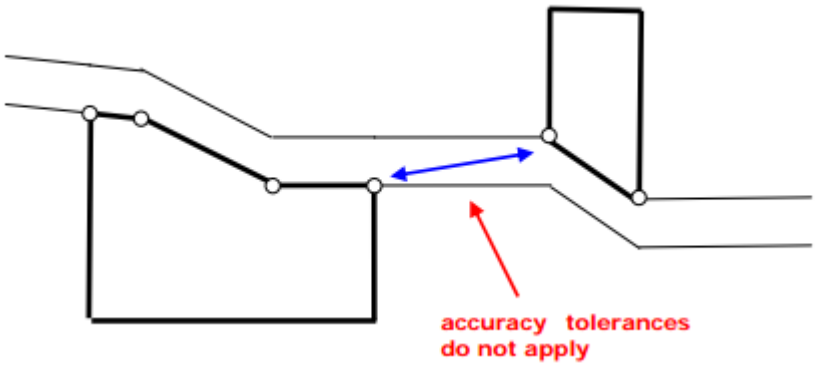


Figure 15: Parcels that are separated

Right-line and arc boundary accuracy for rural parcels abutting class A parcels

Where a rural parcel abuts an urban area and adopts existing boundaries that are class A, the class A boundaries must comply with the applicable class A accuracy standards [r 3.3.1(a)(ii)].

Providing these boundaries are not being marked and meet the class A accuracy tolerances, they may be defined by adoption (the requirement to define by survey under rule 6.2(a)(iv) only applies to the boundaries of a parcels under survey).

Requirements for covenant boundaries

For new boundaries of covenants, the use of class C may be used where class B boundaries would normally be required (refer to Alternative requirements for covenant parcels (rule 16)).

Requirements for non-primary boundaries where underlying boundaries poorly defined

Where a new non-primary parcel's boundaries are unable to be determined accurately in terms of the underlying parcel boundaries a field survey may be required with the

placement of witness marks and PRMs (refer to Alternative requirements for non-primary parcels (rule 17)).

Boundary accuracy of non-primary boundaries when primary parcel resurveyed

When the accuracy class of a primary parcel boundary is upgraded upon resurvey:

- an existing non-primary parcel boundary that intersects with that primary parcel boundary may need to be defined to that higher accuracy class [r 3.3.1]. Refer to Class of boundary point
- all existing non-primary parcel boundaries must meet the same accuracy standard as the primary parcel boundaries [r 3.3.1]. The exception to this is where the boundaries of the non-primary parcel, when created, were permitted to be of a lesser accuracy standard and that lesser standard is still permitted. An example is an existing covenant surveyed pursuant to rule 16 (Alternative requirements for covenant parcels) where boundaries were permitted to be class C and a class C boundary may remain providing the underlying parcel boundary is class B.

This exception does not apply to non-complying non-primary parcel boundaries that were originally permitted by specific dispensation. A dispensation applies only to the survey being carried out at the time a dispensation was provided. A subsequent surveyor must reconsider the issues afresh and either resolve the issues or seek a further dispensation.

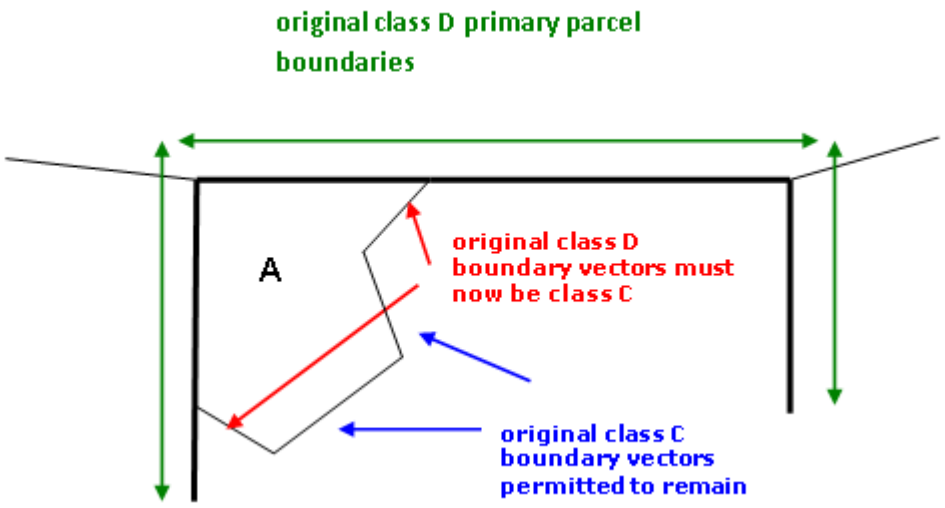


Figure 16: Example of retaining existing class C QEII covenant boundaries

Adopted boundary vectors that do not meet current standards

There is no provision for allowing boundary vectors of new parcels to be adopted where they fail the current standards and only meet the survey accuracy tolerances in place at the time of the original survey. Where the criteria of classes C and D are not applicable, the inaccuracies must be resolved.

For adopted boundary vectors that are not associated with the parcel under survey, refer to Boundary points that the right-line and arc boundary accuracy tolerances apply to above.

Risk with adopted boundary vectors

Historically, there was often no difference in the accuracy of 'traverse' vectors and boundary vectors as boundaries were often traversed. Adopted boundary vectors were therefore usually used for the purpose of defining a boundary position. This may no longer be suitable as the boundary accuracy standard for boundary vectors [r 3.3.1] is less than the survey accuracy standard [r 3.1].

To reliably re-establish a boundary position, the network of non-boundary marks will normally provide the most accurate solution.

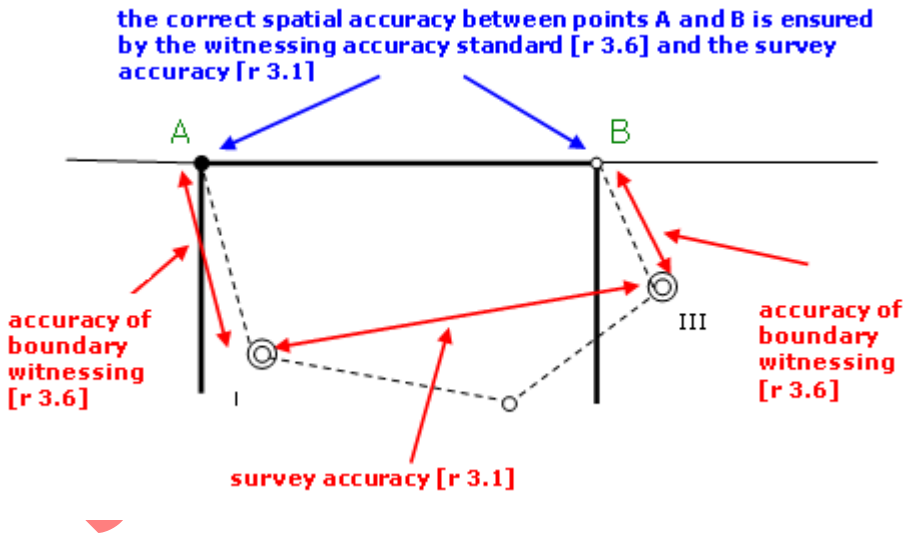


Figure 17: How to ensure correct spatial accuracy

Last Updated: 7 February 2019

Accuracy of water and irregular boundaries

The following information relates to rule 3.4 and the accuracy requirements for determining the position of a water boundary or an irregular boundary on a cadastral survey.

The accuracy of a water boundary or an irregular boundary must be determined to take into account:

- the risk of overlap or ambiguity in boundaries, including the water boundary on the other side of the water body [r 3.4(a)(i)],
- any statutory requirement applying to the width or size of the related water bodies [r 3.4(a)(ii)]. An example is the 3 m threshold that applies to marginal strips. If a stream is close to the 3 m threshold and Pt 4A Conservation Act is applicable, the accuracy will need to be sufficient to clearly establish whether the stream is over or under 3 m,
- the potential for the margin of the water body to move in the future and for the related water boundary to either move to a new position or to become permanent in the original surveyed position [r 3.4(a)(iii)]. An example is in the case of avulsion or a dried up stream where the original definition of the water boundary becomes primary evidence for the location of a boundary that is no longer movable,
- the nature of the physical feature that defines the boundary [r 3.4(a)(iv)]. An example is the bank of a stream, and
- the value of the land and the intensity of the land use [r 3.4(a)(v)].

Accuracy of the intersection of right-line boundary and water boundary

At the point where a right-line boundary and a water boundary intersect:

- the right-line boundary vectors must meet the boundary accuracy standards [r 3.3 and 9.6.13(c)], and
- in the case of a new boundary point, the accuracy of boundary witnessing specified in rule 3.6 must be met.

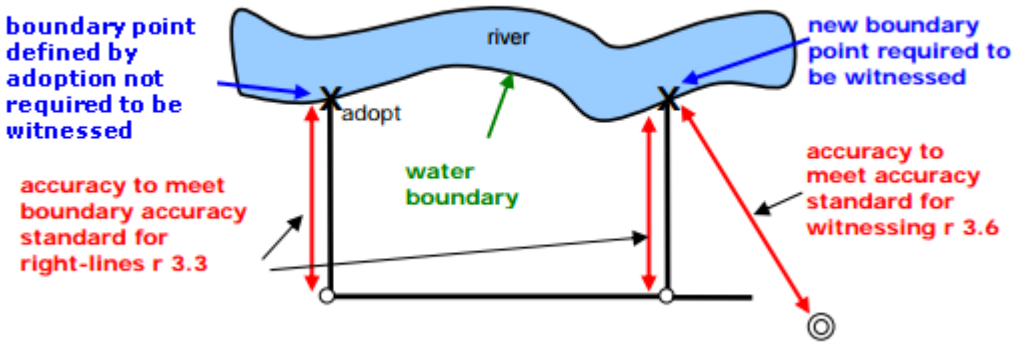


Figure 18: Accuracy requirements where right-line boundary and water boundary intersect

Accuracy of the intersection of right-line boundary and irregular boundary

At the point where a right-line boundary and an irregular boundary intersect:

- the right-line boundary vectors must meet the boundary accuracy standards of rule 3.3, and
- in the case of a new boundary point, the accuracy of boundary witnessing specified in rule 3.6 must be met.

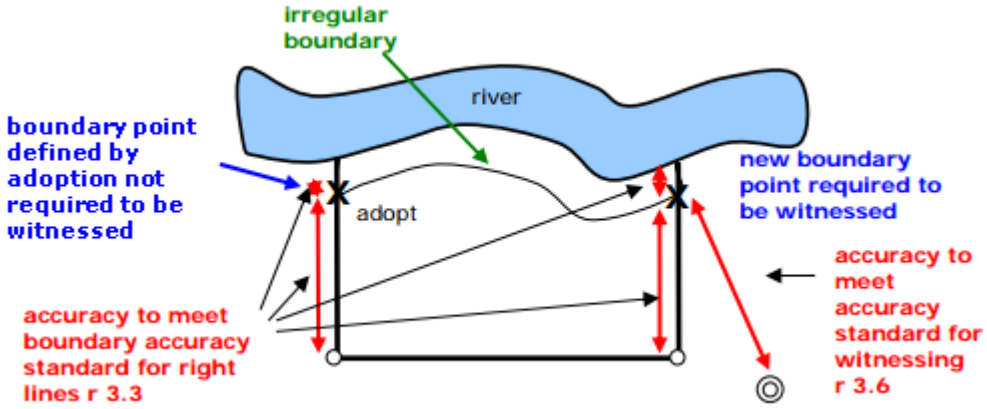


Figure 19: Requirements where right-line boundary and irregular boundary intersect

Accuracy of adopted water and irregular boundaries

In the case of adopted water boundaries or adopted irregular boundaries that are to be used to define a new parcel:

- an adopted boundary must be assessed to ensure it meets the accuracy criteria of rule 3.4 (see above),
- an accepted boundary is not required to comply with the accuracy requirements of rule 3.4. Examples where this occur include:
- a boundary for a parcel that will remain in a limited title or an interim title [r 6.3(a)(v)],
- an irregular boundary of a type specified in rule 6.3(a)(vi),
- a boundary of a type specified in rule 6.3(b) for a balance parcel or residue parcel,
- a boundary of a parcel over 100 ha [r 6.3(c)].

Class of survey required for water and irregular boundaries

All water and irregular boundaries must be assigned a class of survey [r 3.2] and be reported [r 8.2(a)(xii)].

Last Updated: 29 March 2017

Accuracy of permanent structure boundaries

The following information relates to rule 3.5 and the accuracy requirements for boundaries defined by reference to permanent structures.

A permanent structure boundary may be coincident with a permanent structure or may be a line in space referenced to a permanent structure (ie a non-coincident permanent structure boundary).

The accuracy of a permanent structure boundary relies entirely on the accuracy of its relationship with the permanent structure.

Accuracy of underlying parcel boundaries where new permanent structure boundary

Where a new permanent structure boundary is being defined, the underlying parcel boundaries may be defined by adoption.

Note that if the permanent structure boundary is within 1 m of another boundary (class A) or 3 m (class B) and the relationship between the two boundaries cannot be accurately obtained (refer rule 3.5), the underlying parcel boundary may need to be defined by survey.

Accuracy of a non-coincident permanent structure boundary

Where the permanent structure boundary is not coincident with the permanent structure, the boundary must be witnessed by a clearly identified point on the structure [r 3.5(a)] and the relationship between the boundary point and this 'witness point' must comply with the accuracy specified in rule 3.6 [r 3.5(b)].

These requirements do not apply to boundaries of existing units and common property defined under prior rules where no changes are being made to the parcel boundaries, appellation, and title (refer to rule 19).

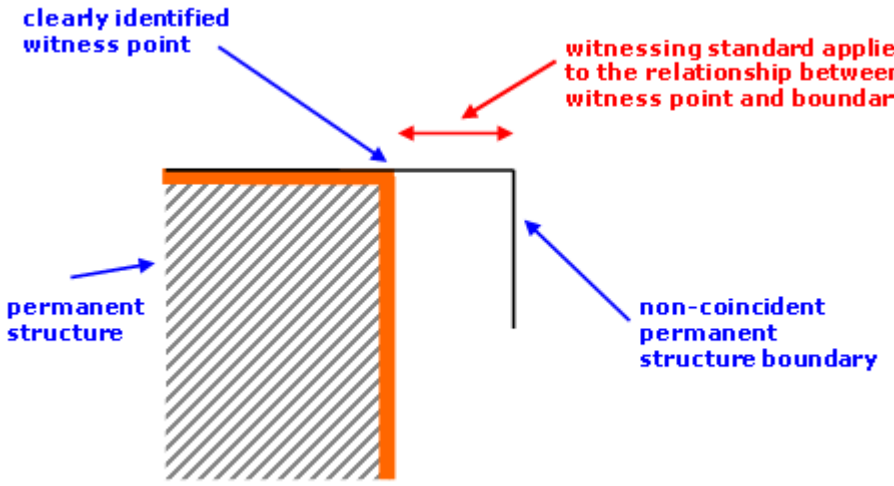


Figure 20: Accuracy standard for non-coincident permanent structure boundary

Accuracy of permanent structure boundaries close to another boundary

The accuracy between a permanent structure boundary and another boundary must comply with the accuracy specified in rule 3.3 where the boundaries are close to each other [r 3.5(c)]

Refer to depicting the relationship of unit and cross lease areas to primary parcel boundaries in CSD diagrams

Refer to depicting the relationship of unit and cross lease boundaries where they are close

These requirements do not apply to boundaries of existing units and common property defined under prior rules where no changes are being made to the parcel boundaries, appellation and title (refer to rule 19).

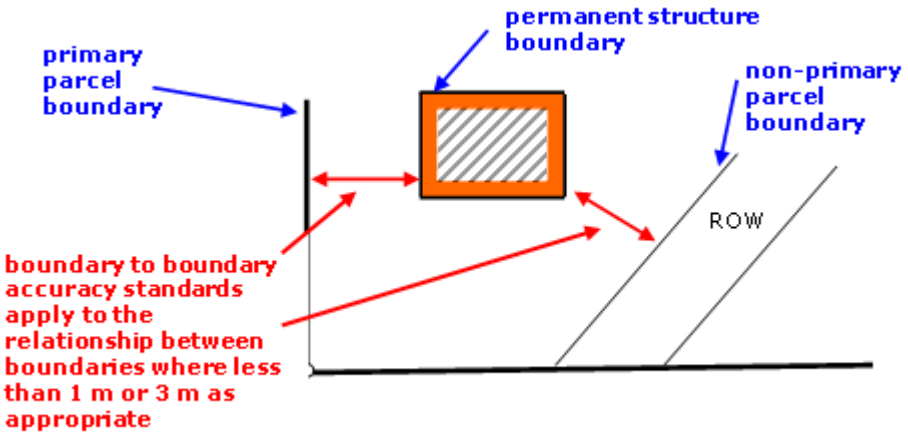


Figure 21: Accuracy requirements between boundary points of permanent structure boundary and any other boundary

Last Updated: 29 March 2017

Datums

Horizontal datum – orientation

The following information relates to the orientation of horizontal bearings on a cadastral survey, including ways that orientation may be obtained or verified.

Bearings must be NZGD2000 where a new primary parcel boundary point is created

A survey which defines a new primary parcel boundary point must orientate all bearings in terms of the applicable official geodetic projection. This will always be the NZGD2000 Meridional Circuit projection in which the cadastral survey dataset is situated.

Refer to Ruling on official geodetic datum and projections (LINZR65300)

As well as being internally consistent with other bearings on the survey, all bearings must be correctly orientated in respect of the meridian (within the accuracy standards in rule 3) [r 4.1]

Bearings for covenant and non-primary parcels under rules 16 and 17

A survey which defines a new covenant in terms of rule 16 (Alternative requirements for covenant parcels) or rule 17 (Alternative requirements for non-primary parcels) must orientate all bearings, other than existing magnetic bearings, in terms of the applicable geodetic projection [r 16.4(a) and r 17.1(d)(ii)].

Obtaining and proving orientation

Reliable orientation can be obtained by several methods including:

- observing orientation lines into the survey from control marks,
- calculating orientation from cadastral survey network marks located at a sufficient distance to provide an accurate orientation (within the accuracy standards in rule 3),
- observing some or all lines using GNSS technology (refer to Bearings from GNSS below),
- obtaining an orientation from a previous CSD (refer to further information below).

Existing NZGD2000 bearings may not be adequate

The bearings on some existing NZGD2000 surveys may not have been accurately obtained. Surveyors will need to carry out sufficient work to ensure that the bearings

derived from existing NZGD2000 surveys are in terms of the local NZGD2000 projection [r 4.1].

Where a difference in orientation exceeds the applicable accuracy standards, an adjustment to the existing bearings may be required and reported on [r 8.2(a)(ii) and (iii)].

NZDG1949 bearings and NZGD2000 bearings may not be the same

Although the datum orientation for NZGD1949 and NZGD2000 is virtually the same, the bearings on some existing NZGD1949 surveys have not been accurately obtained. Surveyors will need to carry out sufficient work to ensure that the bearings on these existing NZGD1949 surveys are in terms of the local NZGD2000 projection [r 4.1].

Where a difference in orientation exceeds the applicable accuracy standards, an adjustment to the existing bearings may be required and reported on [r 8.2(a)(ii) and (iii)].

Bearings from GNSS

Orientations derived by GNSS can be determined directly in terms of the official geodetic datum independently of the orientation of existing surveys and old marks in the locality.

The practice of adjusting GNSS derived bearings to be in terms of existing surveys and old marks in the locality creates a risk that the final orientation will not be in terms of the required datum and projection.

Bearings from three origin marks

It is no longer a rule requirement to obtain a bearing origin from three existing marks. The Rules do not specify an 'origin of bearings' and a surveyor may use any method they consider adequate to ensure their survey orientation meets the requirements of rule 4.1.

A theodolite can be used to carry forward an existing orientation based on observations between existing marks.

Surveyors should note that this orientation is dependent on the accuracy of the previous survey or surveys. In the absence of control network marks or where existing surveys daisy-chained off each other, an accumulation of small errors in bearings often resulted in the orientation of such surveys being in terms of their origin marks, but not in terms of the purported datum or projection.

Testing bearings from three origin marks

Where orientation is obtained from existing marks, there are a number of ways that surveyors can test that their bearings are in terms of the meridian. Examples include:

- observing from a mark on the survey to a cadastral survey network mark at a suitable distance from the survey and comparing the observed bearing with a bearing calculated from coordinates,
- connecting the survey, either by measurement or by adoption, to two or more cadastral survey network marks and comparing the surveyed bearing with a bearing calculated from Landonline coordinates. When making this comparison, the marks used should be far enough apart to take into account the effects of coordinate inaccuracies,
- examining the chain of previous surveys (and possibly survey reports) to validate the original orientation's reliability.

The tests should verify that the bearings are in terms of the meridian within the tolerances specified in the accuracy standards (Note: the tolerances apply across the whole of the survey and therefore the most critical test is between the marks furthest apart).

Bearings where boundaries are not marked

Rule 4.1 applies irrespective of a new primary parcel boundary point being marked or unmarked.

Last Updated: 6 April 2017

Use of non-NZGD2000 bearings

The following information relates to the circumstances where non-NZGD2000 bearings (including old cadastral, NZGD1949 and magnetic bearings) may be used in a CSD.

Magnetic bearings and accepted boundaries

All bearings in a CSD must be in terms of the same orientation with the exception of a survey which is permitted to accept a boundary with a magnetic bearing [r 4.1(d)]. In this case, the magnetic bearing can remain without change [r 8.4]. Note that the magnetic bearing must be identified in the CSD [r 9.6.12].

Bearings for non-primary parcel surveys

Rule 4.1 does not apply in the case of a cadastral survey that only creates non-primary parcels, such as an easement parcel. Bearings can be in terms of the bearings of the underlying parcel boundaries including where they are in terms of Old Cadastral or NZGD 1949 datum. The exception to this is for surveys that create new covenants in terms of rule 16 (Alternative requirements for covenant parcels) or new non-primary parcels in

terms of rule 17 (Alternative requirements for non-primary parcels) where the bearings must be in terms of the official projection [r 16.4(a) and r 17.1(d)(ii)].

All bearings must be in the same terms [r 4.1(c)].

Bearings for surveys with no field measurements

Rule 4.1 does not apply in the case of a cadastral survey that has no new field measurements [r 4.1(b)]. Bearings can be in terms of the bearings of the underlying parcel boundaries including where they are in terms of Old Cadastral or NZGD 1949 datum. Examples include surveys which are created from data which is adopted from existing survey records.

All bearings must be in the same terms [r 4.1(c)].

Bearings for boundary marking surveys

Rule 4.1(a) does not apply in the case of a survey which has a purpose of only marking existing boundaries [r 4.1(a), 4.1(b), 11.2(a)], but rule 4.1(c) still applies.

Refer to Survey types for boundary marking

Last Updated: 6 April 2017

Horizontal connection to survey control

The following information relates to making a horizontal connection to a cadastral survey network mark under rules 4.2, 16.4(b) and 17.1(d)(iii).

A cadastral survey network mark is specified as a New Zealand Geodetic Datum 2000 (NZGD2000) mark of horizontal 6th order or better.

Refer to Ruling on cadastral survey network marks (LINZR65302)

Horizontal connection can be by survey or adoption

The connection between the new survey and the cadastral survey network mark may be either by field measurement or by the adoption of vectors.

Irrespective of the method used, the survey accuracy standards [r 3.1] must be met and the CSD must include sufficient vectors to verify that this standard has been met [r 8.1(d)].

When network connection requirement applies

All field surveys that define a boundary point on a primary parcel being created by the survey must connect to a 6th order or higher cadastral survey network mark if one exists:

- within 500 m for class A,
- within 1000 m for class B, or
- within 2000 m for class C boundary points.

The distances specified are 'as the crow flies'.

The requirement to connect to a 'local' cadastral survey network mark within the distances specified in rule 4.2 applies even if the survey may have also connected to other cadastral survey network marks further away.

A survey for a covenant in terms of rule 16 (Alternative requirements for covenant parcels) or non-primary parcel in terms of rule 17 (Alternative requirements for non-primary parcels) must connect to one or more cadastral survey network marks, irrespective of the distance to such a mark [r 16.4(b) and r 17.1(d)(iii)].

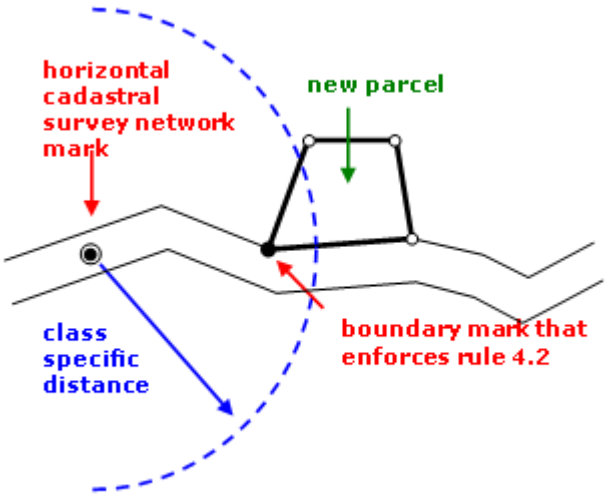


Figure 22: Primary parcel boundary mark requiring connection of survey to a cadastral survey network mark

Horizontal connection not required for redefinition survey or easement survey

Rule 4.2 does not apply in the case of a cadastral survey that does not define or mark a new primary parcel point. Examples of such surveys include:

- a boundary marking survey (refer to Survey types for boundary marking),
- the creation of non-primary parcels only as in the case of an easement survey,
- the creation of a new primary parcel that is the same shape as an existing primary parcel.

Note that connection is required for a survey for a covenant created in terms of rule 16 (Alternative requirements for covenant parcels) or a non-primary parcel in terms of rule 17 (Alternative requirements for non-primary parcels) [r 16.4(b) and r 17.1(d)(iii)].

Coordinates not required

Surveyors sometimes use coordinates extracted from Landonline for the purpose of calculations. The Rules do not require the coordinates or an origin of coordinates to be provided as part of the CSD.

Orientation can be without connection

Survey connection to a network mark and the orientation of survey bearings are two separate issues. A survey that meets the orientation requirements of rule 4.1 need not be connected to a cadastral survey network mark if one is not within the distance requirements of rule 4.2.

Last Updated: 10 August 2018

Vertical Datum

The following information relates to the use of a vertical datum on a cadastral survey that includes survey marks or boundary points with reduced levels.

Official vertical datums

The official vertical datums for cadastral surveys are defined in LINZR65301 - Ruling on official vertical datums

From 1 January 2019 NZVD2009 is replaced as an official vertical datum by NZVD2016. For more information see the questions and answers below.

Questions and answers

The following questions and answers have been prepared to assist surveyors during the transition to NZVD2016 as an official vertical datum.

How do I determine whether my survey needs to be in terms of an official vertical datum?

Rule 4.3(a) requires a cadastral survey to be in terms of an official vertical datum where a 3rd order or better vertical control mark is within 200m of a class A or 500m of a class B boundary point defined by reduced level.

How do I determine whether my survey is within 200 metres of a vertical control mark?

Within the Landonline spatial view select All Layers/ vertical/ Vertical-Order 1-2 and Vertical-Order 3 to display the location of official vertical control marks in relation to the property you are surveying.

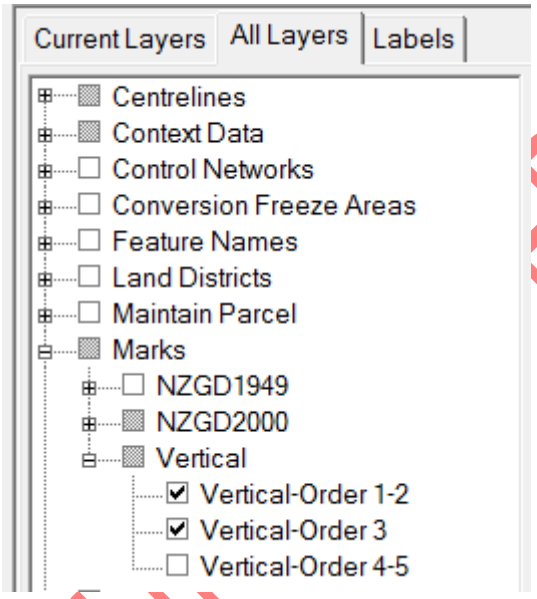


Figure 23: Screenshot showing Vertical-Order-1-2 and Vertical-Order-3 selected in Landonline

To determine compliance with Rule 4.3(a) you will need to extract the relevant vertical control marks from Landonline and import into your survey software to calculate a join. Alternatively, coordinates for relevant marks can also be obtained from the LINZ Geodetic Database and a join computed between that and a boundary point defined by reduced level.

What if my survey is within 200 metres of an NZVD2016 vertical control mark, but my client or the Council requires levels in terms of a local vertical datum?

You can continue to use the local vertical datum as long as it is an official datum in terms of LINZ ruling LINZR65301.

What if I want to use an alternative or assumed datum where I am required to use an official vertical datum?

You must use an official vertical datum. In very rare circumstances the Surveyor-General may issue a dispensation.

What happens if I commenced my survey prior to 1 January 2019?

As a transitional measure, an alternative or assumed datum that is permitted under rule 4.3(b) may continue to be used where a survey commenced before 1 January 2019.

In order for this dispensation to apply, the survey report must confirm that the survey commenced before 1 January 2019.

This transitional measure is valid for the period 1 January 2019 to 30th June 2019.

What happens if resource consent was issued prior to 1 January and it requires levels in terms of an assumed datum, but I have not yet started the cadastral survey?

You will need to apply to the Surveyor-General for a dispensation.

Does Rule 7.3.4(b) apply where the only vertical control marks within the distance specified by rule 7.3.2(a) are not in terms of the official vertical datum I am using?

No, Rule 7.3.4(b) only applies where the vertical control marks are in the same terms as the datum you have chosen.

Has there been any changes to official vertical control marks and their orders?

Official vertical control marks remain unchanged and as defined in LINZ ruling LINZR65303.

Meaning of vertical control mark

A vertical control mark is specified as an NZGD2000 mark that has been assigned a height in terms of an official vertical datum with a Landonline order 3V or better.

Refer to Ruling on vertical control marks (LINZR65303)

Vertical datum connection can be by using existing marks

Where reduced levels must be in terms of the official vertical datum, connection to a control mark is not expressly required if levels can be obtained from other existing heighted marks in terms of that datum.

For a stratum boundary, if one or more vertical control marks are within 150 m (class A) or 500 m (class B) and one of these marks satisfies the criteria for a witness mark, then it is to be used as a heighted witness mark [r 7.3.4(b)].

When vertical connection requirements apply

In the case of a heighted boundary, reduced levels must be in terms of an official vertical datum if a vertical control mark (3V or better in terms of an official vertical datum) is within:

- 200 m of any class A boundary point which is defined by the use of a reduced level, or
- 500 m of any class B boundary point that is defined by the use of a reduced level.

The distances specified are 'as the crow flies'.

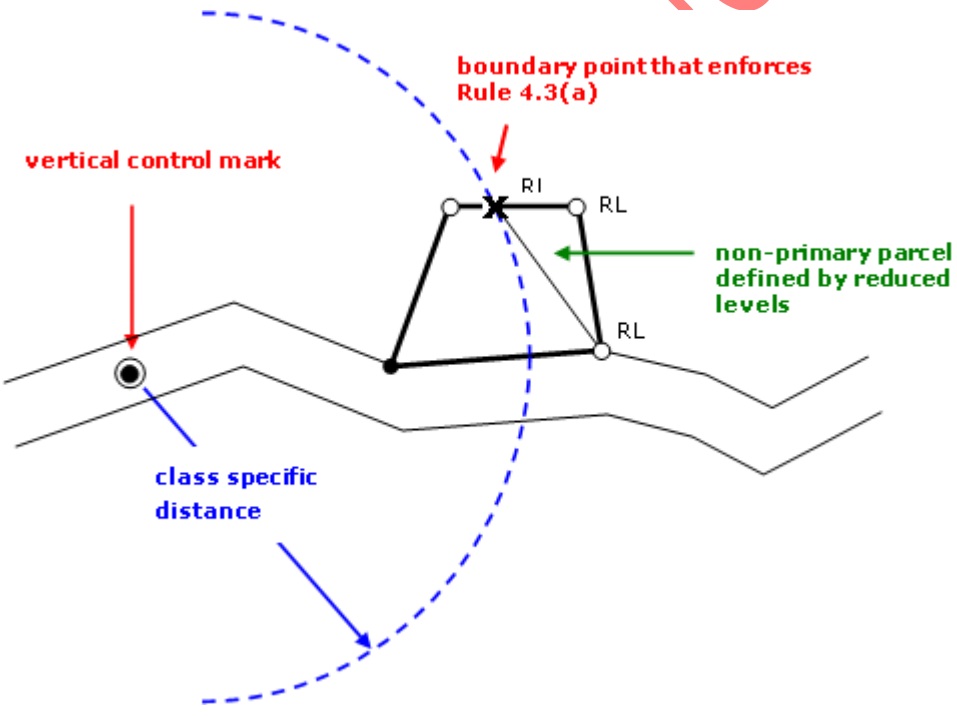


Figure 24: Boundary point requiring reduced levels to be in terms of an official vertical datum

Alternative or assumed vertical datums

An alternative vertical datum or an assumed datum may be used when rule 4.3(a) does not apply [r 4.3(b)].

Where an existing development is in terms of an alternative or assumed datum, dispensation will be required to allow reduced levels in subsequent stages to be in the same datum.

Use of 'unofficial' local authority heighted marks

In some cases, local authorities have heighted survey marks, but these heights are not recorded in the cadastre as part of the geodetic control network.

If a survey is required by rule 4.3(a) to be in terms of an official vertical datum and a local authority height is nominally in terms of that datum, then the source of the origin of heights is required to be recorded in the CSD [r 8.1(f)].

Stratum boundary must have reduced levels

Where a boundary is a surface that is mathematically described by having a reduced level at one or more boundary points, the boundary is considered to be a stratum boundary [r 6.8].

Transforming heights between datums

The national vertical datum New Zealand Vertical Datum 2016 (NZVD2016) is defined by the New Zealand Quasigeoid 2016 (NZGeoid2016) geoid.

The online coordinate conversion service on the LINZ website enables heights (and coordinates) to be transformed between NZVD2016, NZGD2000 (ellipsoidal heights), and the 13 major local vertical datums.

The accuracy of the converted heights will be a combination of the original height accuracy and the NZGeoid2016/transformation accuracy. The Rules specify the accuracy between heighted points, not the heights themselves. Over the scale of most cadastral surveys, the effect of NZGeoid2016 transformation errors on height differences is likely to be small. The major source of error is likely to be from the surveyor's determination of heights.

Last Updated: 1 July 2019

Parcels

Dealing with parcels

The following information provides links to guidelines about how primary and non-primary parcels are to be dealt with including types of parcels, and how parcels must be described.

It is essential that the cadastre and land title documents record the extent of each portion of land (ie the parcel) that relates to a particular interest, in an unambiguous manner.

This relates to land recorded by all tenure manages including the RGL, Commissioner of Crown Lands, and MLC.

Read guidance about:

- Accounting for parcels
- Multi-polygon parcels
- Intersection of parcels
- Minimum width of parcel
- Types of parcels
- Parcel area
- Parcel appellation
- Recording parcels

Last Updated: 7 April 2017

Accounting for parcels

The following information relates to rule 5.1 and accounting for all the land in an existing primary parcel being extinguished, including a parcel that is part of an existing multi-polygon parcel.

Accounting for all land in an existing primary parcel

All primary parcels being extinguished must be replaced in their entirety by one or more new primary parcels [r 5.1].

This requirement ensures that there are no gaps in the cadastre and that there are no portions of land where ownership is unknown or uncertain.

Accounting for existing multi-polygon parcels

Where two or more existing parcels share an appellation and area, as in the case of some existing multi-polygon parcels, only the parcel being surveyed needs to be accounted for.

In dealing with multi-polygons where the appellation is being shared, actions will need to be completed within Landonline to enable the survey to be completed.

Read more about multi-polygon parcels

Legalisation surveys and land that will remain in current ownership

Although past regulation exempted surveys of land acquisition under the Public Works Act 1981 from accounting for the entire existing primary parcel, this no longer applies.

When land is being taken out of an existing primary parcel by a legalisation survey, all of that original parcel must be extinguished and new parcels created, including what has traditionally been called the balance parcel.

All parcel boundaries (including the land subject to the legalisation action and land remaining in current ownership) are subject to the Rules. For each of these new parcels, boundaries may need to be defined by survey [r 6.2], while in other cases they may be able to be adopted [r 6.4], or accepted [r 6.3]

Read more about Class A parcels under 0.4 ha to be defined by survey

Where the land is registered under the Land Transfer Act 2017 (LTA), on registration of the gazette notice actioning the legislation, LINZ will automatically issue to the registered proprietors a new record of title for the land that remains in their ownership. This record of title will be limited as to parcels or an interim title where relevant.

Find out how to deal with existing easements and legalisation surveys

Last Updated: 12 November 2018

Multi-polygon parcels

The following information relates to how to deal with multi-polygon parcels.

New multi-polygon parcels not permitted

A multi-polygon parcel is formed when separate portions of land, ie polygons, are held together as one parcel with a single appellation and area.

Historically, multi-polygon parcels often resulted from Māori land partitions or where rural sections were severed into separate portions of land by the creation of a road or a Crown-owned water race. These separate parcels were sometimes depicted as linked together by a vinculum.

New multi-polygon parcels are not permitted. A new parcel must be represented as a single polygon or polyhedron [r 2 definition of parcel, r 9.6.3(b) and r 10.4.2(b)] unless it is an existing centreline easement [r 9.6.3(c) and r 10.4.2(c)].

Existing multi-polygon parcels with separate areas

In the case of existing multi-polygon parcels, where each of the polygons has its own discrete area, only the polygon under survey needs to be subject to the normal definition and accuracy standards set out in the Rules. Other polygons are not required to be part of the survey.

If the separate polygons have been linked in Landonline, the surveyor will need to contact LINZ through the exception process and request that the polygon under survey be unlinked from the other polygons in the spatial view of Landonline.

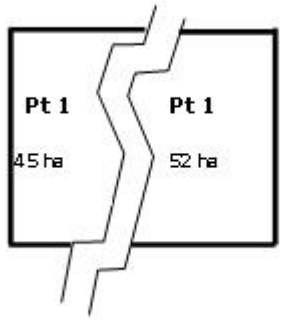


Figure 25: Multi-polygon with separate areas

Existing multi-polygon parcels without separate areas

In the case of multi-polygon parcels where the polygons do not have their own discrete areas, the survey must:

- address the subject polygon in the normal manner including definition and accuracy standards set out in the Rules
- in the survey report, provide a separate area for each other polygon that is not subject to the survey.

Because the polygons will have the same part appellation, the report must be unambiguous as to which area applies to which polygon.

Where the separate polygons have been linked in Landonline, the surveyor will need to contact LINZ through the exception process and request that the polygon under survey be unlinked from the other polygons in the spatial view of Landonline.

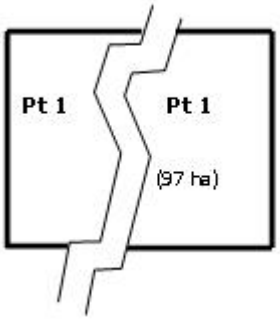


Figure 26: Multi-polygon with a total area

Last Updated: 7 April 2017

Intersection of parcels

The following information relates to intersections of primary boundaries, intersections of non-primary parcels with underlying primary parcels, and intersections of overlapping non-primary parcels including units and marginal strips.

Primary parcel boundary intersections

Primary parcel boundaries are not permitted to cross over each other. Where these boundaries intersect, a boundary point that is defined by survey must be created [r 6.10].

The creation of the boundary point has the effect of severing the primary parcel boundary into new shorter boundaries. Note these shorter boundaries must meet the accuracy standards in rule 3.3.1.

Non-primary parcel boundary intersections

In the case of a non-primary parcel (eg for an easement) over a primary parcel, the non-primary parcel boundaries are not permitted to cross over the primary parcel boundaries, unless that non-primary parcel is in a unit development [r 5.2].

See Unit title development where more than one primary parcel below

Where primary and non-primary boundaries appear to touch each other, they can be said to coincide rather than to intersect.

Because these primary and non-primary boundaries coincide, the underlying primary parcel boundaries are not considered to have been severed at the positions where the two boundaries become coincident, even though the provision of part boundary distances along the primary parcel boundary may give this appearance.

Note that providing part distances has been traditionally the simplest way to show the relationship of the easement boundary with the primary parcel boundary.

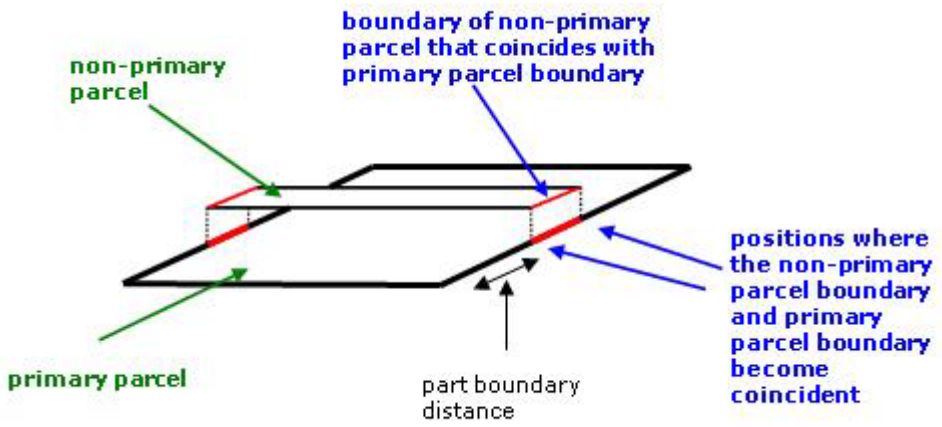


Figure 27: Coincidence with primary parcel boundaries

Overlapping easement intersections

Rule 5.2 does not apply to cases where a non-primary parcel boundary overlaps another non-primary parcel boundary.

An example is the overlapping of an easement or covenant parcel over another easement or covenant parcel. This is not prohibited by rule 5.2 because the overlapping easements or covenants are not the underlying parcels. Therefore, there is no rule requirement to sever easements into discrete portions where they overlap each other.

Landonline functionality, however, does not allow non-primary parcels in the same topology layer to overlap. A solution in many cases is to place one of the non-primary parcels in the secondary layer and the other in the tertiary layer.

Note that in depicting overlapping easements on the Diagram of Survey and Diagram of Parcels, there is a risk that the total extent of each easement parcel is not clear. All information (including the extent of each parcel) must be clear and unambiguous [r 9.6.15(a) and r 10.4.10(a)].

Easement over a unit

In some cases a non-primary parcel boundary is not permitted to overlap another non-primary parcel boundary.

An example is an easement or covenant parcel to be created over a unit parcel. In this case, the unit parcel is the underlying parcel for the easement or covenant.

Easement over a movable marginal strip

In a land transfer CSD, a new easement parcel must not include land that is part of a movable marginal strip. This is because an easement can only be registered under the Land Transfer Act over land in a record of title (RT), the extent of which is deemed to not include the marginal strip (refer ss 24D(6) and 24(1) of the Conservation Act 1987).

Where the RT is annotated with a Pt 4A Conservation Act memorial, the above applies irrespective of whether the strip has been previously defined on an existing CSD. Surveyors will need to determine if the related water body is a qualifying waterway.

Unit title development where more than one primary parcel

The Unit Titles Act allows a unit title development to take place over more than one parcel of land. In this case, rule 5.2 permits a non-primary parcel boundary associated with the unit development, such as a unit or common area boundary, to cross the primary parcel boundary inside the boundaries of the development.

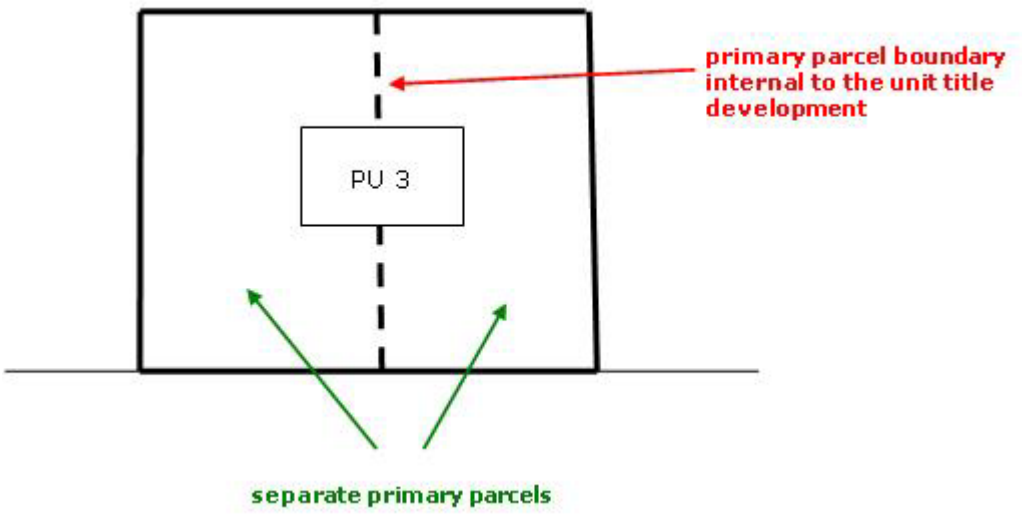


Figure 28: Non-primary parcel boundary crossing primary parcel boundary

Last Updated: 12 November 2018

Minimum width of parcel

The following information relates to rule 5.4 and the minimum width of a primary parcel.

Rule 5.4(a) allows a new primary parcel with class A boundaries to be less than 0.10 m for a portion of its length, but the parcel width must be at least 0.10 m at one point. Similarly, new primary parcels with boundaries that are class B, C, or D must have a width of at least 0.20 m at one point. This requirement is particularly relevant for new segregation strips.

Note rule 5.4 does not apply to an existing parcel that is already under-width [r 5.4(b)].

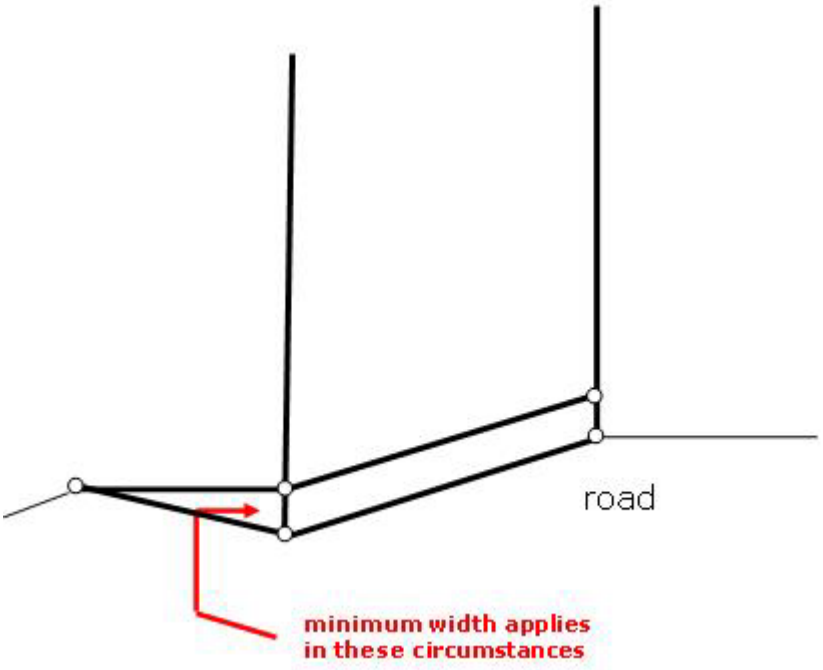


Figure 29: Examples of segregation strips

Last Updated: 7 April 2017

Types of parcels

The following information relates to the different types of parcels and their uses, including primary and non-primary parcels, balance and residue parcels, extinguished and underlying parcels.

Primary parcel

A primary parcel is any parcel that is or is intended to be:

- owned by the Crown, with the exception of a movable marginal strip
- held in fee simple
- Māori freehold land or Māori customary land
- part of the common marine and coastal area
- the bed of a lake or river
- road or railway
- vested in a local authority

Balance parcels and residue parcels are primary parcels.

Parcel type for part of the bed of a river or lake to vest

The land must be depicted as a new primary parcel where it is part of the bed of a river or lake to vest under s 237A(1)(a) of the Resource Management Act 1991.

Refer to water bed to vest

Parcel type for common marine and coastal area

The land must be depicted as a new primary parcel where it is to become part of the common marine and coastal area under s 237A(b) of the Resource Management Act 1991.

The land must be depicted as a residue parcel where it was held by the Crown or local authority but which is now part of the common marine and coastal area pursuant to the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA).

Refer to Marine and Coastal Area Act (MACAA) and recording common marine and coastal area in a CSD

Non-primary parcel

A non-primary parcel is any parcel that is not a primary parcel.

Non-primary parcels are often referred to as secondary or tertiary parcels. These are topology classes used for non-primary parcels in Landonline. When the Rules are being applied, the term non-primary parcel should be used.

Witnessing non-primary parcel boundary points

In general, non-primary parcel boundary points are not required to be witnessed. For circumstances where these points are to be witnessed,

Refer to witnessing non-primary parcel boundary points

Movable marginal strips are non-primary parcels

A movable marginal strip is land owned by the Crown, a status that usually applies only to primary parcels.

Notwithstanding Crown ownership, a movable marginal strip parcel is to be treated as a non-primary parcel within the appropriate primary parcel. This distinction is made to give effect to Part 4A of the Conservation Act 1987 which does not require the strip to be excluded from the title linked to that primary parcel.

The Rules do not require new movable marginal strips to be surveyed where land is subject to Part 4A of the Conservation Act 1987. It is, however, Government policy to depict these strips where Crown-owned land is being prepared for disposal. Note that the Department of Conservation has produced a guideline to assist surveyors identify water bodies that qualify for marginal strips (refer to DOCDM – 192684: The Identification of Water Bodies that will qualify for Marginal Strips, Department of Conservation, Wellington).

Where a movable marginal strip is included in a CSD (including where required by the Crown or landowner or where it already exists spatially), the extent of the non-primary parcel is to be depicted [r 9.6.3(a) and 10.4.2(a)].

Read more about recording movable marginal strip and esplanade strip parcels

Walkway parcel may be primary or non-primary parcel

Walkways may be created by an easement or lease over land, in which case the parcel will be a non-primary parcel. Alternatively, the land may be purchased, in which case the parcel would be a primary parcel (refer to ss 26 and 29 of the Walking Access Act 2008).

Balance primary parcel

Historically, where a large existing parcel was subdivided into a new small parcel and a new large parcel, the term 'balance parcel' was used informally when referring to the new large parcel. This use is not correct in terms of the current Rules and should not be used in association with a CSD. The term ‘balance parcel’ now only applies to portions of railway (not in a record of title), road, fixed marginal strip or water bed that are intended to remain after a part has been removed by survey (refer to rule 2).

Balance parcels of road

Although a road appears to be a long undivided corridor of public land, it is divided up into separate polygons in the spatial view of Landonline.

When part of a road is to be stopped, the affected road polygon is divided into the road stopping parcel and the balance parcel.

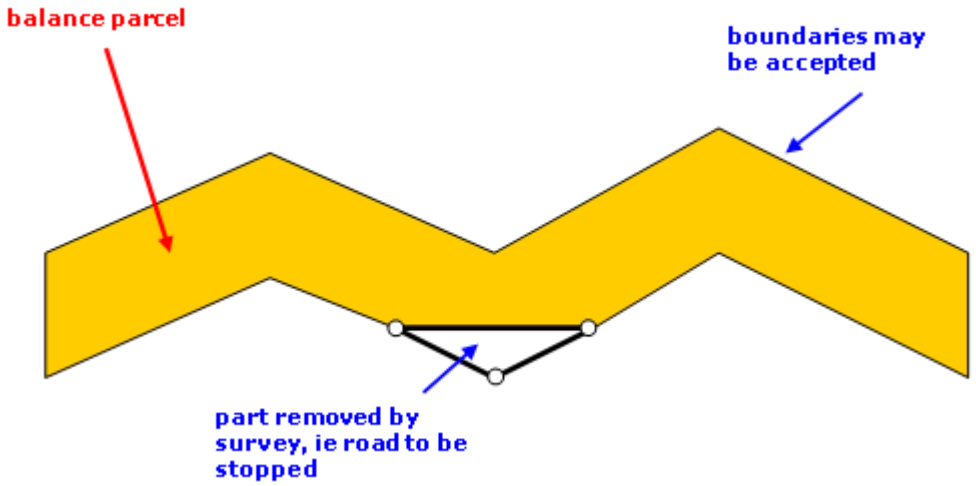


Figure 30: Balance parcel in case of road stopping

Boundaries may be accepted for balance parcels

The existing boundaries of a balance parcel that are not common with another new parcel on the survey may be accepted [r 6.3(b)], in which case they are:

- not required to meet any accuracy standards (refer to the definition of accept), and
- are class D [r 3.2.4].

Accretion and erosion parcels

Accretion and balance parcels

Although the bed of a lake, river, stream, or the sea appears as an undivided hydro-parcel, it is divided into separate polygons in the spatial view of Landonline.

Where accretion or the usque ad medium filum aquae presumption is being claimed, the claimed portion is incorporated into the new primary parcel and the remainder of the hydro parcel not claimed is a balance parcel.

Note that the term hydro parcel is a term associated with Landonline and is not used in the Rules.

Refer to recording water boundaries

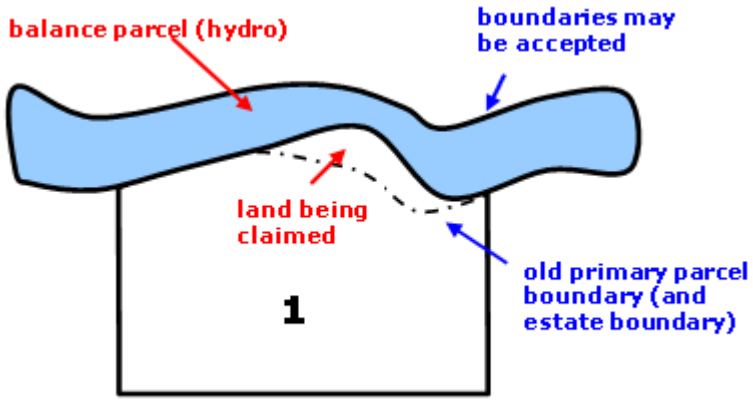


Figure 31: Example of accretion

Erosion and residue parcels

In the case of erosion, the extinguished primary parcel is divided into two new primary parcels; a 'dry' primary parcel and a 'wet' residue parcel (the erosion).

The new residue parcel of erosion is normally given the parcel intent 'hydro' so that it can be associated with the adjoining lake, river, stream, or the sea.

Note that the term erosion is not a parcel intent in Landonline.

Refer to recording water boundaries

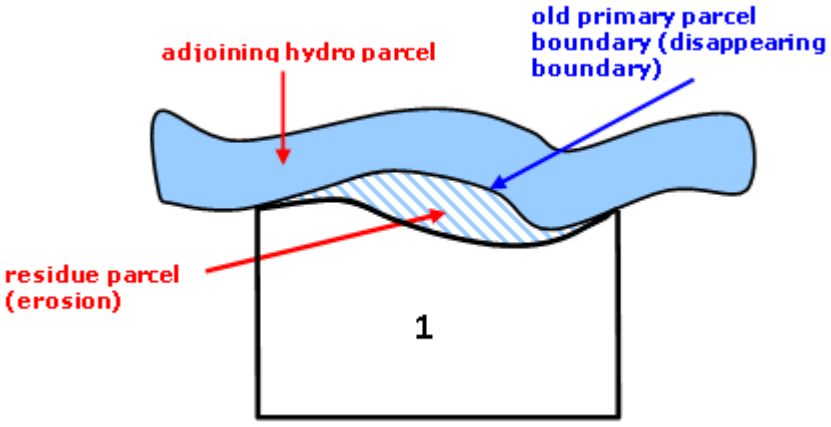


Figure 32: Erosion 'hydro' parcel

Balance non-primary parcel

Partial surrender of an existing easement

Where the purpose of a CSD is to depict as a non-primary parcel the extent of an existing easement that is to be surrendered, the balance non-primary parcel will be the portion of the original easement that will be retained.

Note, a 'balance non-primary parcel' is rarely used. Normally a CSD would include existing easements that are to remain after deposit [r 10.2.2].

Refer to recording balance non-primary parcels

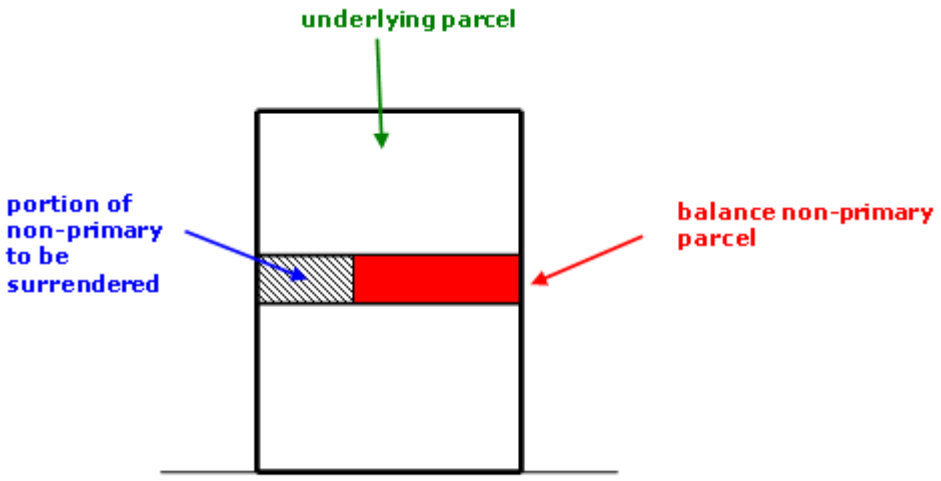


Figure 33: Surrender of part of a non-primary parcel

Residue parcel

Read about residue parcels

Extinguished parcel

The term 'extinguished parcel' applies to a parcel that will disappear as a result of the survey and be replaced by one or more new parcels.

Note that although, historically, the term 'extinguished parcel' has been used to mean 'the parcel being subdivided', this term should now only be used as defined in the Rules.

Underlying parcel

The term 'underlying parcel' applies to a parcel that will remain intact as a result of the survey, but will be encumbered by a non-primary parcel. It is the servient parcel.

Note that although, historically, the term 'underlying parcel' has been used to mean 'the parcel being subdivided', the term underlying parcel must now be used according to the definition provided in the Rules.

Relationship of easement to underlying primary parcel

In most cases, the underlying parcel for an easement will be a primary parcel.

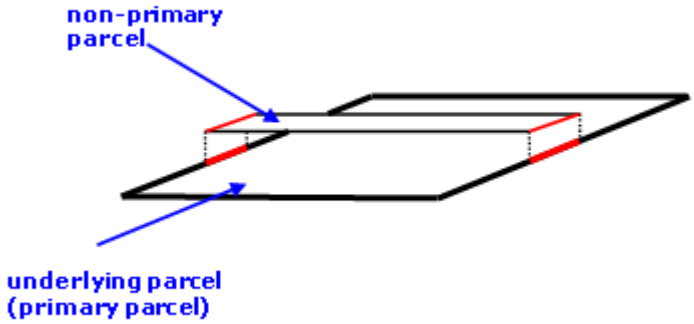


Figure 34: Underlying primary parcel

Underlying parcel can be a non-primary parcel

There are circumstances where an underlying parcel is not necessarily a primary parcel. Two examples are:

- Where an easement will be created over a lease parcel. In this case, the lease parcel (a non-primary parcel) is encumbered and is therefore the underlying parcel. The primary parcel on which the lease sits is not affected and therefore is not the underlying parcel.
- Where an easement will be created over common property, or over a unit, as part of a unit title development. Similar to the above example, the common property or unit (a non-primary parcel) is encumbered and is therefore the underlying parcel. The primary parcel the unit development sits on is not affected and therefore is not the underlying parcel.

Last Updated: 3 September 2021

Residue parcels

The following information relates to the use of residue parcels when dealing with a limited title, an adverse possession claim, or the bed of a water body including where there is erosion.

Rule 2 defines a residue parcel as the residual portion of a primary parcel:

(a) which remains as a result of a survey:

i. for removal of limitations as to parcels, or
ii. for an adverse possession claim, or
iii. to change the registration of land from the Deeds Registration Act 1908 to the Land Transfer Act 1952,

(b) or which is:

i. being defined as part of the bed of a lake, river, or common marine and coastal area, and
ii. not currently recorded in the cadastre as the bed of a lake, river, or part of the common marine and coastal area, and
iii. not intended to vest, and
iv. not intended to have a new estate record.

Limited as to parcels and a residue parcel

Where the title is limited as to parcels and land is held in possession adverse to the registered proprietor, a residue parcel will be created.

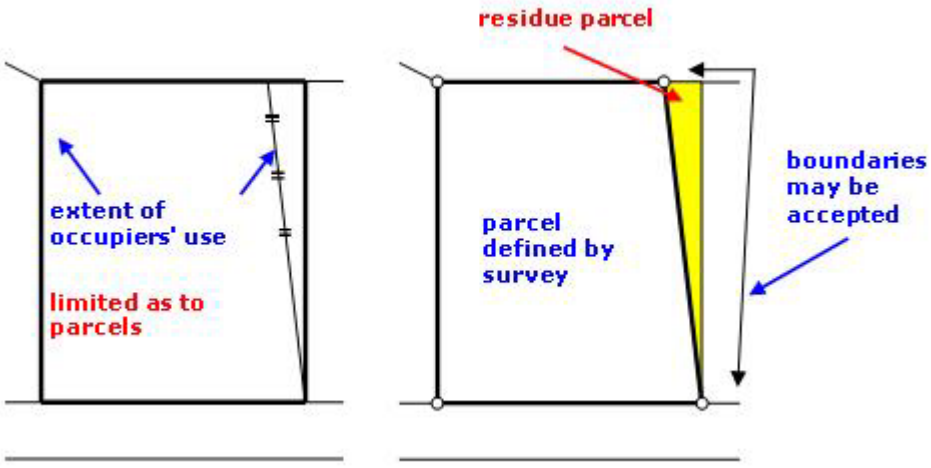


Figure 35: Residue parcel

Adverse possession and a residue parcel

Where a claim of adverse possession is being made for part of a parcel, the remaining portion of the parcel not being claimed must be a residue parcel.

Erosion parcel is a residue parcel

Refer to erosion and residue parcels for more information

Residue parcels and common marine and coastal area

Refer to MACAA and land already part of common marine and coastal area as residue parcel

Residue parcel and lakebed, streambed or riverbed excluded from title

Where an existing parcel includes an undefined water body and, upon survey, that water body is to be identified as a new separate parcel, which

- is not intended to be vested in the Crown or a territorial authority, and
- a title is not going to be issued for it,

then this water body parcel must be a residue parcel.

The new residue parcel is normally given the parcel intent 'hydro' to readily identify it as being a water body.

The residue parcel must not be depicted with an appellation. In the CSD diagrams, the parcel must be annotated with the name of the water body or a simple label [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. In the diagram below this is shown as streambed as an example.

Note the above does not apply where the water body is being transferred or vested. In those cases, the land must be depicted in a primary parcel (eg Lot 1).

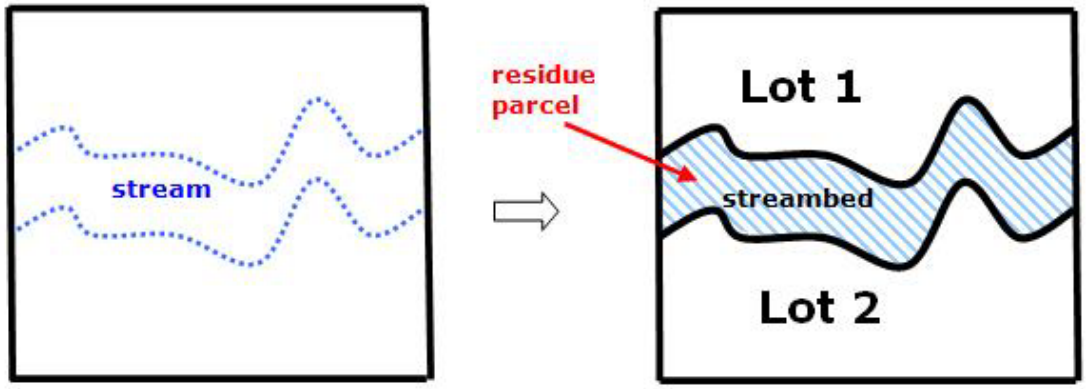


Figure 36: Example of streambed as a residue parcel

Boundaries of residue parcel may be accepted

The boundaries of a residue parcel that are not common with another new parcel on the survey may be accepted [r 6.3(b)], in which case they are:

- not required to meet any accuracy standards (refer to definition of accept),
- class D [r 3.2.4].

Last Updated: 7 April 2017

Parcel area

The following information relates to rule 5.3 and calculating the area of a parcel, including where accretion or erosion has occurred, and when dealing with marginal strips.

Calculating the area of a parcel

The area of a primary parcel relates to the parcel's horizontal extent. Where a parcel shape changes at different elevations, the area of the parcel must be calculated from the widest extent of the parcel when vertically projected onto a horizontal plane, eg the vertical shadow or bird's-eye view from directly above [r 5.3(b)]. This principle applies in all cases, including parcels that are in airspace or underground, or are made up of various floors of different heights, such as stratum parcels (see Figure 37 below).

The area of a parcel must be correctly calculated from the boundary information defining the boundary [r 5.3(c)(i)] and be expressed in hectares [r 8.3.2(c)]

Note that there is no requirement to calculate the sum of areas for all primary parcels depicted in a CSD. The sum of stratum parcel areas will generally exceed the area of the extinguished parcel due to overlaps.

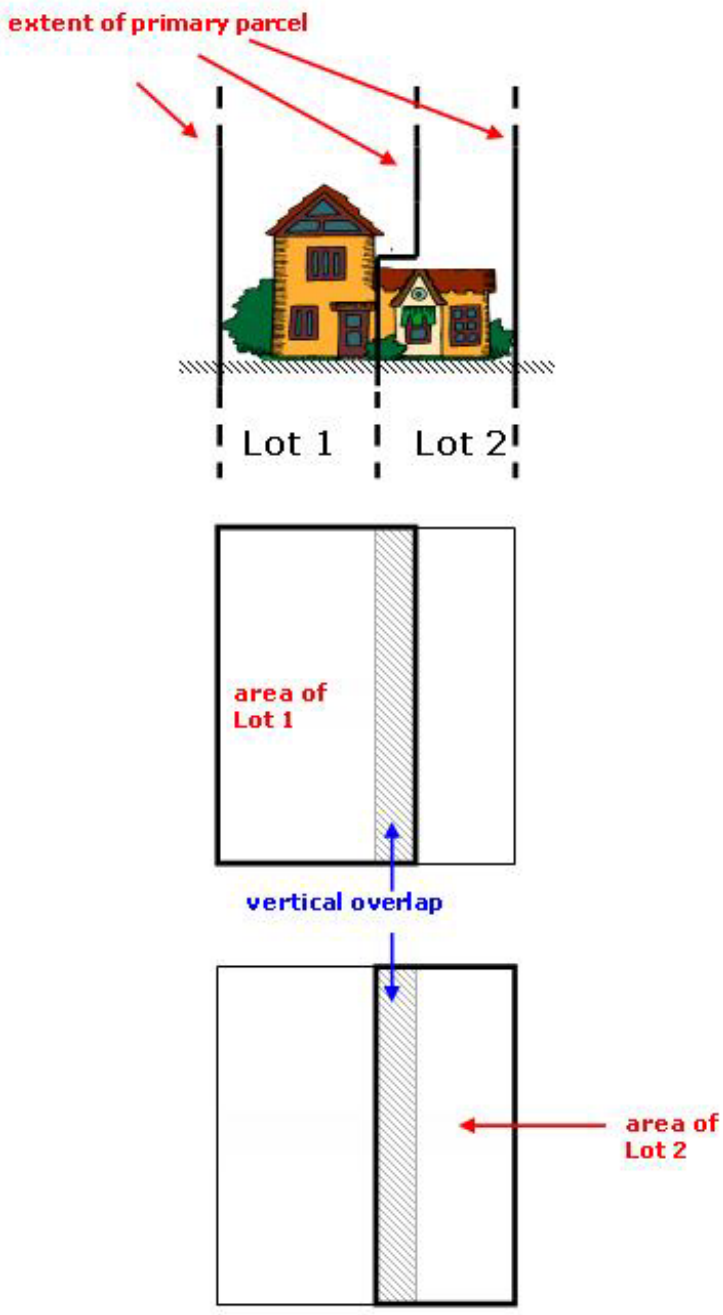


Figure 37: Area of parcel

Area for accretion

An area must be provided for portions of land claimed as accretion [r 5.3(a)(iii)].

Where the accreted land is depicted in a Diagram of Survey [r 9.6.3(e)] or in a Diagram of Parcels [r 10.4.2(d)(iv)], this land must be clearly incorporated in the associated primary parcel being updated.

The area of the updated primary parcel must include the area of accretion.

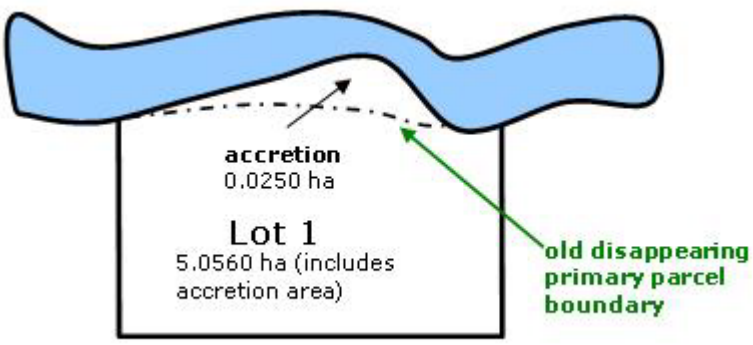


Figure 38: Areas for parcel that includes accretion

Area for erosion

Although the Rules require the depiction of land that has eroded [r 9.6.3(h)(iii)], they do not require an area for the erosion.

Area must not be shown for movable marginal strip

An area must not be shown for a movable marginal strip where the strip is depicted in a Diagram of Parcels [r 10.4.2(d)(iv)].

The area of the movable marginal strip is included in its associated primary parcel.

Last Updated: 7 April 2017

Parcel appellation

The following information relates to rule 5.5 and parcel appellation for general land and Māori land, with specific attention given to residue and balance parcels, non-primary parcels, unit parcels, and cross lease parcels.

Parcel appellation for general land

General land must be described by the use of three components in the following sequence [r 5.5.1].

Sequence	Example
1. Parcel	Lot
2. Unique identifier	1
3. Type and number of the CSD	DP 405689

Appellation for residue and balance parcels

Residue parcels and balance parcels (including balance non primary parcels) that have an existing parcel identifier must retain their existing description, except that they must have the prefix Part [r 5.5.1(b)].

Where a balance parcel does not have an existing unique parcel identifier but has an existing description such as sea, road or railway, then this parcel retains that description.

Parcel type 'Area' required for new and existing non-primary parcels

Parcel types permitted under prior rules including Flat, Garage, Swimming Pool, or in the case of an easement, indicated as marked, are not permitted.

The parcel type Area must be used for all non-primary parcels other than marginal strips, esplanade strips, and unit title parcels [r 5.5.2, Table 5]. This includes non-primary parcels such as easements, covenants, licenses, cross leases, and other leases.

An existing easement must be given a new appellation in terms of the new CSD [r 5.5.1(a)(ii)]. This applies whether the easement shape remains unchanged or is severed (where it overlaps with new underlying parcels).

Parcel type 'unit' must include full appellation

For unit title developments the parcel type Unit must not be used on its own. The full parcel type for a unit must be used, eg Principal Unit, Accessory Unit [r 5.5.2, Table 5]. Note that the CSD diagrams may depict the appellation in abbreviated form [r 9.6.3(d) and r 10.4.2(d)(ii)].

Unique parcel identifier for all parcel appellations

Irrespective of the parcel type, the parcel identifier must be unique within the dataset [r 5.5.4(e)]. Two examples are:

- a new Lot 1 may not coexist with a new Lease 1 in the same CSD.
- a new easement A cannot coexist with a new covenant A in the same CSD.

Common property must not have identifier

Common property must not have an identifier [r 5.5.4, Table 6].

Appellations on staged cross lease developments

Some older CSDs did not show identifiers on all the restrictive areas or 'common areas'. A new CSD must not add new identifiers to these parcels unless they are being re-surveyed as new parcels.

Appellations for 'common area' on a cross lease development

A new cross lease CSD must not identify an area of land as 'Common Area' or similar. The appellation must be 'Area....' as specified by rules 5.5.2 and 5.5.4.

An exception to this is where a prior stage already shows a non-standard identifier. This non-standard identifier may be retained providing its associated parcel is not being changed.

Parcel appellation for Māori land

Māori freehold land must be described by the use of three components in the following sequence [r 5.5.3].

Sequence	Example
1. Parcel name	Tumu
2. Unique parcel identifier	A7
3. Type and number of the CSD	ML 417582

Māori appellation only for Māori freehold land

Only Māori freehold land is permitted to use the provisions of rule 5.5.3. Land with an existing Māori appellation that has a status of General Land must be provided with a general land appellation.

If there is any doubt as to whether the land is general land, the Māori Land Court (MLC) should be consulted.

Unique parcel identifier for Māori Land appellation

The unique parcel identifier must be a sequence of alternating letters and numbers [r 5.5.4, Table 6].

Exception to appellation format for Māori Land

The exception to the standard appellation format is permitted where an alternative legal description has been notified by the MLC [r 5.5.3(b)]. Note, however, that irrespective of the MLC appellation, the type of CSD and CSD number must be part of that appellation [r 5.5.3(b)].

Any MLC notification of an alternative legal description must be reported in the survey report [r 8.2(a)(xvi)].

Appellation for legalisation surveys of Māori Land

Where a survey involves removing a portion of land from an existing parcel of Māori freehold land, the portion remaining as Māori freehold land must retain a Māori land appellation in terms of rule 5.5.3.

For example, where land is to be acquired for road and is depicted on an SO CSD, the parcel of land to be acquired for road will have an appellation in terms of rule 5.5.1 (eg Section 1 SO 457894), and the portion to remain as Māori freehold land will have a Māori land appellation.

Last Updated: 23 July 2018

Recording parcels

The following information relates to depicting parcels in a Diagram of Survey or Diagram of Parcels, including the types of parcels that must be depicted.

The cadastre and land title records must record unambiguously the extent of each portion of land (ie the parcel) that relates to a particular interest.

Extent of parcel in CSD diagrams

A Diagram of Survey focuses on the relationship between boundaries. It must depict the extent of all parcels [r 9.6.3(a)] and the relationships between parcels, boundaries, and boundary points [r 9.6.3(f)]. The full extent of an individual parcel is not required to be shown in its entirety.

A Diagram of Parcels focuses on the relationship between parcels. It must depict the full extent of each parcel drawn to scale (ie drawn in proportion) in a single diagram [r 10.4.2(d)]. Multiple parcels may be shown in this single diagram. Diagrams, not necessarily to scale, may be used to depict detail.

Additional diagrams may be necessary to ensure the relationships between parcels and the extent of each parcel is clear and unambiguous [r 9.6.15(a) and r 10.4.10(a)].

Parcel types required on a Diagram of Survey

A Diagram of Survey must depict the extent of all parcels, including all residue parcels, but need not include any balance parcel or balance non-primary parcel [r 9.6.3(a)]. The diagram will therefore include:

- new primary parcels created as a result of extinguishing an existing primary parcel (refer to Accounting for parcels),

- new residue primary parcels, such as erosion parcels and parcels resulting from the removal of limitations as to parcels,
- existing non-primary parcels to be retained, and
- new non-primary parcels.

For more information read the Related Articles below.

Last Updated: 7 April 2017

Recording primary parcels

This article relates to recording information for primary parcels in a CSD, including Māori land parcels, balance primary parcels, residue parcels and abutting road, railway and water parcels.

Primary parcels are the foundation on which the cadastre and individual ownership rights are built. It is essential that their location and extent is recorded unambiguously in the cadastre and on land title records.

Recording Māori land appellations on CSD diagrams

A Diagram of Survey and Diagram of Parcels must include the appellation of each new parcel [r 9.6.3(d) and r 10.4.2(d)(ii)]. The appellation may be abbreviated providing it is unique. An example is 'Tumu A7 ML 417582' depicted on the diagram as 'Tumu A7'.

Refer to Parcel appellation for Māori land

Recording balance primary parcels

Depiction of balance primary parcel not required on CSD diagrams

A Diagram of Survey and Diagram of Parcels are not required to depict a balance parcel [r 9.6.3(a) and r 10.4.2(a)] although the parcel is required to be included in the CSD.

Refer to Balance primary parcel

Dimensions not required on CSD diagrams if balance primary parcel is depicted

If a surveyor chooses to depict a balance primary parcel on either a Diagram of Survey or Diagram of Parcels, the boundary vectors for those accepted boundaries not common with a new parcel are not required to be depicted [r 9.6.14(b)(iii) and r 10.4.9(a)(iii)].

Recording residue parcels

A Diagram of Survey and Diagram of Parcels must depict the extent of all residue parcels [r 9.6.3(a) and r 10.4.2(a)].

Refer to Residue parcels

One type of residue parcel can result where the head title is limited as to parcels and the limitation is being uplifted with part of the documentary title being unclaimed, as shown below.

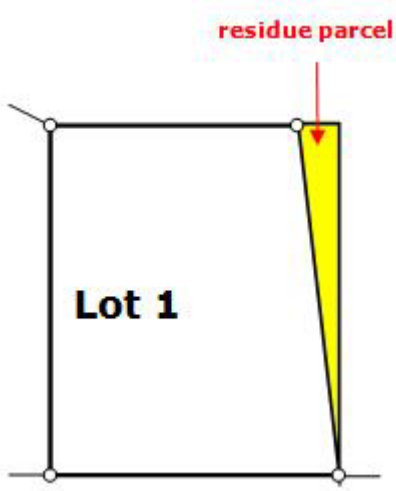


Figure 39: Example of a residue parcel

Boundary dimensions not required on CSD diagrams for accepted boundaries of residue parcel

The boundary vectors for accepted boundaries not common with a new parcel are not required to be depicted [r 9.6.14(b)(iii) and r 10.4.9(a)(iii)].

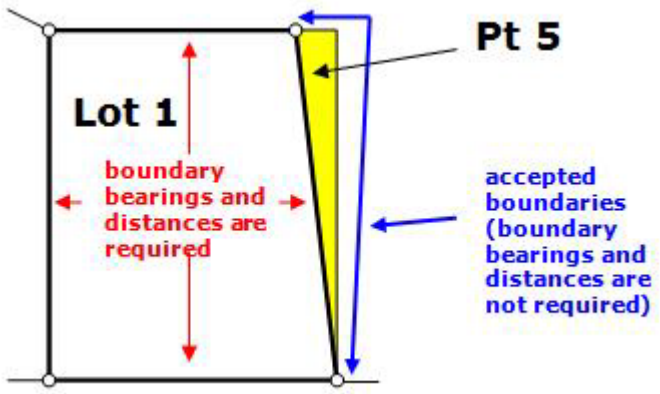


Figure 40: Accepted boundaries on a residue parcel

Appellation of residue parcel required on CSD diagrams

A Diagram of Survey and Diagram of Parcels must include the appellation of each residue parcel where an appellation is required by rule 5.5.1(b)(iii) [r 9.6.3(d) and r 10.4.2(d)(ii)].

In specified cases where the existing appellation must have the prefix 'Part' [r 5.5.1(b)(iii)], it may be abbreviated providing it is unique. An example is 'Part Lot 5 DP 746' depicted in Figure 40 above as 'Pt 5'.

Recording road, rail, and water body names and descriptions

A Diagram of Survey and Diagram of Parcels must depict the name of any road, railway, or water body where it abuts a new parcel. Examples are 'Lawford Road', 'NIMT Railway', and 'Whanganui River'.

If no name is available for the road, railway, or water body, then a description must be used [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples include river, stream, lake, railway, and road.

Last Updated: 7 April 2017

Recording non-primary parcels

The following information relates to depicting non-primary parcels and their underlying parcel boundaries in a Diagram of Survey or Diagram of Parcels.

To enable right holders to exercise their rights, it is essential that the location and extent of a non-primary parcel in relation to its underlying parcel is recorded unambiguously in the cadastre and in land title records.

Recording the spatial relationship of non-primary parcels

A Diagram of Survey focuses on the relationship between the boundaries. While a depiction of each parcel in its entirety is not required on the diagram, the diagram must include:

- a clear depiction of the spatial relationship between each non-primary parcel boundary and the boundary of the underlying parcel [r 9.6.3(g)(ii) and r 9.6.15(a)], and
- sufficient boundaries of the non-primary parcel in relation to the primary parcel to ensure the relationship is clear and unambiguous. The inclusion of part boundary distances is one acceptable way to show this.

A Diagram of Parcels focuses on the relationship between the parcels. The diagram must include a clear depiction of the spatial relationship between each non-primary parcel and its entire underlying parcel [r 10.4.2(e)(i) and r 10.4.10(a)].

This does not mean that the entire underlying parcel must be depicted. However, enough of the underlying parcel must be shown so that users of the diagram can readily identify where the non-primary parcel is in relation to whole of the underlying parcel.

This rule ensures that there is a known relationship between the parcels and there is a clear understanding of the location of the non-primary parcel in relation to the overall underlying parcel.

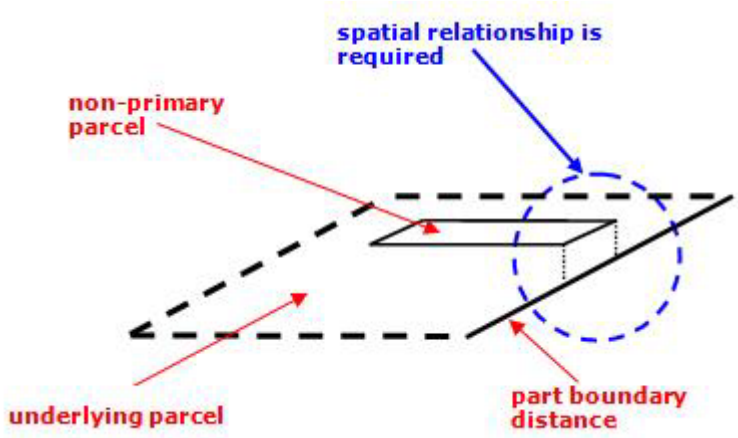


Figure 41: Spatial depiction of a non-primary parcel

Note, there are particular depiction requirements for:

- movable marginal strips (refer to Depiction requirements for marginal and esplanade strips); and
- unit developments (refer to Depicting the relationship of units and cross lease areas to primary parcel boundaries in the CSD diagrams).

Last Updated: 7 April 2017

Recording easement parcels in a CSD

The following information relates to recording existing centreline easements, existing easements not already spatially defined, existing easements on legalisation surveys, and easements on a unit plan.

Recording existing easements represented by centrelines with a known width

On a Diagram of Survey and Diagram of Parcels, an existing centreline easement of a known width that is:

- affected by the creation of new underlying parcel boundaries, is required to be depicted as a polygon parcel [r 9.6.3(b) and r 10.4.2(b)]. Note that although the depiction of the easement changes, the legal right does not, and the easement information must be shown in a schedule of existing easements [r 10.2.2];
- not affected by the creation of new underlying boundaries is able to retain its representation as a centreline [r 9.6.3(c)(i) and r 10.4.2(c)(i)].

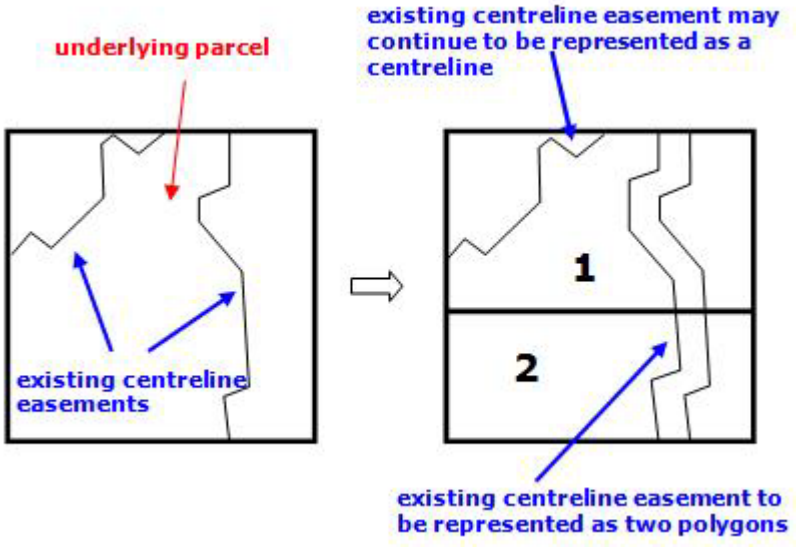


Figure 42: Centreline easements

Recording existing easements represented by centrelines without a known width

The parcel for an existing centreline easement whose width is not known may be represented as a centreline, whether it is intersected by a new parcel boundary or not [r 9.6.3(c)(ii)].

On a Diagram of Survey and Diagram of Parcels, an existing centreline easement without a known width retains its depiction as a centreline. The centreline must be annotated 'width unknown' [r 9.6.3(c)(ii), r 9.6.11, r 10.4.2(c)(ii), and r 10.4.8].

The schedule of existing easements must include the information about this existing easement required by rule 10.2.2(b).

Existing easements that are not defined spatially

There are no survey requirements for an existing easement that:

- will be retained but
- which has not been previously defined spatially on a CSD but
- is referred to in a document.

The schedule of existing easements for the new CSD must include the information about this existing easement required by rule 10.2.2(b). The easement parcel identifier in the schedule will be the same as the appellation of the new servient tenement.

Existing easements and legalisation surveys

The type of legalisation will determine how existing easements must be dealt with.

For a parcel subject to the legalisation action:

- where the legalisation action has the effect of cancelling existing easements (eg land to become road), existing easements are not depicted. In respect to the Public Works Act 1981, if an existing easement is not mentioned in the gazette, the easement is cancelled.
- where the legalisation action does not have the effect of cancelling easements and the easements are not to be surrendered by other means, they must be depicted.

For parcels not subject to the legalisation (eg the land remaining in private ownership), existing easements must be depicted.

Recording easements on a unit plan

Existing easements which are:

- both subject and appurtenant, are to be recorded in a schedule [r 10.2.2]
- subject easements, are to be depicted spatially in the Diagram of Survey and Diagram of Parcels [r 9.6.4 and r 10.4.3].

New easements:

- are to be recorded in a schedule or, in the case of new easements required by a territorial authority, recorded in a memorandum [r 10.2.1]
- which are both subject and appurtenant, are to be depicted spatially in the Diagram of Survey and Diagram of Parcels [r 9.6.4 and r 10.4.3].

Separate easement parcels are required for each unit and each area of common property that will be subject to an easement, whether new or existing. Note, where the underlying parcel (base land) is subject to an existing easement, the easement is not required to be split into separate easement parcels when units are created or changed within that underlying parcel.

Last Updated: 19 April 2017

Recording movable marginal strip and esplanade strip parcels

The following information relates to recording movable marginal and esplanade strips in CSDs, including requirements for depiction, notation, appellation and area.

Historic depiction of marginal and esplanade strips

Historically, neither movable marginal strips nor esplanade strips were depicted as parcels but their location and extent was indicated by notation against the water boundary in the CSD diagrams.

Requirement to include movable marginal strips and esplanade strips

Marginal strips are created next to the foreshore and qualifying lakes, rivers and streams when the Crown disposes of land. The requirements are specified in Part 4A of the Conservation Act 1987. The Department of Conservation has produced a guideline to help surveyors identify water bodies that qualify for marginal strips when the Crown disposes of land. As the result of a government directive in 2007, marginal strips are required to be surveyed and depicted on a CSD at the time when they are created by the disposal of Crown land.

Esplanade strips are created along the mark of mean high water springs of the sea, the bank of a river, or the margin of a lake when land is subdivided or reclaimed, or at any time by agreement between a landowner and local authority. The requirements are specified in the Resource Management Act 1991 (RMA). Esplanade strips created on a subdivision or reclamation are required to be shown on the resultant CSD (refer to sections 237 and 245 RMA).

The Rules for Cadastral Survey 2010 (the Rules) specify requirements for the definition and depiction of marginal and esplanade strips when they are included in a CSD.

Requirements relating to depiction of marginal strips and esplanade strips

Where a marginal or esplanade strip is depicted, the following apply:

- The strip must be depicted as a non-primary parcel (refer to Non-primary parcel).
- The strip must be depicted as a parcel abutting a water boundary.

- If the boundary is an adopted water boundary that does not coincide with the present position of the water body, the strip must be depicted as abutting that adopted water boundary.
- A marginal strip must be depicted with a width of 20 metres from the water boundary, or with such other width(s) as approved by the Minister of Conservation.
- An esplanade strip must be depicted with the width(s) specified by a rule in a district plan or resource consent (refer to sections 108, 220, 232 RMA). It is the responsibility of the territorial authority to ensure that the strip complies with the district plan, resource consent and RMA.
- The strip cannot be set off from a water body that is separated from the underlying parcel (refer to Land not abutting a water boundary below)

On a Diagram of Survey and Diagram of Parcels:

- the strip parcel must be contained within its underlying parcel [r 5.2, 9.6.6 and r 10.4.4],
- the landward boundary of the strip must be an irregular boundary except where it coincides with an underlying parcel boundary [r 6.6(c)] and be at a scale that shows its true shape and location [r 9.6.8(a) and r 10.4.6], and
- the width of the strip must be depicted [r 9.6.14(a)(iii) and r 10.4.9(b)].

On a Diagram of Survey, the water boundary and the landward irregular boundary of the strip must be at a scale that is adequate to meet the accuracy required by r 3.4 (refer to Accuracy of water and irregular boundaries).

Examples of depiction of marginal and esplanade strips

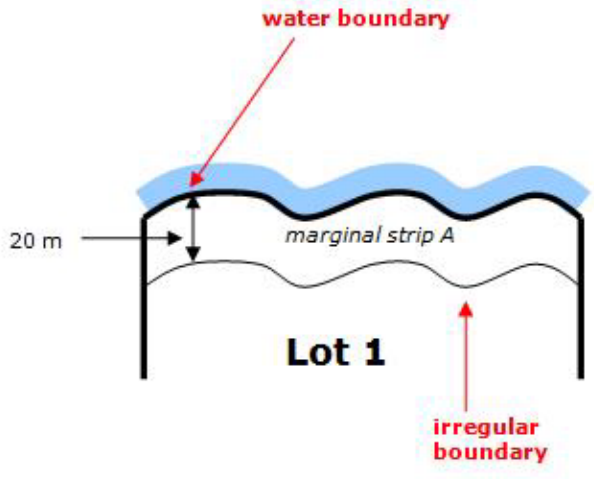


Figure 43: Depiction of a marginal strip with a fixed width

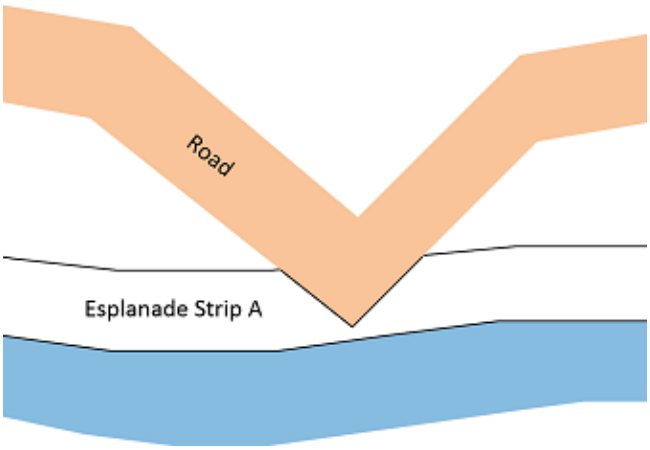


Figure 44: Depiction of an esplanade strip with width restricted by abutting primary parcel

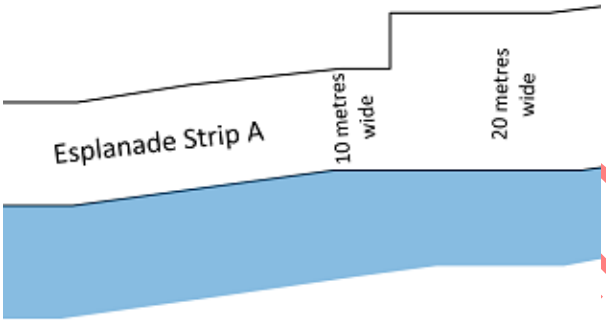


Figure 45: Depiction of an esplanade strip with variable width

Pt 4A marginal strip notation required on the CSD diagrams

Rules 9.6.11 and 10.4.8 specify when the notation 'Subject to Part 4A Conservation Act 1987' must be depicted on a Diagram of Survey and Diagram of Parcels. This requirement applies regardless of whether there is a water body present.

Surveyors are responsible for determining whether previous disposals are subject to Part 4A of the Conservation Act 1987. Existing CSDs lodged on or after 10 April 1990 may have had the notation omitted incorrectly.

Appellation of marginal or esplanade strip on CSD diagrams

The appellation of the strip must be depicted on a Diagram of Survey and Diagram of Parcels [r 9.6.3(d)(ii) and r 10.4.2(d)] either as esplanade strip or marginal strip [r 5.5.2] with a unique letter(s) [r 5.5.4]. Examples are 'marginal strip A' and 'esplanade strip B'.

This appellation may be abbreviated on the diagram providing it is unique to the dataset (eg 'A' or 'B').

Area of marginal or esplanade strip on Diagram of Parcels

The area of the primary parcel must include the area of the marginal strip that lies within it [r 5.3(a)(i)]. This is a consequence of the legislation which required the parcel area to be as if the marginal strip did not exist.

If the CSD includes a separate area for a marginal strip in addition to the area of the underlying primary parcel, it must not be shown on the Diagram of Parcels [r 10.4.2(d)(iv)]. This is to ensure that anyone looking at the title diagram would not be misled into thinking that the area of the underlying primary parcel is the sum of the two areas shown on the Diagram of Parcels.

A separate parcel area may be shown for an esplanade strip on the Diagram of Parcels, but if one is shown, it must not create any ambiguity about the area of the underlying primary parcel [r 10.4.10(a)].

Land not abutting a water boundary

A 1999 court decision, Tram Holdings Ltd v Attorney-General (CP245/96), has ruled that a marginal strip under s24 of the Conservation Act 1987 is not created if Crown land being disposed of lies within 20 metres of a water margin but does not abut the margin.

Last Updated: 22 January 2019

Related Content

- Movable Marginal Strips - capturing in Landonline

Recording balance non-primary parcels

The following information relates to recording a balance non-primary parcel in a CSD that creates a new parcel for the partial surrender of an existing easement.

No depiction of balance non-primary parcel

In the rare case where the purpose of a CSD is to show the portion of an existing easement that is to be surrendered (refer to Balance non-primary parcel), the Diagram of Survey and the Diagram of Parcels must depict a non-primary parcel that represents the portion of the existing parcel to be surrendered [r 9.6.3(a) and rule 10.4.2(a)]. This is

because the legal action taken will be a cancellation of the right associated with the depicted parcel.

The balance non primary parcel is not required to be depicted because it represents the portion of the right to be retained. If however the surveyor chooses to depict it, its presence must also be recorded in the schedule of existing easements.

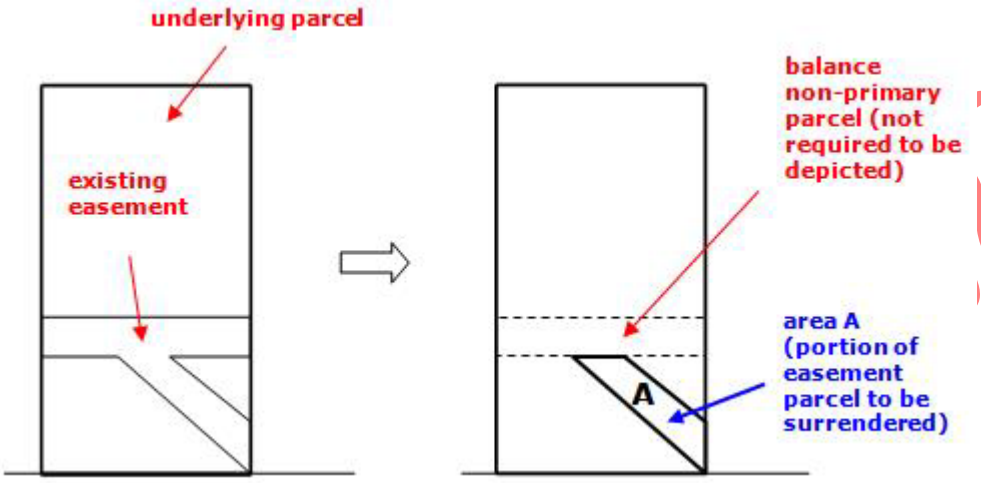


Figure 46: Portion of an easement to be surrendered

Last Updated: 21 September 2017

Boundaries

Form of boundaries

The following information relates to rule 6.5 and the different types of boundaries that may be used to define the extent of a parcel.

To ensure that there are no disputes as to the extent of ownership of interests, it is essential that the cadastre and land title documents record the boundaries that confine or divide two contiguous estates, in an unambiguous manner.

The Rules provide for the following types, or forms, of boundaries:

- Right-line boundaries
- Arc boundaries
- Stratum boundaries
- Water boundaries
- Irregular boundaries
- Permanent structure boundaries

Form of boundary where non-primary boundaries coincide or are in common

The form of boundary (refer to rule 6.5) must be identical where a new non-primary boundary is to coincide with an underlying parcel boundary, or share a common boundary with an adjacent non-primary parcel.

Last Updated: 30 March 2017

Right-line boundaries

The following information relates to the use of a right-line boundary to define the horizontal extent of a parcel.

Right-line boundaries only for horizontal extent of parcel

A right-line boundary may be used to define the horizontal extent of a parcel boundary [r 6.5(a)(i)], but not the vertical extent.

Refer to Stratum boundaries

Length and direction of line expressed as vector

The length and direction of the boundary is normally expressed as a vector [r 9.6.14(a)(i)].

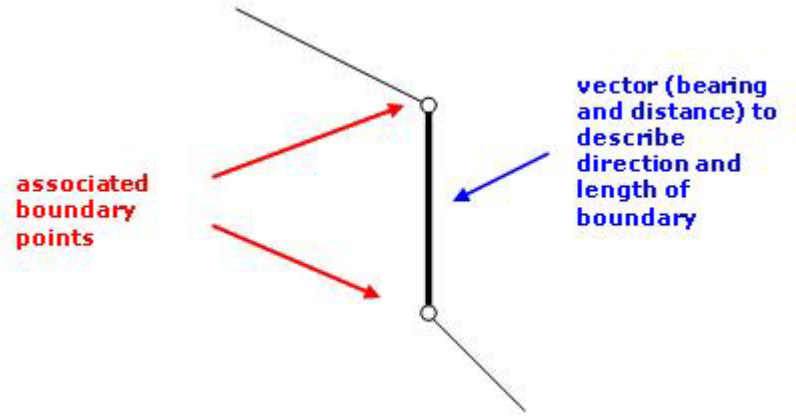


Figure 47: Example of vector to describe length and direction

Associated boundary points of right-line

Each right-line boundary terminates at an associated boundary point as illustrated in Figure 47.

Last Updated: 30 March 2017

Arc boundaries

The following information relates to the use of an arc boundary to define the horizontal extent of a parcel.

Arc boundaries only for horizontal extent of parcel

An arc boundary may be used to define the horizontal extent of a parcel boundary [r 6.5(a)(ii)] but not the vertical extent.

Size and location of arc line expressed as a chord bearing

The size and location of the boundary is normally expressed by a chord bearing, arc distance, and radius [r 9.6.14(a)(ii)].

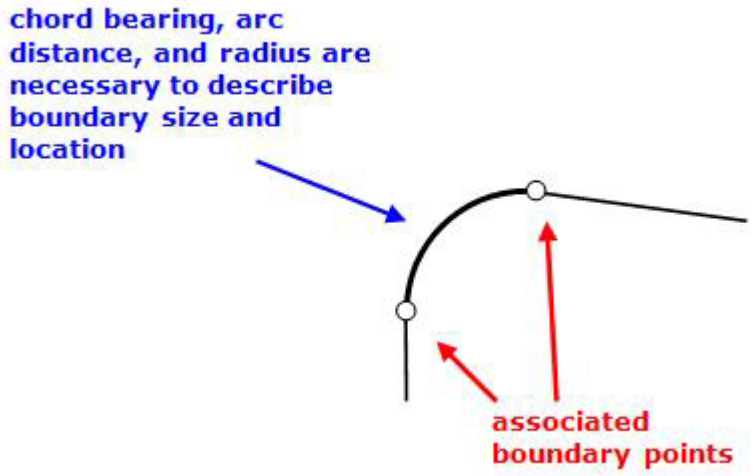


Figure 48: Example of arc boundary

Associated boundary points of arc boundary

Each arc boundary terminates at an associated boundary point as illustrated in Figure 48 above.

Last Updated: 30 March 2017

Stratum boundaries

The following information relates to the use of a stratum boundary to define the vertical extent of a parcel, the requirements for witnessing and referencing a stratum boundary, and the definition of height covenants including where the height restriction is defined in a legal document.

A stratum boundary may be a surface that is:

- mathematically defined, or
- defined by the surface of a water body or by the bed of a water body (eg the bed of Lake Taupo).

Ground level not a stratum boundary

Ground level is not an appropriate description for a stratum boundary.

Mathematical description of a stratum boundary

A stratum boundary that is mathematically described must have at least one point with a reduced level [r 6.8(a)].

The boundary must be unambiguously defined [r9.6.15(a)]; for example, reduced levels must not conflict with declinations or elevations or, in the case of unit developments, be confused with permanent structure boundaries.

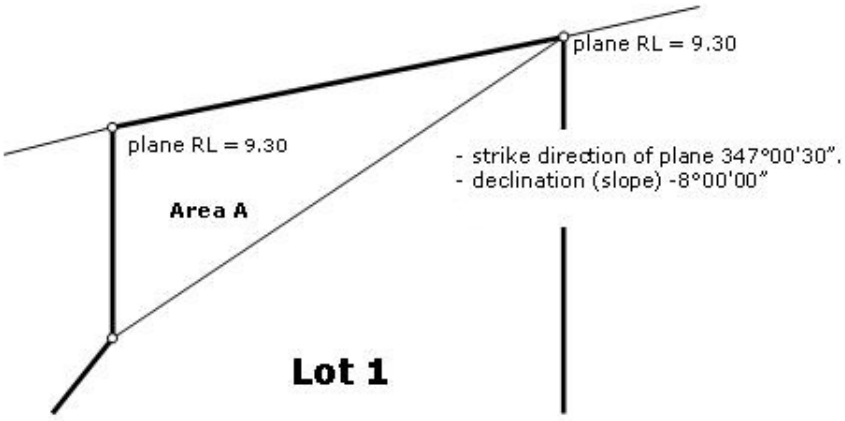


Figure 49: A stratum boundary with a mathematical description

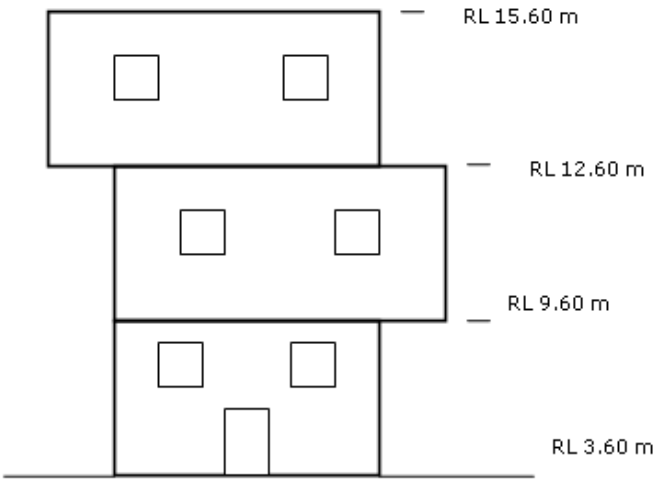


Figure 50: Stratum boundaries with reduced levels

Stratum boundaries - witness marks and PRMs

For all mathematically defined stratum boundaries:

- all new stratum boundary points must be witnessed [r 7.3.1]. There must be a minimum of three witness marks for class A and four witness marks for class B [r 7.3.2(c)],
- at least one witness mark must have a reduced level [r 7.3.4], and

- there must be at least two PRMs with reduced levels [r 7.4.1 and r 7.4.3(d)].

Height covenants

A parcel to be subject to a height restriction is required to be depicted as non-primary parcel. This parcel must be defined in the horizontal sense, but is not required to be defined in the vertical sense, ie. not include a stratum boundary. It is presumed that the instrument creating the restriction will define the height of the restriction in the manner determined by the parties.

A CSD may define the height of a restriction by stratum boundary, but if it does, the CSD must comply with the rules for defining stratum parcels (refer to 'Stratum boundaries - witness marks and PRMs' above).

Alternatively, where it is intended that registered documents define the height of the covenant (ie. the CSD is not intended to define a stratum boundary), the CSD may include information about the height of a restriction as supporting information (eg reduced levels on marks, datum information, or the survey report expressing an intention to restrict a right).

In this case, the Diagram of Survey, the Diagram of Parcels and supporting information must not depict a stratum boundary in any form or show annotations that seek to describe the height restriction.

An existing covenant stratum boundary may be adopted except where the boundary is a class A parcel less than 0.4ha [r 6.2(a)(iv)].

Where the boundary is adopted, the information on the source CSD that defines the extent of the boundary must be included in the new CSD and related diagrams. This includes the height origin, level and source [r 8.1(f)], bench marks, heights and heighted boundary marks [r 9.6.10].

Last Updated: 30 March 2017

Water boundaries

The following information relates to the use of a water boundary to define the horizontal extent of a parcel including the application of rule 6.7 when the water margin has moved.

Water boundary types include, but are not limited to, river bank, MHWM, and MHWS.

End points of a water boundary

Each water boundary terminates at an end point.

Each end point is required to have two vectors recorded in the CSD [r 9.6.13]

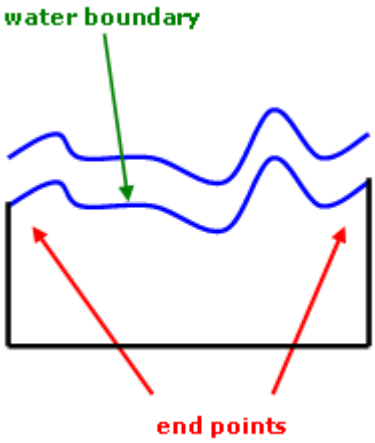


Figure 51: End points on a water boundary

Where water body has moved after earlier survey (application of rule 6.7(a))

Where the current physical edge of the water body does not coincide with the existing documentary water boundary (eg as a result of avulsion or artificial diversion), this existing water boundary becomes a fixed boundary and must be converted to right-line boundaries [r 6.7(a)(i)]. Note the alternative cases in rule 6.7(b).

An exception to the right lining requirements is where the boundary is permitted to be adopted as a class C boundary, in which case it becomes an irregular boundary which is fixed in position [r 6.7(a)(ii)].

Water boundaries or irregular boundaries that have been converted to right-lines must be defined by survey [r 6.2(a)(iii)] and, in the case of a class A boundary, must be marked on the ground [r 7.1(c)]. Only class A and B boundaries are required to be witnessed.

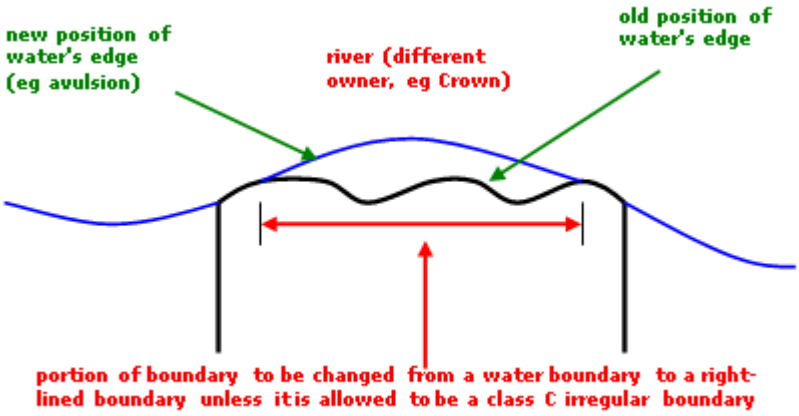


Figure 52: Example where the boundary and the water's edge no longer coincide

Where accretion applies to a water boundary (application of rule 6.7(b)(i))

Where entitlement to accretion beyond the water boundary is not being claimed, the documentary water boundary may be adopted as a water boundary in its former position [r 6.7(b)(i)].

Because the boundary remains as a movable water boundary, any entitlement to accretion can be applied for at a later date.

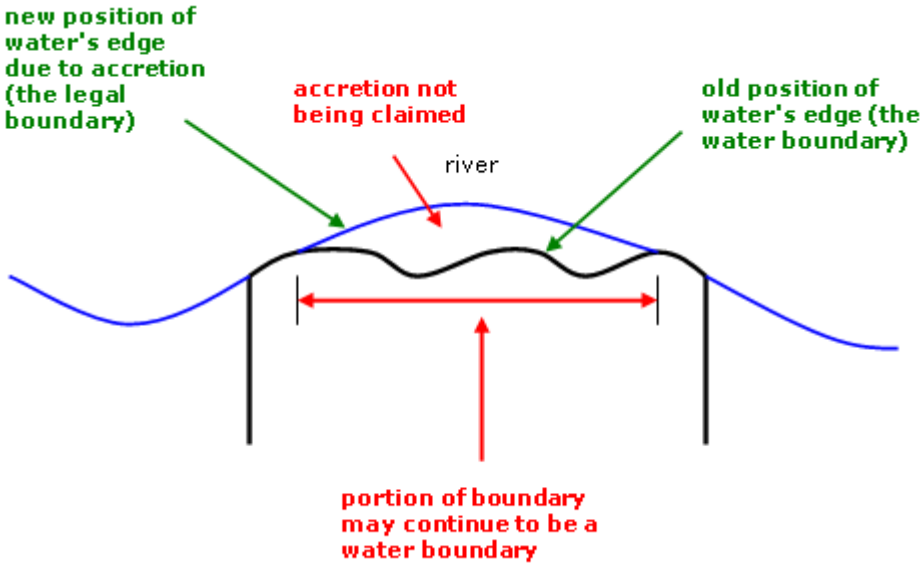


Figure 53: Accretion not being claimed

Where 'usque ad medium filum aquae' is not claimed (application of rule 6.7(b)(ii))

Where the usque ad medium filum aquae presumption in relation to a water boundary is available but is not being claimed, then the documentary water boundary may be adopted as a water boundary in its former position [r 6.7(b)(ii)].

Because the boundary remains as a movable water boundary, any entitlement to AMF rights can be applied for at a later date.

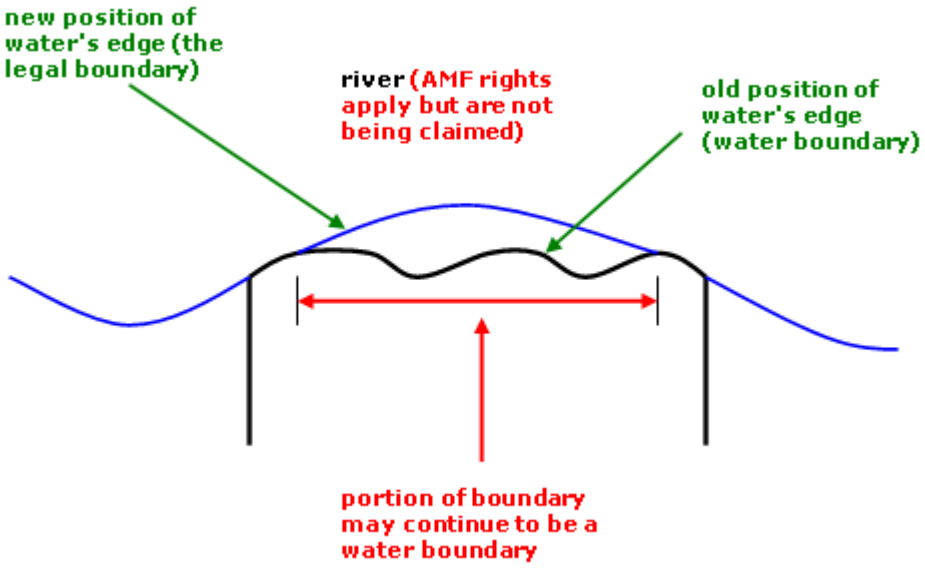


Figure 54: Usque ad medium filum aquae not claimed

Last Updated: 30 March 2017

Irregular boundaries

The following information relates to the use of an irregular boundary to define the horizontal extent of a parcel, and requirements where an existing irregular boundary is converted to right-lines under rule 6.6.

Where new irregular boundaries are permitted

New irregular boundaries are only permitted in the case of:

- a landward boundary of an esplanade strip or movable marginal strip [r 6.6(c)],
- an existing water boundary where the margin of the water body has moved but the documentary boundary has not moved and the boundary meets the criteria for class C boundaries [r 6.7(a)(ii)], or
- an existing water boundary that bounds a parcel of land that is to become part of an adjoining water body [r 6.7(c)]. Examples where this occur include parcels of erosion, and common marine and coastal areas.

Refer to erosion and residue parcels.

Refer to MACAA and land already part of common marine and coastal area as residue parcel.

Requirements where irregular boundaries are converted to right-lines

Boundaries that have been converted to right-lines must be defined by survey [r 6.2(a)(iii)] and in the case of a class A boundary, they must be marked on the ground [r 7.1(c)].

Adequacy of definition where irregular boundaries are converted to right-lines

The position of an existing irregular boundary is often defined by offsets from an adjoining water boundary.

In many cases the irregular boundary is depicted at a scale that is not sufficiently accurate for determining the location of the new fixed right-line boundary.

In these circumstances the boundary position may need to be determined from original field notes (if available) or by some other method, rather than copied directly from the existing CSD diagrams.

Examples of existing irregular boundaries

The majority of existing irregular boundaries in the cadastre are associated with older surveys where reserves or roads are offset from the edge of waterways or roads that divide large rural parcels.

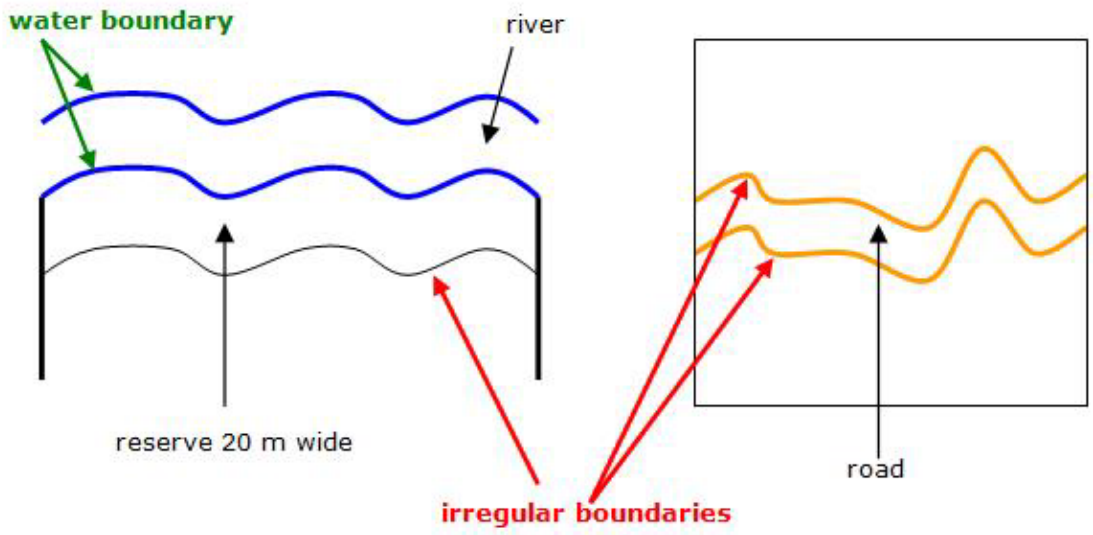


Figure 55: Irregular boundaries

When existing irregular boundaries may remain

Existing irregular boundaries may remain where the boundary is able to be adopted as class C (refer to the conditions in rule 6.6(b)(ii)) or accepted as class D (refer to the conditions in rule 6.6(b)(i)). In all other cases, an existing irregular primary parcel boundary must be converted to right-lines [r 6.6(b)].

Note: irregular boundaries may remain for residue and balance parcels [r 6.3(b)].

Last Updated: 30 March 2017

Permanent structure boundaries

The following information relates to the use of a permanent structure boundary to define the horizontal extent of a parcel or to limit the vertical extent of a parcel.

A permanent structure is a building or recognisable physical structure that is likely to remain undisturbed for 50 years or more (rule 2 definition). Structures of this nature are substantially anchored in place and made of a durable material.

A permanent structure boundary does not necessarily follow the physical shape of the permanent structure but must have some description that unambiguously relates the boundary to the permanent structure.

Historically, wooden fences have been used to define the extent of some non-primary parcels. Unless there is some permanence associated with the fence (eg a concrete footing) such examples will generally not comply with the definition of permanent structure in rule 2.

Unit to be defined in relation to a building

A principal unit must contain a building or part of a building or be contained in a building. Note, the unit does not need to be bounded by the physical shape of that building (s 7 of the Unit Titles Act 2010).

This requirement contrasts with the former Unit Titles Act 1972 where a unit could be a defined envelope of air space.

An exception to this is a principal unit that is a car park.

Where a permanent structure boundary coincides with primary boundary

Where a permanent structure coincides with the underlying primary parcel boundary, the boundary of the new non-primary parcel is to be the same form of boundary as the

primary parcel (this means that the primary parcel boundary is used to define the new non-primary parcel). In this case, the relationship between the permanent structure and the new non-primary parcel boundary must be clear and unambiguous [r 9.6.15(a) and r 10.4.10(a)].

Note, a permanent structure boundary must not be used to define the extent of a primary parcel [r 6.9].

Reduced levels for unit development only for stratum boundary

Historically, a reduced level was required to define the upper or lower limit of a unit in a unit development. A reduced level is now only required where the vertical extent of a unit is defined by a stratum boundary [r 6.8(a)].

A reduced level must not be used where the boundary is a permanent structure boundary [r 9.6.15(a) and r 10.4.10(a)].

Note, a CSD may include both permanent structure boundaries and stratum boundaries, but they must be for different boundaries.

Where a new unit or easement boundary is to coincide with an existing stratum boundary, this existing stratum boundary must be used. In most cases, this existing boundary may be adopted.

Refer to accuracy of adoptions when 'defining by adoption'

Refer to form of boundary where boundaries coincide or are in common

Easement using a permanent structure boundary

The use of a permanent structure boundary for an easement is appropriate only where the use of the right is related to the structure [r 6.9(a)(iv)].

Examples include a sewage or water easement that runs from a permanent structure (building) to a manhole or to the road boundary and when the structure is removed, the easement becomes redundant. In these cases, the permanent structure may define the horizontal extent and/ or the vertical extent.

A permanent structure within a parcel must not be used to define an easement that serves another parcel.

Using an existing lease boundary for new parcel boundary

In the case of a subsequent stage of a cross lease development or where part of an existing cross lease development is being changed, the following may be applied:

- A boundary of a new lease parcel may be an adopted boundary where it is in common with an abutting existing lease parcel. This is providing the abutting lease parcel, its appellation, and its land transfer registration is being retained.
- The new CSD must depict the boundary in the same manner as the original CSD and reference this CSD.
- A new restrictive area parcel may also adopt an abutting existing lease parcel boundary in similar circumstances.

In respect to parcel identifiers in staged developments:

Refer to appellations on staged cross lease developments

Refer to appellations for 'common area' on a cross lease development

Using an existing restrictive area boundary for new restrictive area parcel

In the case of a subsequent stage of a cross lease development or where part of an existing cross lease development is being changed, the following may be applied:

Where the boundary of a new restrictive area is a permanent structure boundary, rule 6.9(b) (how this boundary type can be used), rule 9.6.9 (Diagram of Survey detail and accuracies) and rule 10.4.7 (Diagram of Parcel detail) are particularly specific.

In respect to existing boundaries:

- a boundary of a new restrictive area parcel may be an adopted boundary where it is in common with an abutting existing restrictive area parcel and that boundary complies with the relevant Rules. In this case, the new CSD must reference the source CSD. This is illustrated by the wooden fence in the example in Figure 56 below.
- where the existing boundary does not comply with the Rules, the boundary must be re-established in the same position and be in terms of the relevant Rules [r 6.2(a)(vii)]. In this case, the survey report must outline the decisions made and information used to define this boundary [r 8.2(a)(ix)]. This is illustrated by the offset dimensions shown in blue in Figure 56 below.
- where the surveyor decides not to re-establish the boundary in the same position, the boundary becomes a new boundary. Where it is not obvious that the boundary is either a new or a re-established boundary, the survey report must clarify the situation [r 8.2(a)(ix)].

Note: that an abutting existing lease boundary may be used as a new restrictive area boundary (refer Using an existing lease boundary for new parcel boundary above).

In respect to parcel identifiers in staged developments refer to Appellations on staged cross lease developments and Appellations for 'common area' on a cross lease development as above.

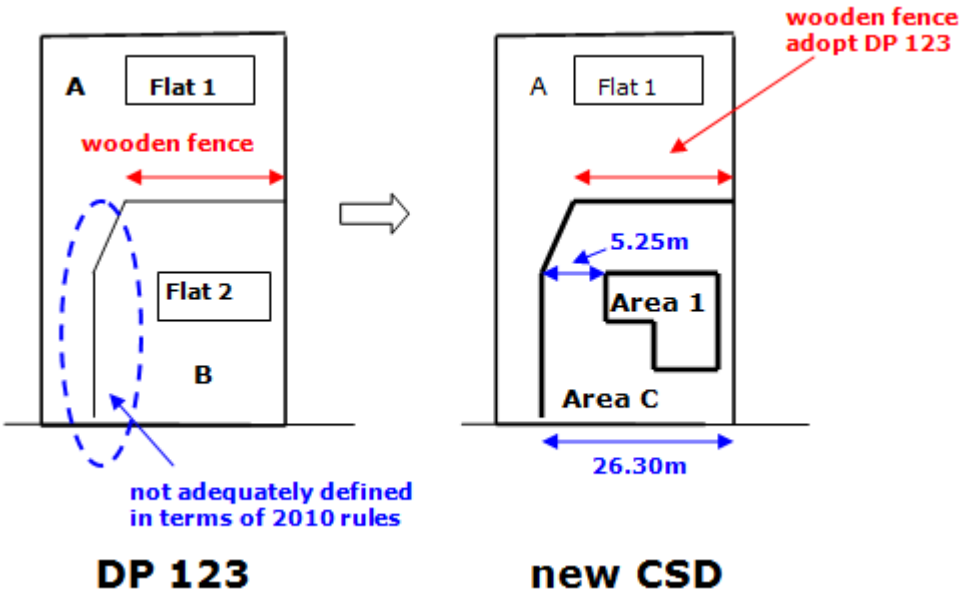


Figure 56: Use of existing restrictive area boundaries

Where permanent structure boundary follows permanent structure

The boundary may follow a described part of a permanent structure [r 6.9(b)(i)].

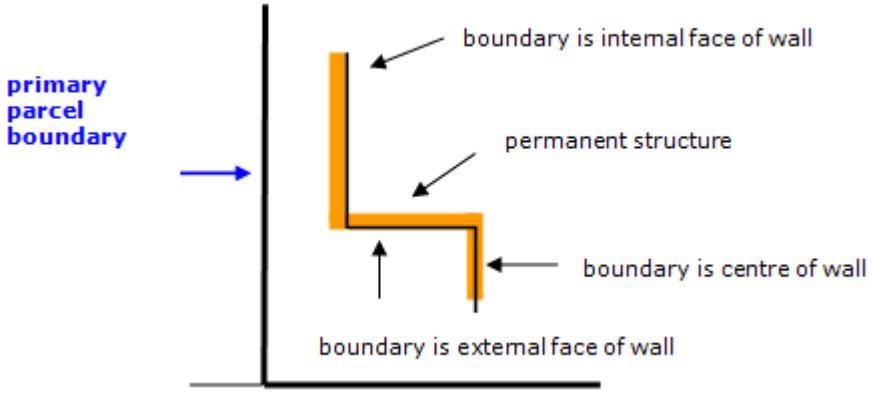


Figure 57: Where a boundary follows various parts of a permanent structure

Where permanent structure boundary is between points

The boundary may be a straight line between clearly identified points on the interior or exterior of a permanent structure [r 6.9(b)(ii)].

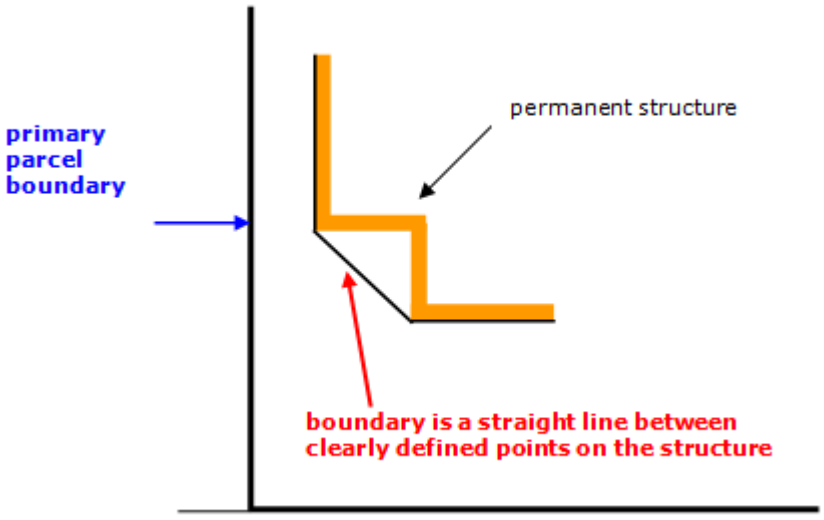


Figure 58: Where a boundary is a straight line between points

Where permanent structure boundary is between offset points

The boundary may be a straight line connecting boundary points located from clearly identified points on the interior or exterior of a permanent structure [r 6.9(b)(iii)]. This is illustrated in Figure 59 below.

These boundary points must be no more than 20 m horizontally from the permanent structure.

Where boundary is horizontally offset from structure

The boundary may be:

- at a constant offset from a clearly identified interior or exterior part of a permanent structure [r 6.9(b)(iv)], or
- a surface unambiguously located from clearly identified points on the interior or exterior of a permanent structure [r 6.9(b)(v)].

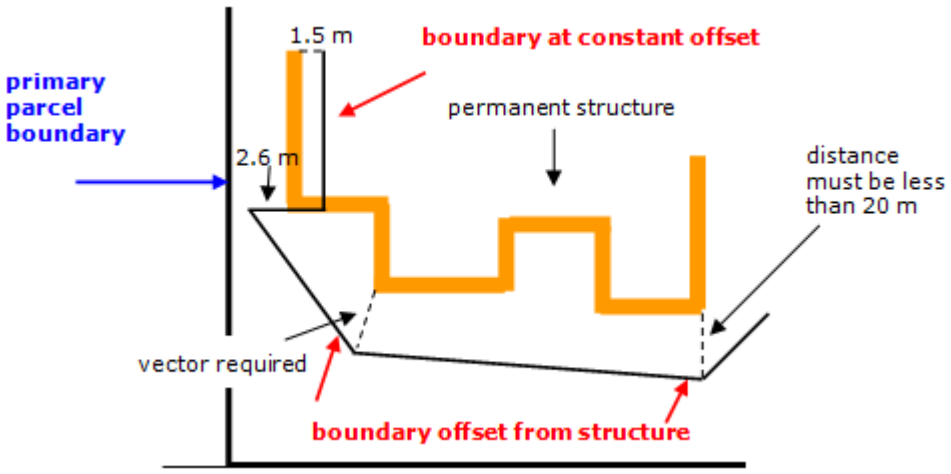


Figure 59: Where a boundary is offset horizontally from a permanent structure

Where boundary is vertically offset from structure

The boundary may be:

- offset from a clearly identified interior or exterior part of a permanent structure [r 6.9(b)(iv)]. An example of this is the use of vertical offsets above or below a permanent structure.
- a surface located from clearly identified points on the interior or exterior of a permanent structure [r 6.9(b)(v)].

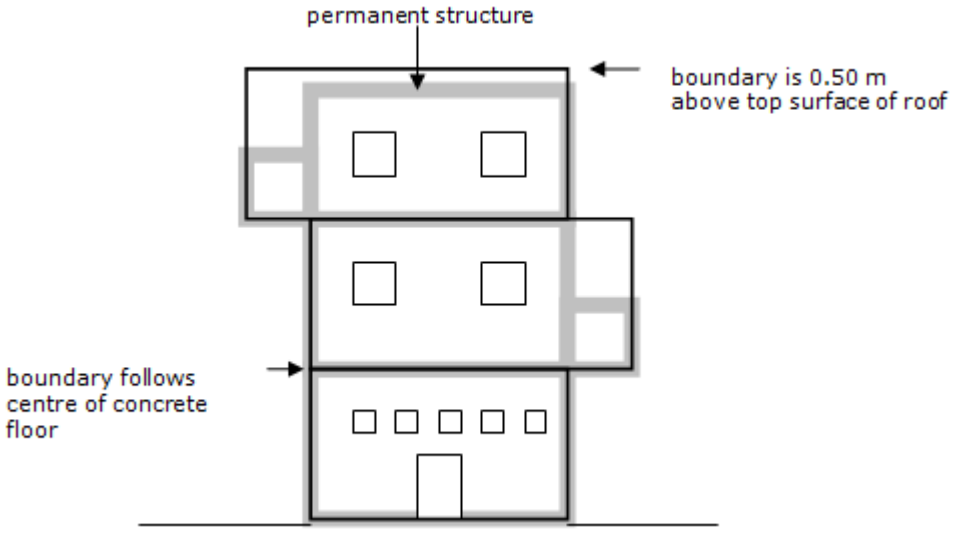


Figure 60: Where a boundary is offset vertically from a permanent structure

Types of boundary definition

The following information relates to determining when a boundary must be defined by survey, defined by adoption or accepted.

To ensure that there are no disputes as to the extent of ownership of interests, it is essential that the boundaries that confine or divide two contiguous estates are defined appropriately.

The Rules specify three types of boundary definition. Boundaries and boundary points must be:

- defined by survey,
- defined by adoption, or
- accepted.

Application of boundary definition categories

New boundaries must be defined by survey.

Some existing boundaries must be defined by survey while others may be defined by adoption or accepted.

Boundaries defined by adoption must meet the applicable boundary accuracy standards while boundaries that are permitted to be accepted do not have to meet those standards.

Method to determine category of boundary definition

The following is one way of determining the appropriate category of definition:

- Identify the boundary points that are permitted to be accepted under rule 6.3 (refer to accepted boundaries).
- For each boundary point that cannot be accepted, identify whether any of the provisions in rule 6.2(a) require the point to be defined by survey. In particular, note sub-clause (iv), which applies to existing boundary points on class A boundaries (refer to boundaries defined by survey).
- Any points that are not permitted to be accepted or are not required to be defined by survey, may be defined by adoption (refer to boundaries defined by adoption).

Any boundary can be defined to a higher category if the surveyor chooses.

Defined by survey only applies to current survey

A point 'defined by survey' by an earlier survey must not automatically be assigned that same category by a new survey. Each time an existing boundary point is used as part of a new survey, the appropriate category of definition must be reconsidered.

Last Updated: 31 March 2017

Boundaries defined by survey

The following information relates to defining by survey boundaries and boundary points under rule 6.2.

Duty of surveyor when defining by survey

Defined by survey must be considered in conjunction with the requirements of rule 6.1 Duty of surveyor when defining a boundary by survey

Boundaries and points to be defined by survey

Boundaries and boundary points to be defined by survey include:

- all new water boundaries or new irregular boundaries [r6.2(a)(i)]
- all new boundary points [r 6.2(a)(ii)]. This applies to new boundary points on both primary and non-primary parcels.
- all existing irregular boundaries converted to right lined boundaries [r 6.2(a)(iii)]
- most existing Class A boundary or boundary points on a new primary parcel that is less than 0.4 ha. See Defining class A boundaries on parcels under 0.4 ha
- any existing boundary point that is being marked on the survey [r 6.2(a)(v)]
- boundaries or boundary points subject to conflict, insufficiently defined on prior CSDs, limitations as to parcels, adverse possession, interim titles, or previously defined by computed datasets under the Māori freehold land project [r 6.2(a)(vi-xi)].
- boundary points on a primary parcel boundary that were previously used only as non-primary parcel boundary points [r 6.2(a)(xii)].

Class A boundaries on parcels under 0.4 ha to be defined by survey

The requirement to define by survey existing class A boundary points on a primary parcel less than 0.4 ha is applicable to all surveys (including legalisation surveys) unless the exception criteria in rule 6.2(a)(iv) or 6.2(c) apply.

Refer to Defining class A boundaries on parcels under 0.4 ha

The requirement to define by survey applies irrespective of the age of the underlying survey, noting that with a recent survey the location of witness marks is likely to provide good evidence.

Boundary points that are required to be defined by survey may not need to be marked.

Refer to 'Defining by survey' and requirement to mark boundary points

Rural parcels abutting class A parcels

Where boundaries of a rural parcel include existing boundaries that are class A, the class A boundaries may be defined by adoption providing they comply with the applicable class A accuracy standards [r 3.3.1(a)(ii)].

Right-lining existing water and irregular boundaries

An existing irregular boundary that has been converted into one or more right-line boundaries must be defined by survey [r 6.2(a)(iii)]. The requirement to right-line an irregular boundary is specified in rule 6.6(b). The requirement to right-line a water boundary is specified in rule 6.7(a)(i).

Risk of overlap with the boundaries of underlying parcels

The relationship between new and existing boundaries must be determined correctly [r 6.1(c)]. To establish that relationship, the underlying parcel boundaries must be sufficiently defined.

In some cases, boundaries may be defined by adoption [r 6.4] or accepted [r 6.3]. Where there is a risk of overlap, the existing boundary must be defined by survey [r 3.3.2 and r 3.4(a)].

Accuracy of non-primary boundaries upon resurvey

Where primary parcel boundaries are resurveyed to meet the accuracy standards, any existing non-primary boundaries must also be resurveyed to meet those standards.

Refer to boundary accuracy where non-primary boundary coincides with class C or D primary parcel

Primary parcel boundaries defined by survey must be witnessed

All primary parcel boundary points defined by survey, including class A points where required by rule 6.2(a)(iv), must be witnessed [r 7.3.1(a)].

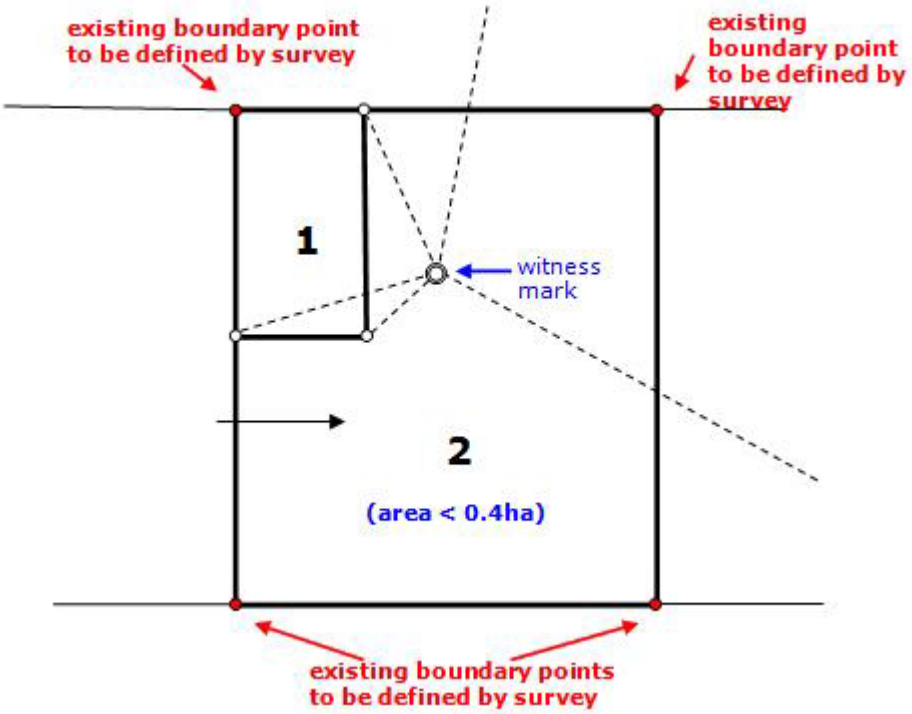


Figure 61: Boundary points to be defined by survey in class A

Conflict in boundaries to be defined by survey

Conflict occurs where there are unresolved differences in the cadastral records, title records or evidence on the ground (refer to definition of 'conflict' in rule 2).

Rule 6.2(a)(vi) requires every boundary subject to conflict to be defined by survey, unless it is permitted to be accepted by rule 6.3 or permitted to be class C in terms of rule 3.2.3.

Removing limited titles and interim titles requires 'defined by survey'

Where limitations as to parcels is being uplifted, rule 6.2(a)(viii) requires the boundary points on the parcel to be defined by survey.

Refer to Limited as to parcels boundaries

Where the interim nature of a Hawke's Bay interim title is being removed, rule 6.2(a)(x) requires the boundary points on the parcel to be defined by survey.

Refer to Hawke's Bay interim title boundaries

Defining by survey where title is to remain limited

When defining a boundary by survey, rule 6.1(b) requires the surveyor to interpret evidence in accordance with all relevant enactments and rules of law. The evidence

relevant to the determination of the boundary and its boundary points will differ depending on whether limitations as to parcels is to remain or not.

Where a new limited title is to be created, the issues relating to the extent of lawful possessory ownership are not being addressed (ie notices to adjoining owners will not be sent out by the Registrar General of Land pursuant to the Land Transfer Act 2017). Possessory occupation that is not on the parcel boundary must not be taken into account.

For an example see Legalisation surveys where limited title to remain.

Resurvey of computed Māori land CSDs requires 'defined by survey'

Rule 6.2(a)(xi) requires each point on the boundary which was created on a CSD previously approved under LINZS10000: Interim standard for computed cadastral survey datasets for Māori freehold land, to be defined by survey unless it can be accepted. These boundaries therefore cannot be 'defined by adoption' unless they have been first properly defined.

Where the boundaries are defined by survey, while the boundaries may not need to be marked [r 7.1(a)(ii)], the boundary points must be witnessed [r 7.3.1(a)].

Computed cadastral survey datasets were prepared under LINZS10000: Interim standard for computed cadastral survey datasets for Māori freehold land. They were permitted where the Māori Land Court made an order to partition land and provisional land title registration was considered desirable via a Māori land CSD without a field survey.

If needed, refer to Boundary marking surveys and Māori land provisional titles

'Defining by survey' and requirement to mark boundary points

The requirement to define a boundary point by survey does not necessarily mean that the point must be marked. The requirement to define a boundary point by survey [r 6.2] and the requirement to mark a boundary point [r 7.1] are different issues that should be dealt with separately.

Last Updated: 12 November 2018

Duty of surveyor when boundary to be defined by survey

The following information relates to rule 6.1 and the surveyor's duty to gather and interpret relevant evidence and to determine the correct location of a boundary that is being defined by survey.

Evidence relevant to survey definition to be considered by surveyor

Rule 6.1(a) requires a surveyor to 'gather all evidence relevant to the definition of the boundary and its boundary points'. Examples of relevant evidence may include:

- documentary evidence - commonly survey and title records,
- physical evidence - commonly reliable survey marks and fixed structures or other occupational details on the site, and
- photographic, oral, or any other form of evidence that may have a legal relevance to the definition.

Enactments and rules of law to be considered by surveyor

Rule 6.1(b) requires a surveyor to 'interpret that evidence in accordance with all relevant enactments and rules of law'.

Relevant enactments include statutes, and subsidiary items including regulations, rules and rulings, particular to that survey. Common examples include, but are not limited to:

- Cadastral Survey Act 2002
- Land Transfer Act 2017
- Conservation Act 1987
- Te Ture Whenua Māori Act 1993
- Canterbury Property Boundaries and Related Matters Act 2016
- Surveyor-General's Rules and Rulings
- RGL standards and guidelines.

Other rules of law include common law precedent such as the 'hierarchy of evidence' and the 'doctrine of accretion and erosion' as well as case law (which includes judicial precedent and court decisions from individual cases).

Interpreting unmarked boundary points

Where the original CSD created a boundary point as an unmarked point, its witness mark and its relationship to that boundary point will normally determine the location of the

boundary. This principle continues to apply even in the case where the boundary point has been subsequently marked at a later date.

Interpreting accuracy of vectors

Historically, there was often no difference in the accuracy of traverse vectors and boundary vectors as boundaries were often traversed. Adopted boundary vectors were therefore usually used for the purpose of defining a boundary position.

Adoption of boundary vectors created under the 2010 rules may not be suitable as the boundary accuracy standard for boundary vectors [r 3.3.1] is less than the survey accuracy standard [r 3.1].

To reliably re-establish a boundary position, the network of non-boundary marks will normally provide the most accurate solution.

Interpreting 'old peg no record'

The evidential value of 'old peg no record' has been clarified in the Rules by the inclusion of definitions for old survey mark and old boundary mark.

This means that, where a mark is found but its presence is not already recorded on a CSD that has been integrated into the cadastre, this mark must be treated as a new survey mark with little evidential value beyond that of information on occupation.

Duty to correctly locate boundary

Rule 6.1(c) requires a surveyor to 'use that evidence to correctly locate the boundary and boundary points in relation to other boundaries and boundary points'. This requirement applies to new boundaries as well as to existing boundaries and therefore the correct relationship between old and new boundaries.

Witness marks required for primary parcel boundary points 'defined by survey'

Rule 7.3.1(a) requires each boundary point on a primary parcel boundary that is defined by survey to have at least one witness mark and the accuracy between the boundary point and the witness mark must meet the accuracy tolerances of rule 3.6.

Level of evidence in CSD when defining by survey

Where a new boundary point, including a non-primary parcel boundary point, is unmarked the vector information in the CSD is the evidence of the boundary point location.

For existing boundary points, a surveyor will need to exercise judgment as to the extent of evidence necessary to provide the highest level of confidence that a boundary position has been correctly defined by survey.

- In the case of an existing boundary point, the best evidence is normally an undisturbed old boundary mark.
- Irrespective of this, where the underlying survey is considered to be adequate and connection has been made to that survey, the use of adoptions (either along the boundary or from other non-boundary marks into the boundary) may be judged by the surveyor to adequately define by survey the boundary point. In other words, the evidence is considered, in the professional opinion of the surveyor, to be sufficient to ensure that a mark could have been reliably placed at the boundary position indicated by the adopted information, had the surveyor chosen to do that. The boundary point is 'defined by survey'; the proof is by the use of adoptions.

In some cases the adopted information cannot be relied upon, as it either does not comply with the accuracy standards or there is more substantive evidence. The relevant evidence here could be the resultant re-calculations.

Boundary point purpose and mark state information in CSD

To ensure the level of evidence used by the surveyor is clearly recorded in a CSD, the CSD will need to indicate the boundary mark purpose as 'defined by survey' and indicate the mark state as:

- 'old' where a reliable old boundary mark is found,
- 'new' where an existing boundary point is marked, or
- 'adopted' where an existing boundary point is not marked.

Last Updated: 12 November 2018

Boundaries defined by adoption

The following information relates to defining by adoption existing boundaries under rule 6.4 including what this term means, the duty of a surveyor when a right line, irregular or water boundary is defined by adoption, and the accuracy standards that apply.

'Defined by adoption' applies only to a boundary and is a term used to describe the quality of the definition of that boundary. This should not be confused with the term 'adopt' which has a more general meaning and which relates to the use of existing survey information.

Defining by adoption a right line or irregular boundary - duty of surveyor

Where a surveyor is permitted to define by adoption a right line or irregular boundary, they need only ensure that the adopted work meets accuracy tolerances and that there is no known evidence of 'conflict'. It is unnecessary for the surveyor to search for all the old marks or fix occupation to discover if conflict exists along this boundary.

Defining by adoption a water boundary - duty of surveyor

Because a water boundary is ambulatory, the surveyor must not assume that the documentary position is fit for adoption. The surveyor must compare the current ground position with the documentary position to determine whether it is appropriate to adopt the boundary position.

Evidence of erosion or inaccurate adoptions (taking into account the accuracy specifications in r 3.4) may result in the boundary having to be re-surveyed.

Accuracy of adoptions when 'defining by adoption'

A boundary defined by adoption is not subject to the same definition requirements as a boundary defined by survey. However, the boundary must meet the relevant accuracy standard for either right-line boundaries [r 3.3] or water boundaries and irregular boundaries [r 3.4].

The position of a boundary point which is 'defined by adoption' will be determined by the use of adopted vectors.

The position of a boundary point must not be 'defined by adoption' if the adopted vectors fail the boundary accuracy standards, notwithstanding that they meet the survey accuracy tolerances in place at the time of the original survey.

Where class A parcels under 0.4 ha may be defined by adoption

Refer to When class A boundaries on parcels under 0.4 ha may be defined by adoption

Boundary point purpose and mark state information in CSD

To ensure the level of evidence used by the surveyor is clearly recorded, the CSD must indicate the boundary mark purpose as 'defined by adoption' and the boundary mark state as 'adopted'.

Boundaries of underlying parcels may be 'defined by adoption'

Where a new non-primary parcel is to be created on an underlying parcel:

- the existing underlying parcel boundaries that are in close proximity to, or coincide with, a new non-primary boundary may be defined by adoption or accepted [r 6.3 or r 6.4] (refer to accuracy of non primary boundaries upon resurvey),
- the accuracy between the new non-primary boundaries and these underlying boundaries must comply with rules 3.3.1 (class A or B), 3.2.3(b) (class C), or 3.2.4(b) (class D) as appropriate.

Where the inaccuracies of the coincident or close underlying parcel boundaries are such that their relationship with new non-primary parcel boundaries is unable to be determined to the required accuracy [refer r 3.3.2], rule 17 (Alternative requirements for non-primary parcels) will apply.

Last Updated: 31 March 2017

Accepted boundaries

The following information relates to the acceptance of existing boundaries under rule 6.3 including water boundaries, irregular boundaries, residue parcel boundaries, and boundaries of parcels over 100ha.

All accepted boundaries are class D boundaries [r 3.2.4(a)].

Accuracy of adoptions for accepted boundaries

Only an existing boundary can be accepted [r 6.3]. The accepted boundary and boundary points are not required to meet any accuracy tolerance [r 2] but the adopted information must be faithfully copied from the source CSD [r 8.4].

Note that rule 8.4 enables an adoption to include a bearing adjustment.

Boundary point purpose and mark state information in CSD

When a boundary is accepted, the surveyor must adopt the information from a CSD that has been integrated into the cadastre (or the estate record in some circumstances).

In the normal case that adopted information would be:

- the vectors that link the boundary points, and
- the boundary points themselves.

To ensure the level of evidence used by the surveyor is clearly recorded in a CSD, the CSD must indicate that the boundary point purpose is 'accepted' and the boundary point state is 'adopted'.

Accepted water and irregular boundaries

An existing water or irregular boundary may be accepted where it is part of a parcel that:

- meets the criteria in rule 6.3(a)(i) and will be associated with a title that is limited as to parcels [r 6.3(a)(v)],
- meets the criteria in rule 6.3(a)(i) and will be associated with a Hawke's Bay interim title [r 6.3(a)(v)],
- is a balance parcel or residue parcel [r 6.3(b)],
- is a parcel over 100 ha [6.3(c)].

In some cases the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA) or the Resource Management Act 1991 (RMA) will prevent rule 6.3 from being applied where an existing water boundary is MHWM.

Refer to Accepting MHWM boundaries and the MACAA or RMA below

Providing the critieria in rule 6.3(a)(i) can be met, an existing irregular boundary that is not dependent on the location of a water boundary may also be accepted [r 6.3(a)(vi)].

Examples include a fixed irregular boundary that:

- was originally offset from a water boundary as was the case of many landward roadside boundaries,
- was formerly a water boundary but has not been right lined,
- follows the centreline of a water course.

Accepted residue parcel boundaries

The boundaries of a residue parcel that are not common with another new primary parcel on the survey may be accepted [r 6.3(b)].

See examples of residue parcels

Accepting boundaries of parcels over 100 ha

A boundary on a rural parcel that is over 100 ha may be accepted unless it is in common with another parcel on the survey that is 100 ha or less [r 6.3(c)]. Note, however, the impact of the Marine and Coastal Act 2011 where the existing boundary is MHWM.

Refer to Accepting MHWM boundaries and the MACAA or RMA below

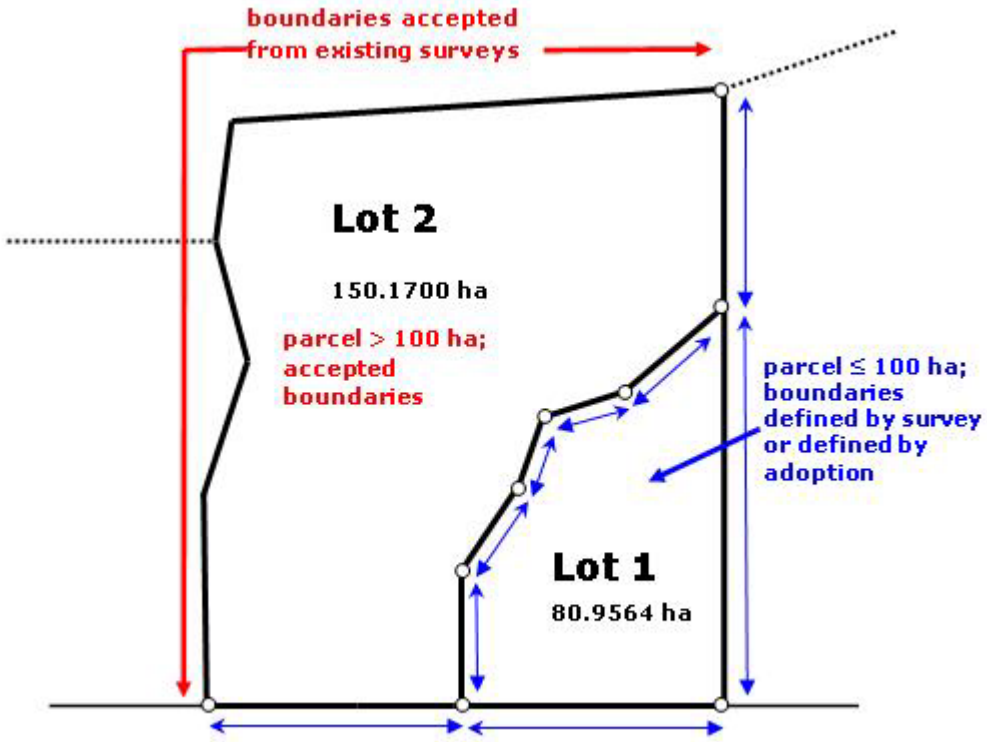


Figure 62: Lot 2 over 100 ha with accepted boundaries

Boundary information in the CSD for parcels over 100 ha

Where a boundary of a rural parcel over 100 ha has been accepted under rule 6.3(c):

The CSD must include:

- on the Diagram of Survey, the CSD reference from which the boundary is sourced [r 9.6.14(b)(iv)],
- on the Diagram of Survey and the Diagram of Parcels, the annotation 'area not determined by survey' clearly related to the relevant parcel [r 9.6.11 and r 10.4.8],
- on the Diagram of Survey and the Diagram of Parcels, the annotation 'boundary accepted from existing survey' clearly related to the relevant boundary [r 9.6.12 and r 10.4.8];

The CSD is not required to include:

- vectors that enable the relationship between the accepted boundary and other marks or boundaries to be determined [r 8.1(d) and r 8.1(e)],
- boundary point information and symbols [r 9.6.2 and r 12.2 (Table 12)],
- boundary vectors and dimensions [r 9.6.14(b)(iv) and r 10.4.9(a)(iii)].

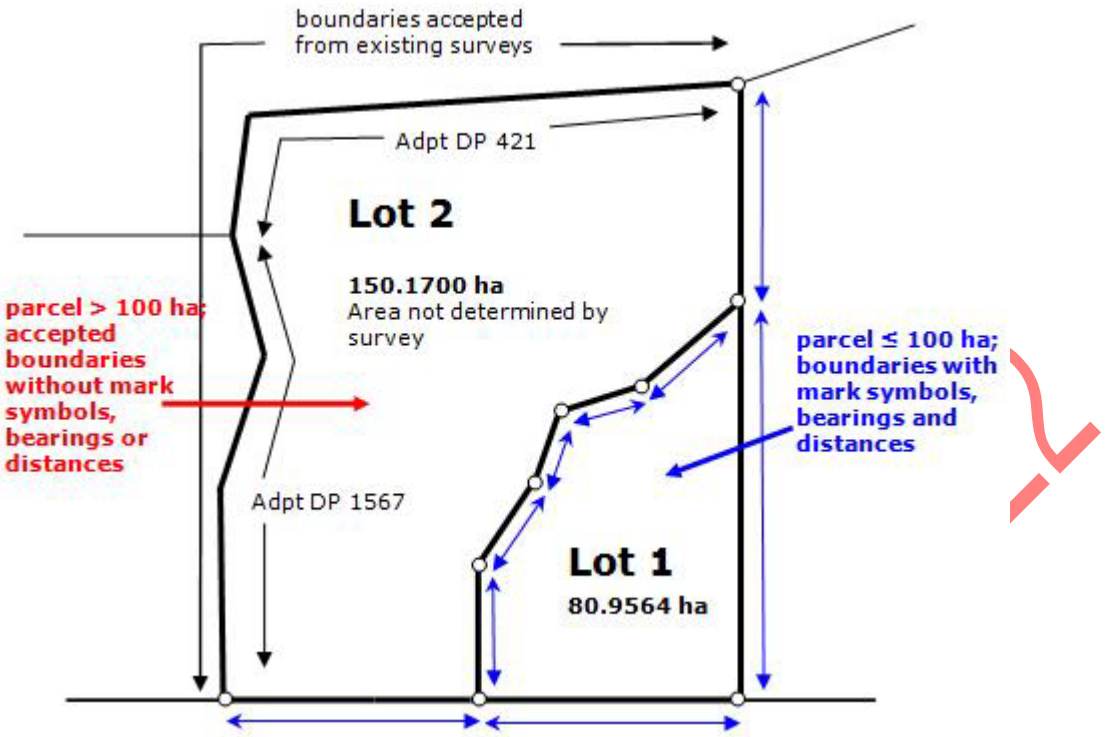


Figure 63: Lot 2 over 100 ha with accepted boundaries

Accepting MHWM boundaries and the MACAA or RMA

In some cases, the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA) or the Resource Management Act 1991 (RMA) will prevent rule 6.3 from being applied.

Where an existing parcel boundary is defined as MHWM and the identification of the common marine and coastal area (between MHWM and MHWS) is required, the existing documentary line of MHWM can only be accepted if seaward of, or coincident with, the new MHWS line.

Examples where this could occur are where the following take effect:

- sections 9, 11(3), and 11(4) of the MACAA
- section 237A(1)(b) of the RMA.

Disappearing water boundaries may be accepted boundaries

Where a primary parcel defines an extent of land that is to be incorporated into an adjoining water body, the existing water boundary that abuts the water body will disappear. This disappearing boundary may be accepted [r 6.3(b)] and must be an irregular boundary [r 6.7(c)].

Examples include the disappearing:

- existing water boundary of a residue parcel where there is erosion [r 6.3(b)] (refer to accretion and erosion parcels),
- seaward boundary of a residue parcel where land is part of the common marine and coastal area (refer to MACCA and land already part of common marine and coastal area as residue parcel).
- seaward boundary of a primary parcel of land that becomes part of the common marine and coastal area (under s 237A Resource Management Act 1991). This is illustrated below where land is below MHWS and adjoining an esplanade reserve [r 6.7(c)]. (refer to MACAA and becoming common marine and coastal area under s 237A of the RMA).

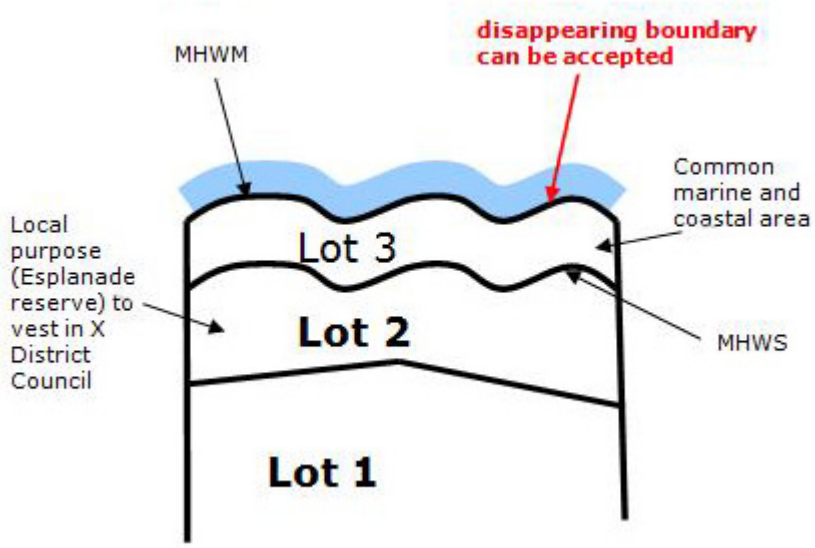


Figure 64: Example of a disappearing boundary where common marine and coastal area

Last Updated: 31 March 2017

Defining class A boundaries on parcels under 0.4 ha

The following information relates to defining existing class A boundaries or boundary points on new primary parcels, less than 0.4 ha in area, under rule 6.2(a)(iv) and 6.2(c).

When class A boundaries on parcels under 0.4 ha must be defined by survey

All existing Class A boundaries or boundary points on a primary parcel less than 0.4 ha must be 'defined by survey' unless:

- the parcel contains (coincides with) 90 % or more of the parcel being extinguished by the survey [r 6.2(a)(iv)] (refer below to When class A boundaries on parcels under 0.4 ha may be defined by adoption).
- all of the boundaries are existing primary parcel boundaries defined in approved CSDs [r 6.2(c)] (refer below to Applying rule 6.2(c)(ii)).

When class A boundaries on parcels under 0.4 ha may be defined by adoption

Existing class A boundaries or boundary points on a primary parcel less than 0.4 ha may be 'defined by adoption' where:

- the parcel contains (coincides with) 90 % or more of the parcel being extinguished by the survey providing the accuracy tolerances are able to be met [r 6.2(a)(iv)].

  Examples where this could occur are:

  - a boundary adjustment survey (refer to Figure 65: Example of a boundary adjustment survey below), or
  - a land acquisition survey (refer to Figure 66: Example of a land acquisition survey below).
- all of the boundaries are existing primary parcel boundaries defined in approved CSDs (refer below to Applying rule 6.2(c)(ii)).

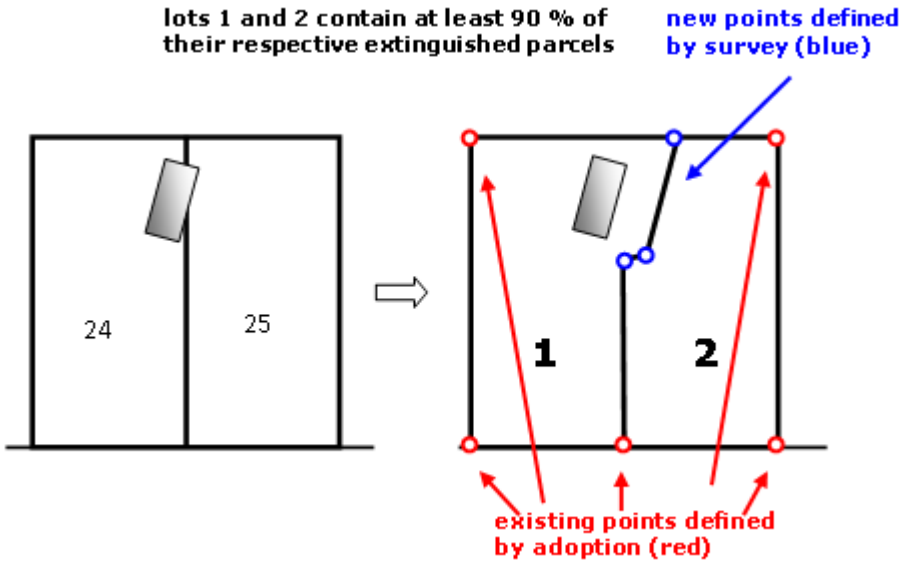


Figure 65: Example of a boundary adjustment survey

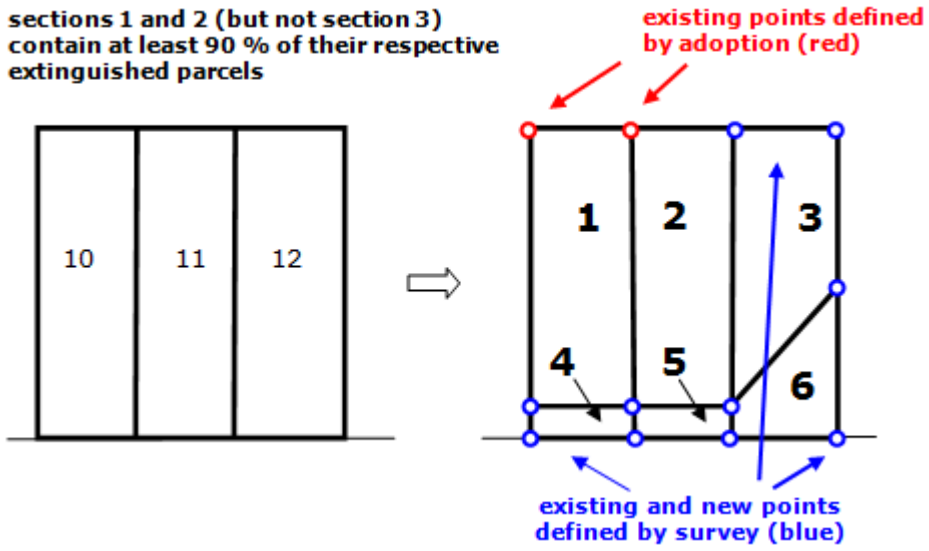


Figure 66: Example of a land acquisition survey

Applying rule 6.2(c)(ii)

All existing boundaries and boundary points may be defined by adoption on a new primary parcel less than 0.4 ha where:

- all the boundaries are existing primary parcel boundaries defined in approved CSDs (including boundaries defined on CSDs that have not deposited, and boundaries in approved CSDs that have been superseded and are no longer existing boundaries in the spatial cadastre), and
- all the boundaries are right-lines or arcs, and
- all the boundary points meet the class A accuracy standards in r 3.3.1(a)(ii).

Examples where the criteria could be met include:

- two or more existing parcels being combined to create a single new parcel (refer to Figure 67: Example of class A adopted boundary points below), or
- a new parcel having the same boundaries as the extinguished parcel. This will occur when the purpose of the CSD is to create a new appellation for an existing parcel or where an amalgamation condition is being severed.

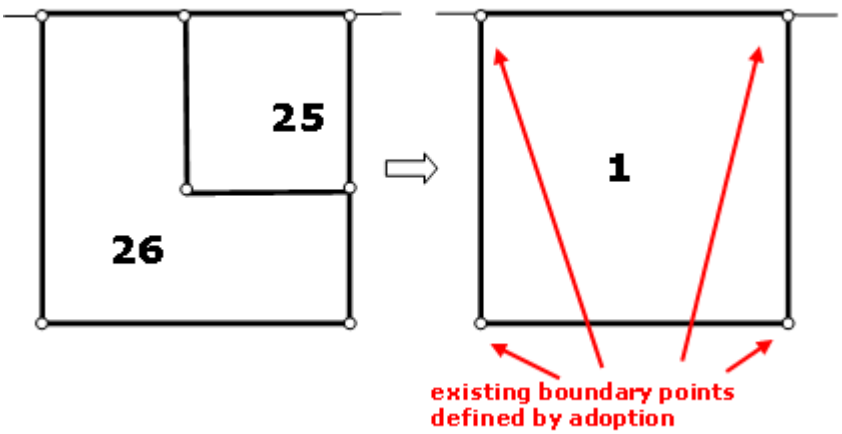


Figure 67: Example of class A adopted boundary points

Where all boundaries are adopted, refer to Current CSD type where data is adopted.

A new boundary calculated between existing boundary points does not meet the criteria in rule 6.2(c)(ii) and therefore all boundaries of that parcel must be defined by survey (refer to When class A boundaries on parcels under 0.4 ha must be defined by survey above).

Class A boundary points of abutting parcels

A boundary point is not required to be defined by survey if it is on a primary parcel less than 0.4 ha and it only defines the end point of an abutting parcel boundary [r 6.2(c)(i)].

Irrespective of the above, a boundary point must be defined by survey under rule 6.2 if it is:

- an angle on the new parcel and does not fit the exception set out in rule 6.2(a)(iv),
- an angle on a new primary parcel boundary that was previously only a non-primary parcel boundary point [6.2(a)(xii)],
- a boundary point marked by the survey [6.2(a)(v)],
- an old boundary mark that has been connected to by the survey [6.2(a)(v)].

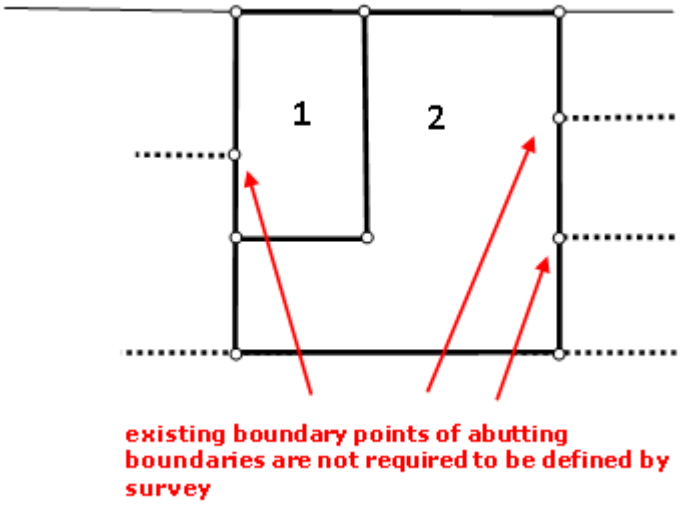


Figure 68: Example of class A abutting boundary point

Last Updated: 31 March 2017

Limited as to parcels boundaries

The following information relates to surveying land held in a title that is 'limited as to parcels', including surveys to remove limitations, legalisation surveys where limitations are to remain, boundary marking surveys, and unit development surveys.

Deficiencies in a limited title

A title to land that is "limited as to parcels" means that at the time the first title was issued for that land, a guaranteed title could not be issued. This is because either the survey information was insufficient or there could have been someone else in adverse possession of part of the title.

The Registrar-General of Land requires the position of the boundaries of the land to be properly defined on a cadastral survey dataset before an ordinary (guaranteed) title can be issued.

Evidence of occupation to remove limitations

Where the survey is to enable the removal of limitations from a limited title, all existing and new boundary points of the parcel must be defined by survey [r 6.2(a)(viii)].

When defining a boundary by survey, a surveyor must gather, interpret, and use all evidence relevant to the definition of that boundary [r 6.1]. The surveyor must consider

all evidence of occupation and demonstrate in the CSD that no part of the land is held in occupation adverse to the registered proprietor.

Adverse occupation land to be a residue parcel

If a portion of the land of the parcel to be extinguished is adversely occupied and is not part of the land rightfully owned by the holder of the limited title, the portion must be a residue parcel.

Survey requirements when uplifting limitations

To demonstrate that a survey correctly defines land in a limited title and that none of the land is in occupation adverse to the registered proprietor:

- all boundaries and boundary points on the parcel must be defined by survey [r 6.2(a)(viii)],
- where practicable, boundary points must be marked unless a reliable boundary mark is already in place [r 7.1(b)],
- information about occupation and physical features must be provided in a diagram [r 9.5(b)(iii)],
- the survey report must include the fact that the survey facilitates the uplifting of limitations [r 8.2(a)(i)], and
- the survey report must include information about the decisions made in determining the location of the boundaries [r 8.2(a)(ix)].

Land transfer survey of class A parcel less than 0.4 ha where limited title

For a land transfer CSD where the title is limited and all the boundary points of a parcel have been defined by survey in terms of rule 6.2(a)(iv), it is presumed limitations as to parcels will be uplifted.

Occupation adverse to the registered owner must be dealt with and would normally be depicted as a residue parcel.

Read about adverse occupation land to be a residue parcel above

Legalisation surveys where limited title to remain

In the case of a legalisation survey, where the parcel to be extinguished has a limited title, a new limited title will be issued for the land not affected by the legalisation action. This title will be based on the new parcel depicted in the survey office (SO) legalisation CSD.

Even though a legalisation survey cannot be used to uplift limitations for the land not subject to the legalisation, in some circumstances rule 6.2 still requires an existing

boundary point to be defined by survey for this land. This will occur where it is not permitted to be accepted and:

- there is conflict [r 6.2(a)(vi)],
- the boundary is inadequately defined [r 6.2(a)(vii), or
- the 90 % threshold has not been reached for a class A parcel [r 6.2(a)(iv)].

When determining the parcel boundaries, possessory occupation that is not on the parcel boundary must not be taken into account.

An example of this is illustrated in Figure 69 below, where the existing boundary points of Sec 2 are shown with blue crosses.

Note: These positions should not be marked even where conflict has been resolved or where the boundary was previously inadequately defined [r 7.1(b)(ii)].

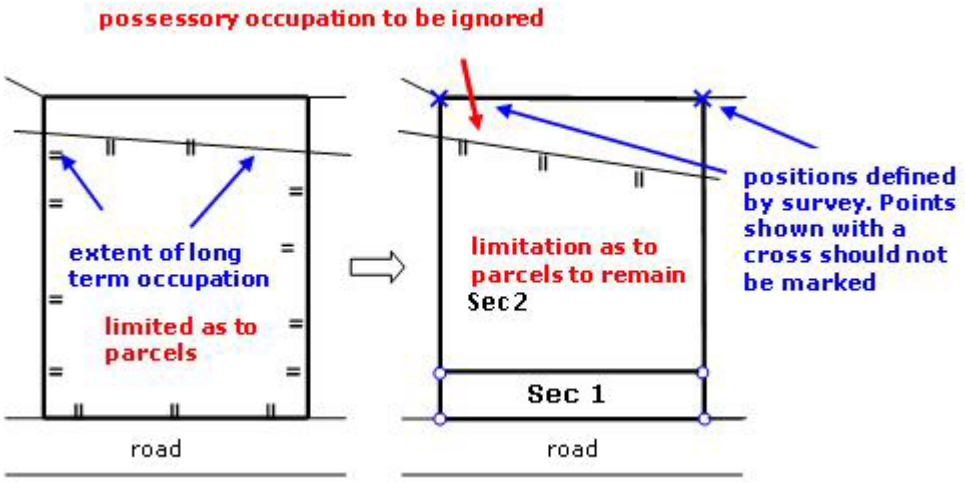


Figure 69: Limited title and a legalisation CSD

Level of survey definition for limited titles

The Rules provide for boundaries and boundary points to be defined by survey [r 6.2], defined by adoption [r 6.4], or accepted [r 6.3].

Where the existing title for a parcel is limited, the limitations can only be uplifted if all the boundary points are defined by survey.

New parcels which have boundaries or boundary points that are defined by adoption or accepted will not be sufficiently defined to enable the uplifting of limitations from a title.

Note however the exception provided for in the 'Alternative process where limitations as to parcels are being uplifted' below.

Where the title is to remain limited, the annotation 'Limited as to parcels' must be on the Diagrams of Survey and Title [r 9.6.11 and r 10.4.8].

Where boundaries have already been defined on adjoining surveys

In depicting a parcel to support the uplifting of limitations, the surveyor is demonstrating that none of the land is in occupation adverse to the registered proprietor.

Adjoining surveys, irrespective of their age and quality, do not provide sufficient evidence on their own as to the correct definition of the subject land in a limited title.

Each boundary point must be defined by survey [r 6.2(a)(viii)] and marked, where practicable, unless a reliable boundary mark is already in place [r 7.1(b)]. No boundary or boundary point is permitted to be defined by adoption or accepted, except as provided for in the 'Alternative process where limitations as to parcels are being uplifted' below.

Boundary marking surveys and limited titles

Historically, a boundary marking (formerly 'redefinition') survey was not permitted in the case of title that is limited as to parcels [r 45 Surveyor-General's Rules for Cadastral Survey 2002/2]. The current Rules do not have this restriction and, in certain cases, allow a boundary marking survey where the title is limited.

The point being marked must be:

- defined by survey [r 6.2(a)(v)]. This means that all the relevant evidence (including evidence relating to long standing occupation) must be gathered and considered, and
- already defined in an existing approved CSD; ie it must be an existing point.

If, after taking into account the evidence, the position does not agree with that defined in the approved CSD, a boundary marking survey must not be carried out. If the new boundary position is to be recognised as authoritative, a full land transfer survey is required.

A boundary marking survey must not create a new parcel and must not be used to uplift limitations from a title.

Read more about survey types for boundary marking

Unit development where limited title

Limitations as to parcels must be uplifted before a unit title CSD can be deposited [s 32(1)(a) of the Units Titles Act 2010].

Alternative process where limitations as to parcels are being uplifted

This process can only be used for surveys to remove limitations as to parcels under the Rules for Cadastral Survey 2010 that were started before the Cadastral Survey Rules 2021 came into force on 30 August 2021. In these cases surveyors may continue to use the alternative process until the end of the rules transition period on 24 February 2022.

Where limitations are being uplifted, the CSD must define the land so that the RGL and adjoining owners can be satisfied that no part of the surveyed land is held in adverse occupation.

This means that the CSD in the first instance must define the boundaries by survey [r 6.2(a)(viii)], mark the boundary points [r 7.1(b)] and, in a diagram, depict the occupation in relation to the boundaries and boundary points [r 9.5(b)(iii)].

The requirement to define by survey need not be complied with, to instead allow a boundary to be defined by adoption, providing:

- the accuracy tolerances are met [r 3.3 and r 3.4],
- there is no risk of boundary overlap [r 3.3.2],
- the adjoining owner confirms in writing that they agree to the boundary as depicted in the CSD,
- the land parcel is wholly or substantively occupied by the title holder. An example of substantive occupation is full occupation except for a strip between the physical occupation and the parcel boundary.

This exemption and the alternative requirements are pursuant to s47(5) Cadastral Survey Act 2002.

The adjoining owner's consent must be within the CSD at time of lodgement and be referred to in the survey report. You can download a consent form at the end of this page (If you use a different form, please ensure it contains the same information as below)

By agreeing to the adopted boundary as depicted in the CSD, the adjoining owner is agreeing that (irrespective of the location of occupation) they are forgoing any potential claim of possession adverse to the surveyed land.

To define by adoption means to adopt the documentary (previously surveyed) dimensions of the parcel. Note that where a boundary is permitted to be defined by adoption, rules 7.1(b) (boundary marking) and 9.5(b)(iii) (diagram of occupation) by default, will also not apply.

A CSD may contain a mixture of boundaries that are defined by adoption and defined by survey.

File Attachments

- Consent form - Uplifting of limitations as to parcels without defining by survey

Diagram on transfer boundaries

The following information relates to defining an existing boundary depicted on a diagram on transfer, including when it may be defined on a boundary marking survey, and its use in the case of a unit development.

Use of boundaries depicted on diagram on transfer

A boundary point created on a diagram on transfer may be defined by survey, defined by adoption, or accepted according to the Rules in the same manner as other boundary points.

Where there is conflict (eg the diagram information is ambiguous or one of the parcels cannot be defined without affecting the other), the parcel boundary must be defined by survey [r 6.2(a)(vi)] and marked [r 7.1(b)].

Boundary marking surveys and boundaries depicted on diagram on transfer

A boundary position defined on a diagram on transfer may be reinstated, but cannot be treated as a boundary reinstatement survey because the boundary point has not been defined in an approved CSD [r 2]. This requirement applies even if the diagram in the transfer indicates that the position has been marked.

This means that the survey must include a minimum of three or four witness marks [r 7.3.2(c)] and two PRMs [r 7.4.1(a)] and be a full survey.

The survey must be recorded in a 'full' CSD that records all the marks connected to by the survey and all the necessary information proving that the boundary point is correctly located. In Landonline the survey purpose is Boundary Marking - Full CSD (conflict).

Read more about survey types for boundary marking

Unit development where underlying boundary on a diagram on transfer

A unit development is permitted where a boundary of the underlying parcel has been defined in a diagram on transfer providing:

- the accuracy between any new permanent structure boundary points and underlying parcel boundary points comply with the accuracy specified in rule 3.5 wherever the boundaries are within 1 m for class A and 3 m for class B [r 3.5(c)]. Refer to accuracy of permanent structure boundaries close to another boundary.
- the accuracy between any new right-line boundary points and underlying parcel boundary points comply with the accuracies specified in rule 3.3.1.

Where the location of the diagram on transfer boundary is not recorded in a CSD, the survey report could include supporting information (eg a calculation sheet) illustrating how the boundary was defined in relation to other boundaries and how the accuracy tolerances were met [r 8.2(a)(ix)].

Where the specified accuracies are not able to be met, the underlying parcel boundaries must be defined by survey [r 6.2(a)(vi)].

Last Updated: 31 March 2017

Hawke's Bay interim title boundaries

The following information relates to defining a boundary of land held in a Hawke's Bay interim title. The information includes the nature of an interim title, requirements when the interim nature is to be uplifted or is to remain, and the use of boundary marking surveys.

Deficiencies in an interim title

Under s 9 of the Land Transfer (Hawke's Bay) Act 1931, when both register and outstanding duplicate titles were lost or destroyed as a result of the Napier earthquake, any replacement titles were recorded as being inconclusive as to ownership. If the survey records and monuments supporting the survey were also destroyed, the reconstituted title was inconclusive as to description and delineation.

Under s 12 of that Act, the interim title became conclusive as to ownership after six years. Thus registered ownership (fee simple and secondary estates and interests) were restored to full guaranteed status, but not the area or boundaries.

Evidence to uplift interim nature of title

Where the interim nature of a title is being uplifted for a parcel of land, all boundaries and boundary points on that parcel must be defined by survey, or have been defined by survey or its equivalent subsequent to the 1931 earthquake.

Class A parcel less than 0.4 ha and interim title

The requirement to define by survey existing class A boundary points on a primary parcel less than 0.4 ha [r 6.2(a)(iv)] applies where there is an interim title. This also applies for legalisation surveys.

It is presumed in these cases that the interim nature of a title will be uplifted.

Level of definition where title is interim title

The Rules provide for boundaries and boundary points to be defined by survey [r 6.2], defined by adoption [r 6.4], or accepted [r 6.3].

Where the existing title for a parcel is an interim title, this interim nature will only be uplifted if all the boundary points are being defined by survey, or have been defined by survey or its equivalent after the 1931 earthquake.

The interim title will remain where boundary points have not been defined by survey or its equivalent after the 1931 earthquake.

Where the land in a parcel will remain in an interim title, the annotation 'Hawke's Bay interim title' must be on the Diagrams of Survey and Title [r 9.6.11 and r 10.4.8].

Boundary marking surveys and interim titles

In certain circumstances, a boundary 'reinstatement' is permitted where the title is a Hawke's Bay interim title.

The point being marked must be:

- defined by survey [r 6.2(a)(v)]. This means that all the relevant evidence (including evidence relating to the interim title) must be gathered and considered
- previously defined in an approved CSD, ie it must be an existing point.

If after taking into account the evidence, the position does not agree with that defined in the approved CSD, a boundary marking survey must not be carried out. If the position is to be recognised as authoritative, a full land transfer survey is required.

A boundary marking survey must not create a new parcel and must not be used to uplift the interim nature of a title.

Last Updated: 31 March 2017

Alternative requirements for covenant parcels (rule 16)

The following information relates to rule 16 and alternative requirements where a covenant parcel boundary may be class C or D instead of class B including where the covenant parcel is not determined accurately relative to its underlying parcel boundaries.

Application of rule 16

Rule 16.1 allows class C accuracies to be used for any new or existing covenant parcel boundary that would otherwise be class B.

For a covenant only survey, where the relationship between the covenant parcel and the underlying parcel boundaries has not been, or cannot be, determined accurately, rule 16 (Alternative requirements for covenant parcels) or rule 17 (Alternative requirements for non-primary parcels) may be applied.

Note: Under rule 16 only PRMs are required but under rule 17, witness marks as well as PRMs are required.

Rule 16 contains specific requirements that supplement rules 1-15, and provides some alternative requirements to those set out in rules 1-15.

Examples are:

- Rule 16.1 (enabling class C accuracy tolerances for covenant boundaries) varies rule 3.2.5 (which normally requires new boundaries to be either class A or B).
- Rule 16 does not include requirements about covenant parcel appellations, as these are contained in rule 5.5.

Accuracy of covenant boundaries

Class C covenant boundaries

Class C boundary accuracies may be used for new or existing covenant boundaries where class B would normally apply [r 16.1].

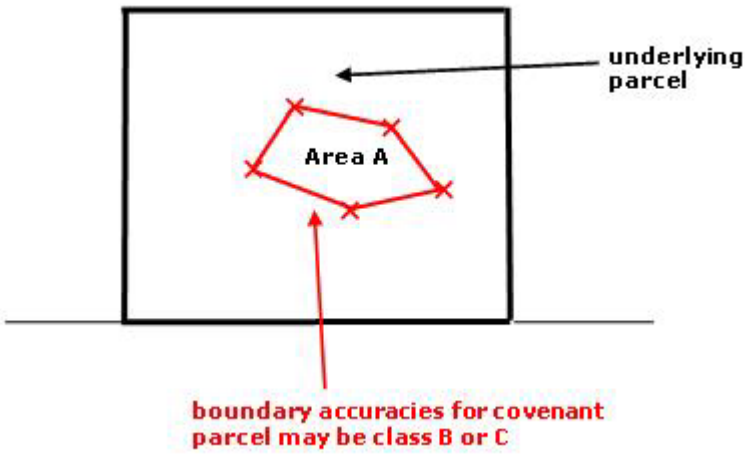


Figure 70: Class C covenant boundary accuracies

Class C and D covenant boundaries

Where the boundary or boundary point of a covenant, which would normally be class B:

- has been determined accurately relative to its underlying parcel boundaries, the covenant boundary points that intersect or coincide with the underlying parcel will be either class B or C. This is illustrated by the red and black boundaries of Area A and points E and F in Figure 71: Classes of covenant parcel boundary points below.
- has not been determined accurately relative to its underlying parcel boundaries [r 16.3(a)], the covenant boundaries and boundary points that intersect or coincide with the underlying parcel boundaries must be class D. [r 16.3(c)]. This is illustrated by the red boundaries of Area A and points E and F in Figure 71: Classes of covenant parcel boundary points below.
  In this case, the black boundaries may be class B or C [r 16.1] and the existing coincident points and boundaries must be accepted and be class D.
- In respect of the witnessing of boundary positions that are marked [r 16.2(b], if position E is to be marked (including a post), the class of survey for this point must be upgraded to either class B (or A) [r 3.2.5(b)]. The position must also be defined by survey [r 6.2(a)(ii)], witnessed [r 7.3.1(c)], and the survey include PRMs [r 7.4.1].

See also Accuracies to ensure no overlap below.

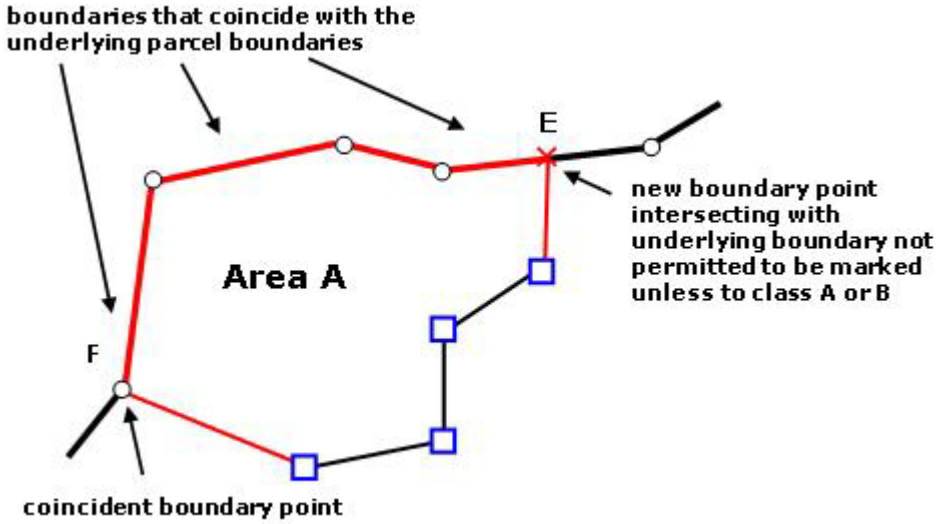


Figure 71: Classes of covenant parcel boundary points

Accuracies to ensure no overlap

Where the relationship between a covenant parcel and its underlying parcel has not been determined accurately, the relationship between its boundaries and its underlying parcel boundaries must be sufficiently accurate to ensure that its boundary points are either within, or coinciding with, the underlying parcel boundaries [r 16.3(b)].

As illustrated in Figure 72: Covenant boundary points within its underlying parcel below, covenant boundary points A and B must be within, or coinciding with, the boundaries of Lot 25. They are not permitted to overlap into Lot 26.

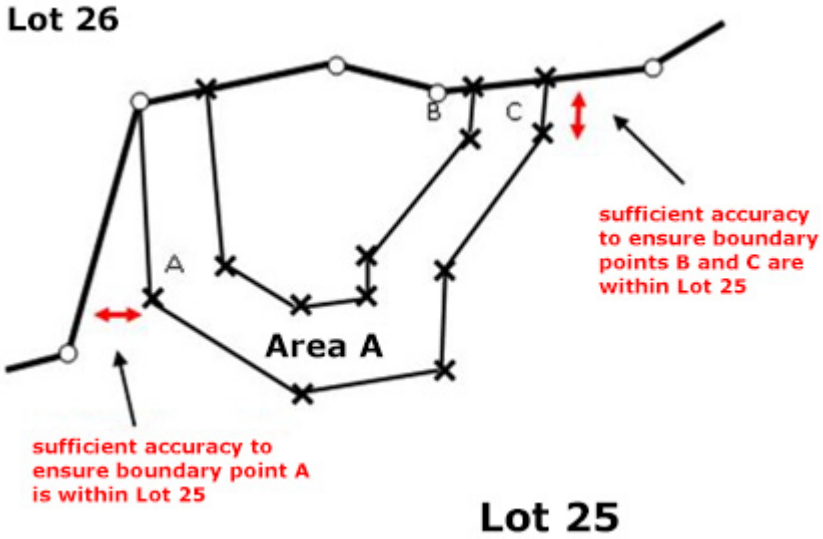


Figure 72: Covenant boundary points within its underlying parcel

Survey and CSD requirements for covenant parcels

Survey requirements when covenant not in terms of underlying parcel

Where a covenant parcel is not determined accurately relative to its underlying parcel boundaries:

- bearings (other than magnetic bearings) must be in terms of NZGD2000 [r 16.4(a)]. Any bearing adjustment need only be determined to sufficient accuracy to ensure compliance with the applicable accuracy standard (eg, class C).
- a connection must be made to at least one cadastral survey network mark [r 16.4(b)]. This applies irrespective of the distance to this network mark.
- two PRMs must be included, each within 500 m (class B) or 1000 m (class C) of at least one of the new covenant boundary points, and the connection must comply with the accuracy tolerances in table 14, rule 16.4. To illustrate this, in Figure 73: PRMs for covenant parcels below:
    - parcels A and B are contiguous, so the requirement for two PRMs within the required distance criteria of at least one new boundary point can be satisfied in respect of any point or points on either parcel A or parcel B,
    - parcel C is a separate parcel, so there must also be at least two PRMs within the required distances of at least one boundary point on this parcel,
    - the boundary points that intersect with the underlying parcel boundaries (shown with red crosses) will be class D and are excluded for the purposes of the PRM distance criteria [r 16.4(c)(i)].

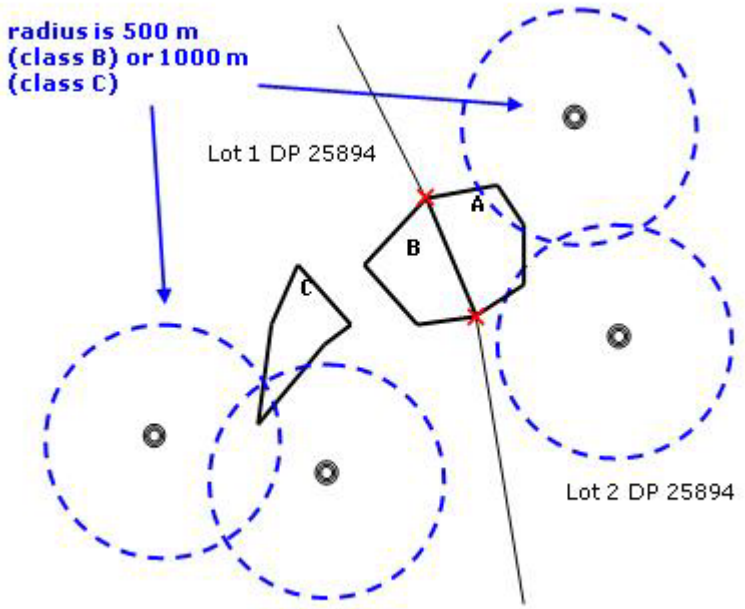


Figure 73: PRMs for covenant parcels

Witnessing of covenant boundary points

If a new covenant boundary point (whether class B or C), that is not coincident with an existing underlying parcel boundary, is marked by a post, it is not required to be witnessed [r 16.2(a)] (refer to the blue boundary posts in Figure 71: Classes of covenant parcel boundary points above). This means that in some cases the CSD is not required to include any survey information.

If a boundary mark other than a post is used (eg a wooden peg], normal witnessing [r 7.3] and PRM requirements [r 7.4] will apply.

CSD requirements for covenant parcels

The survey report must note where class C has been used in terms of rule 16.1 or where class D has been used in terms of rule 16.3 [r 16.5(a)].

On the Diagram of Survey, the annotation 'class D' must be shown for all related boundaries and vectors [r 16.5(b)].

On the Diagram of Parcels, the annotation 'not defined by survey' must be shown for the related class D boundaries [r 16.5(c)].

Last Updated: 3 July 2017

Alternative requirements for non-primary parcels (rule 17)

The following information relates to rule 17 and alternative requirements for defining boundaries of a new non-primary parcel where they are not able to be determined accurately in terms of any of the underlying parcel boundaries.

When rule 17 must be used

Where a new non-primary parcel's boundaries are unable to be determined accurately in terms of the underlying parcel boundaries, the survey must be in terms of rule 17 (Alternative requirements for non-primary parcels).

It is anticipated that rule 17 will only be applied in the rare cases where the underlying parcel boundaries are of poor accuracy.

For a covenant only survey where the relationship between the covenant parcel and the underlying parcel has not been or cannot be determined accurately, rule 16 (Alternative requirements for covenant parcels) or rule 17 (Alternative requirements for non-primary parcels) may be applied.

Note: Under r 17, witness marks as well as PRMs are required but under r 16 only PRMs are required.

All rules to be applied where appropriate for rule 17

Rule 17 contains specific requirements that supplement rules 1-15 and provides alternative requirements to those set out in rules 1-15.

This means that rules 1-15 must also be applied where relevant and unaffected by rule 17. Examples are:

- Rule 17.1(d)(iii) (requiring the connection to a cadastral survey network mark irrespective of the distance to it) varies rule 4.2 which has a distance criteria.
- Rule 17 does not include requirements for non-primary parcel appellations as these are contained in rule 5.5.

Understanding when rule 17 applies to non-primary parcels

Rule 17 is to be applied where:

- the purpose of a survey is to define a non-primary parcel only (eg, an easement only survey), and
- the accuracy of the relationship between the non-primary parcel boundaries and the underlying parcel boundaries cannot be determined accurately.

It is expected that rule 17 will not be applied very often. Examples of when it may be applied include a RoW or an electricity easement that passes over multiple parcels whose boundaries are poorly defined.

Rule 17 where a non-primary parcel does not intersect an underlying parcel boundary

Rule 17 applies where the accuracy of the relationship between all of the non-primary parcel boundaries and its underlying parcel boundaries is unable to be determined accurately. The rule:

- applies even if the non-primary parcel does not intersect with its underlying parcel boundaries [r 17.1(a)(iii)],
- will not apply if the relationship between the non-primary parcel boundaries and at least one of the underlying boundary points is accurately defined (for example, if the relationship with point A was sufficiently accurate).

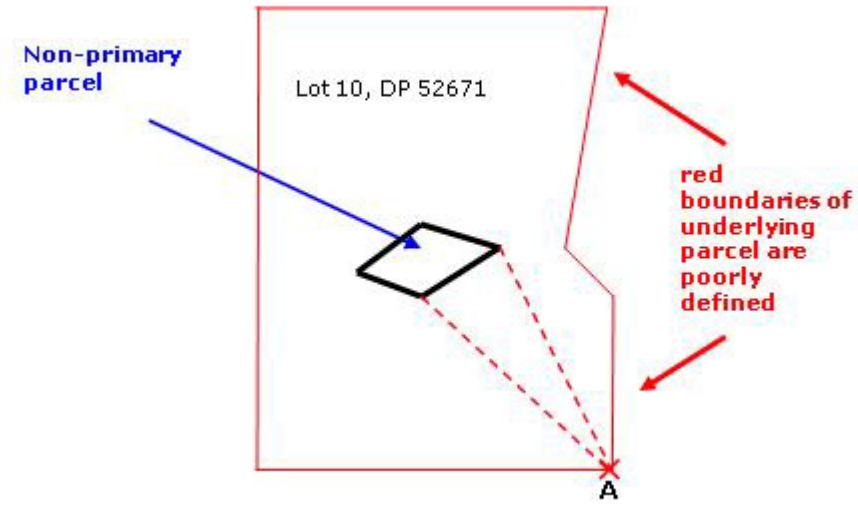


Figure 74: Applying rule 17 where there are no intersecting boundaries

Rule 17 where a non-primary parcel intersects an underlying parcel boundary

Rule 17 applies where the accuracy of all of the intersections of a non-primary parcel with its underlying parcel boundaries cannot be accurately determined [r 17.1(a)(ii)].

An example of this is illustrated in Figure 75 below where all of the boundaries of the underlying parcel are poorly defined and the intersections of boundary points C to F with the underlying parcel boundaries cannot be accurately determined.

The rule will not apply if the relationship between the non-primary parcel boundaries and at least one of the underlying boundaries is accurately defined. For instance if, in the following example, the southern boundary was accurately defined, boundary points C and D could be defined accurately in relation to point B. In this case, for a rural survey, points B, C, and D would be class B. Points E and F could be class D if the underlying parcel boundary meets the criteria for an accepted boundary in rule 6.3 [r 3.2.4(b)]. The survey and CSD requirements of rule 17 would not apply.

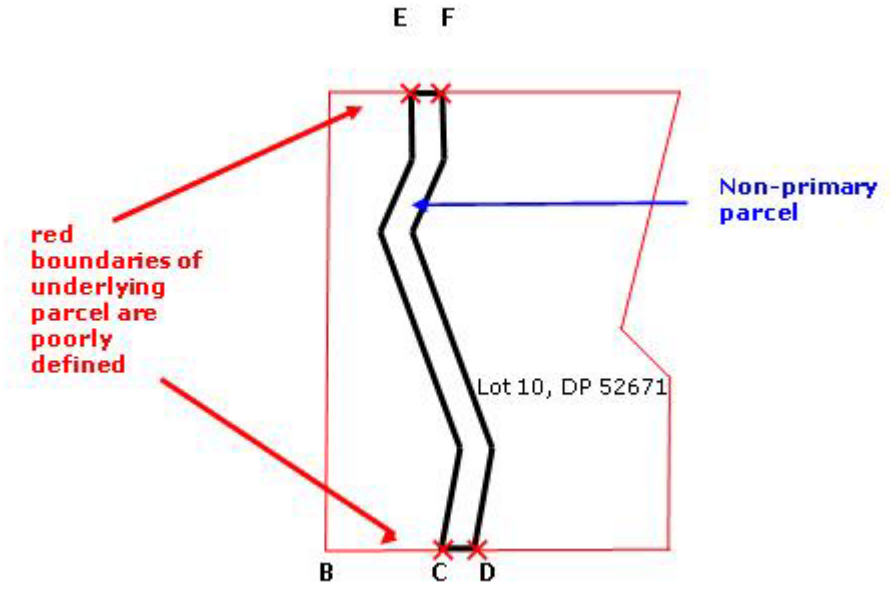


Figure 75: Applying rule 17 where there are intersecting boundaries

Accuracies to ensure no overlap

Where a non-primary parcel has not been accurately determined relative to its underlying parcel boundaries, the relationship between its boundaries and its underlying parcel boundaries must be sufficiently accurate to ensure that its boundary points are either within, or coinciding with, the underlying parcel boundaries [r 17.1(c)].

As illustrated in Figure 76 below, non-primary boundary points A, B, and C must be within, or coinciding with, the boundaries of Lot 25. They are not permitted to overlap into Lot 26.

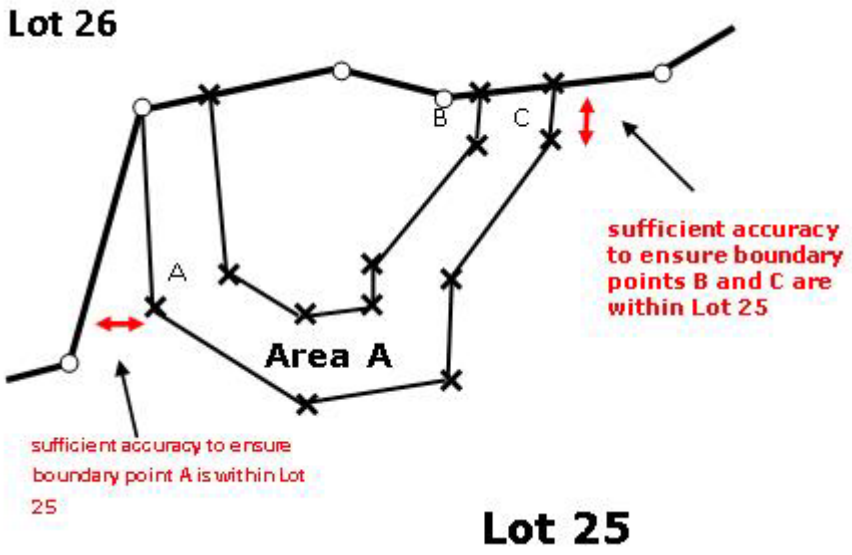


Figure 76: Non-primary boundary points within its underlying parcel

Rule 17 does not apply to units and leases

Rule 17 does not apply to unit and lease areas [r 17.1(b)]. In these cases, the new non-primary parcels must be located accurately in terms of the underlying parcel boundaries.

Survey requirements when rule 17 is applied to non-primary parcels

Where a new non-primary parcel is unable to be determined accurately in relation to its underlying parcel boundaries in terms of rule 17.1 (refer to figure 77 below):

- bearings (other than magnetic bearings) must be in terms of NZGD2000 [r 17.1(d)(ii)]. Any bearing adjustment need only be determined to sufficient accuracy to ensure compliance with the applicable accuracy standard (eg, class C)
- a connection must be made to at least one cadastral survey network mark [r 17.1(d)(iii)]. This applies irrespective of the distance to this network mark,
- all new non primary boundary points, apart from those that coincide or intersect with the underlying parcel boundaries [r 17.1(d)(iv)], must be witnessed and comply with the requirements set out in the following rules:
  - rule 3.6 (accuracy of boundary witnessing),
  - rule 7.3.2 (number and distance of witness marks)
  - rule 7.4.2(a) (number of PRMs and distance between PRMs and a boundary point).

CSD requirements where rule 17 is applied

Where a new non primary parcel is unable to be determined accurately in relation to its underlying parcel boundaries, in terms of rule 17.2:

- the survey report must note where class D has been applied [r 17.2(a)],
- on the Diagram of Survey, the annotation 'Class D' must be shown for the related boundaries and vectors [r 17.2(b)],
- on the Diagram of Parcels, the annotation 'not defined by survey' must be shown for the related boundaries [r 17.2(c)].

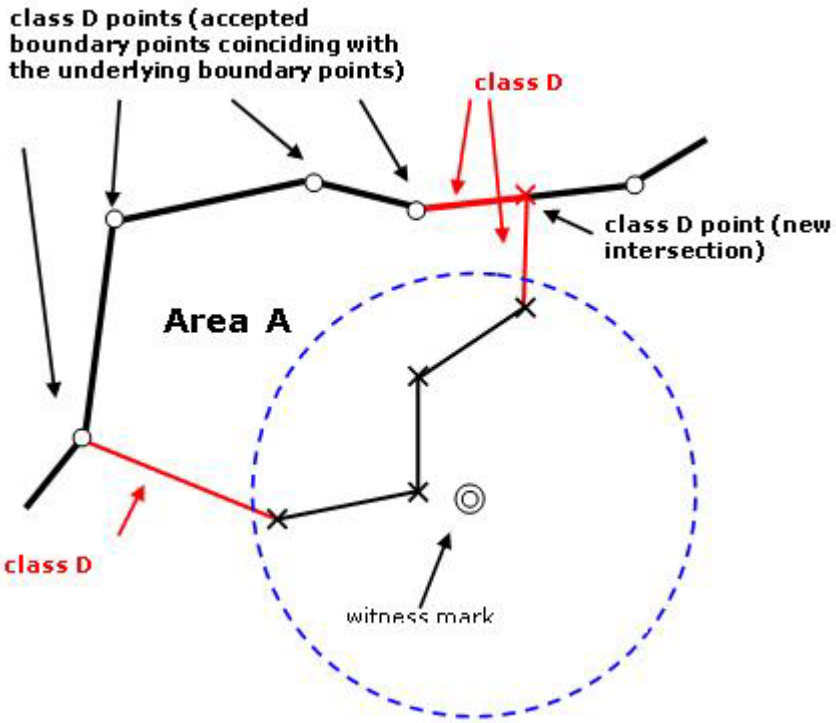


Figure 77: Example where underlying boundaries are poorly defined

Last Updated: 17 January 2019

Boundaries affected by ground movement (Rule 18)

The following information relates to rule 18 and defining a boundary affected by ground movement that is not in greater Christchurch.

The area of greater Christchurch is defined in section 4 of the Canterbury Property Boundaries and Related Matters Act 2016.

Application of Rule 18

Rule 18 applies to all surveys, except those in greater Christchurch, that re-establish boundary points and boundaries affected by ground movement.

Rule 18 sets out specific requirements relating to the re-establishment of boundary points and boundaries affected by ground movement.

These requirements either supplement the requirements of rules 1-15 or provide alternative requirements to those set out in rules 1-15.

This means that rules 1-15 must also be applied where relevant and where unaffected by rule 18. Examples are:

- Rule 18.2 (enabling class D to be applied to boundaries that would normally be class C) varies rules 3.2.3 and 3.2.4 which set other requirements for classes C and D.
- Rule 18 does not include requirements on the evidence for defining boundaries as this is contained in rule 6.1

Evidence for survey definition where ground movement

Rule 6.1(a) requires a surveyor to 'gather all evidence relevant to the definition of the boundary and its boundary points'. Examples of relevant evidence where there has been ground movement may include:

- the condition of witness and boundary marks and the ground conditions immediately surrounding these marks
- visible evidence of a fault trace, slump lines, or liquefaction of soils
- broken or cracked fencing or kerbs or building foundations
- visible evidence of repair to, or reinstatement of, occupational features damaged by soil liquefaction or fault trace
- photographic evidence including historical aerial photographs or photographs taken immediately before and after the ground movement event
- local knowledge from occupiers, neighbours, and present or past owners
- Local Authority records
- news media articles
- engineering reports.

Removal of old boundary marks

Where an old boundary mark has been determined as no longer marking a boundary point, the old mark must not be removed without first obtaining written approval from the Surveyor-General pursuant to s55(5) Cadastral Survey Act 2002. Approval can be requested using the 'Survey Dispensation' e-request.

Unproven marks where ground movement

A CSD may include an unproven mark where the mark has been affected by ground movement and it is not being used to define a boundary [r 18.3(a)(i)]. In this case, the Diagram of Survey must indicate each mark that is unproven [r 18.3(b)].

Horizontal orientation where there is ground movement

All surveys that meet the criteria of rule 4.1 (horizontal datum – orientation) must be in terms of NZGD2000. This includes surveys where there is ground movement.

Horizontal connection where there is ground movement

All surveys that meet the criteria of rule 4.2 (horizontal datum – connection) must connect to a cadastral survey network mark. This includes surveys where there is ground movement.

Where differential ground movement has occurred between the site of the survey and the cadastral survey network mark, this connection may need to be made by field measurements as adoptions may not meet the required accuracy tolerances.

Boundaries affected by block shift

A boundary affected by uniform block shift (see rule 2) will have maintained its relativity with local survey marks and other physical evidence although its absolute geographic position will have changed.

In these cases, the local survey marks and other physical evidence will be able to be used in re-establishing the boundary in terms of that block shift [r 18.1(c)].

For vertical block shift, a reduced level (RL) defining a stratum boundary will no longer be correct. The change in ground level on site must be determined and applied to the original RL. In this case rule 18.1(c) applies.

Boundaries affected by deep-seated distortion

A boundary that has been distorted by deep-seated movement greater than the applicable accuracies set out in rule 3.3.1 (boundary points), rule 3.4 (water and irregular boundaries), or rule 3.5 (permanent structure boundaries), must reflect that distortion [r 18.1(a)]. This applies for horizontal boundaries and boundaries with a vertical component.

Where shear and lateral distortion has occurred

Where a boundary has shear or lateral distortion (normally at a fault rupture):

- a boundary that was formerly a straight line may now include one or more angles,
- a boundary that moved with the earth will hold the same relationship to relevant physical evidence as it did prior to the earthquake. An example is a boundary that coincided with a fence line will continue to coincide with that fence line. Boundary points will still be defined in terms of close survey marks,
- a water boundary or an irregular boundary moves with the ground movement in the same manner as points on a right line boundary.

Illustrations C and D in Figure 78: Examples of distorted boundaries below are examples of new boundary angles being created.

If the distortion in the boundary is less than the applicable accuracies set out in rule 3.3.1, the boundary should retain its original shape and the established hierarchy of evidence will apply.

Illustrations A and B in Figure 78: Examples of distorted boundaries below are examples where new boundary angles are not created.

Examples of distorted boundary

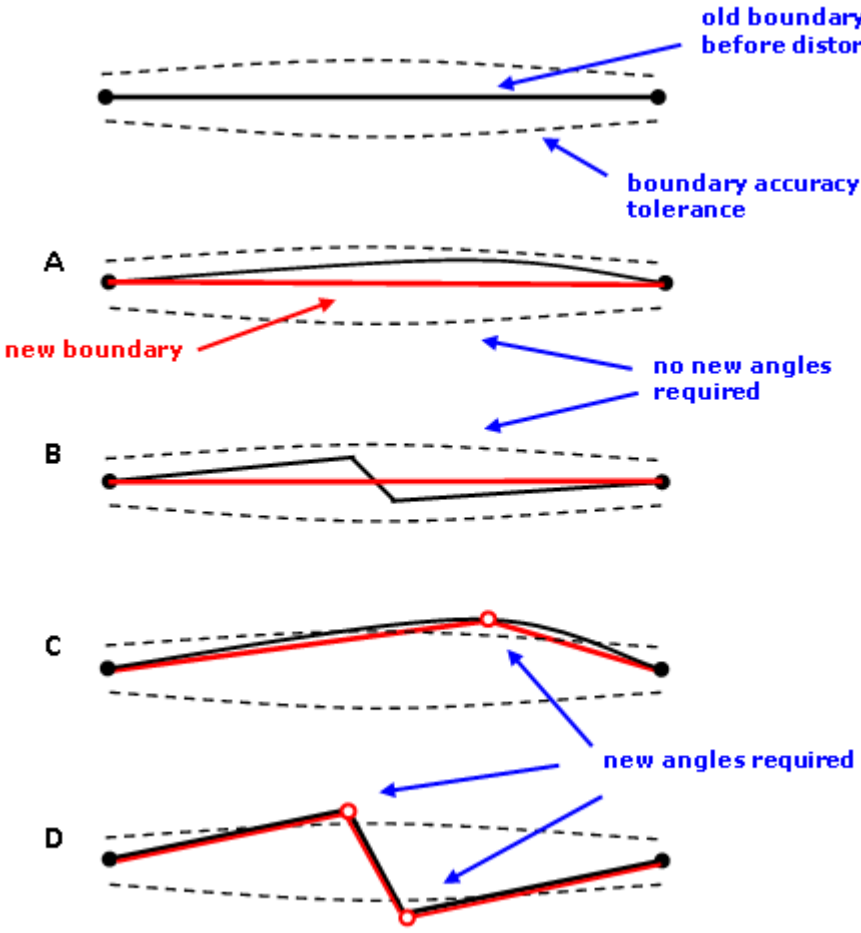


Figure 78: Examples of distorted boundaries

CSD requirements where a boundary has been distorted

Where an existing boundary has been distorted and new angles are created in terms of rule 18.1(a), the CSD must include:

- a diagram showing information on occupation and physical features [r 18.1(b)(ii)],
- a prominent notation on the Diagram of Survey and Diagram of parcels 'Boundary includes new angles due to deep-seated movement' related to the relevant boundary [r 18.1(b)(iii)],

- information in the survey report regarding the definition of boundaries that have been defined by survey [r 18.4]. This will need to include the information relating to boundaries affected by distortion.

Boundary marking survey not permitted where boundary distorted

Where an existing boundary has been distorted by deep-seated ground movement and new angles created [refer rule 18.1(a)], a boundary marking survey defining that boundary is not permitted [r 18.1(b)(i)]. The new angles must be defined as part of a new parcel.

Adopting a boundary not permitted where distorted boundary

An existing boundary that has been distorted by deep-seated ground movement in excess of the applicable accuracies (refer rule 18.1(a)) is not permitted to be defined by adoption irrespective of rules 6.2(c)(ii) and 6.4. The boundaries must be defined by survey as part of a new parcel.

Class C and D boundaries where ground movement

Where a boundary affected by ground movement meets the criteria for class C under rule 3.2.3, but may have been subject to distortion greater than the accuracy tolerances specified in rule 3.3.1 (boundary points), rule 3.4 (water and irregular boundaries), or rule 3.5 (permanent structure boundaries), then this boundary must be either:

- accepted and be assigned class D [r 18.2(a)(i)], or
- defined by survey.

The boundary is not permitted to be defined by adoption [r 18.2(a)].

A boundary that does not meet the criteria for class C [r 3.2.3] or D [r 6.3] must be defined by survey where distortion is greater than the accuracy tolerances specified in rules 3.3.1, 3.4, or 3.5. If the distortion is less than the accuracy tolerances, the boundary may be defined by adoption.

CSD requirements for accepted boundary where ground movement

Where a boundary is accepted under rule 18.2(a), the CSD must include a prominent notation on the Diagram of Survey and Diagram of Parcels 'Boundary not surveyed since ground movement' related to the relevant boundary [r 18.2(b)].

Last Updated: 31 March 2017

Related Content

- Information for Canterbury surveyors
- Kaikoura earthquakes

Recording boundaries

The following information relates to recording the spatial relationship between boundaries in a clear and unambiguous manner in a CSD.

Recording boundary relationships

Depiction of the spatial relationships between boundaries [r 9.6.3(f) and (g)] is primarily through the pictorial display of the boundaries in diagrams.

The diagrams must depict all of the boundaries that are relevant and display the relationship between them. This applies in a horizontal and vertical context. The boundaries cannot be shown in isolation or not shown and merely referenced to preceding CSDs.

The spatial relationships must be clear and unambiguous [r 9.6.15(a) and r 10.4.10(a)]. Cross-sections are often an appropriate method of depicting the relationship between stratum boundaries or between upper and lower permanent structure boundaries.

The depiction of boundaries in a plan graphic [r 9.6.9] without dimensions is all that is necessary where there is a mixture of permanent structure boundaries, and mathematically described boundaries (eg right lines or reduced levels), and the relationship between the boundaries is clear and unambiguous.

Note, where there is a risk of a boundary overlap or where the gap between two boundaries is not clear and unambiguous, more information is required [r 9.6.9(b)]. In some cases, this could be horizontal or vertical dimensions.

Read about how to depict the relationship of unit and cross lease boundaries where they are close

Last Updated: 31 March 2017

Recording stratum boundaries

The following information relates to recording a stratum boundary, and its related witness marks and PRMs where required, in a CSD.

Recording stratum boundary where it is mathematically described

A Diagram of Survey must describe the spatial relationship between the stratum boundary and the other boundaries [r 9.6.10]. This information must meet the boundary accuracy standards and boundary witnessing standards.

Refer to Boundary witness accuracy applies to boundary points and stratum boundaries

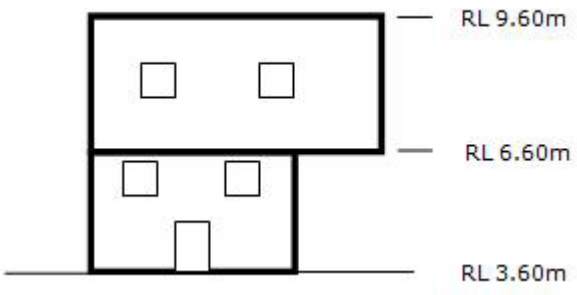


Figure 79: Elevation view depicting two non-primary parcels

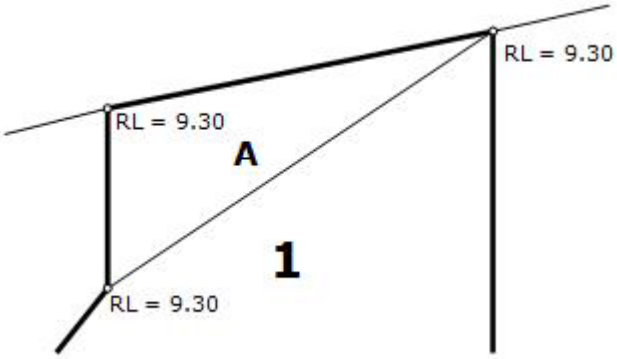


Figure 80: One method of describing a height covenant (using a stratum boundary)

Recording witness marks and PRMs for stratum boundary

Where a stratum boundary is used, the required witness marks and PRMs and vectors between them (refer to rules 7.3.1(d), 7.3.2, 7.4.3(d), and 9.6.10) must be electronically captured and depicted in Landonline generated diagrams.

Most of the information relating to a unit CSD or cross lease CSD is depicted on plan graphics. On these CSDs the Diagram of Survey will include an additional Landonline generated diagram of the required witness marks and PRMs and the vectors between them.

Recording stratum boundary where it is surface or bed of a water body

Where a stratum boundary is the surface or the bed of a water body, the Diagram of Survey and Diagram of Parcels must describe the legal boundary that is the stratum boundary [r 9.6.7(c) and r 10.4.5(c)]. Examples are '80 m contour (Moturiki Datum)' or 'bed of lake'.

Note, the requirement for a legal description must not be confused with the physical description although, in some cases, they may be the same.

Refer to CSD diagrams must include the legal boundary description

Last Updated: 31 March 2017

Recording irregular boundaries

The following information relates to recording an irregular boundary in a CSD.

Recording irregular boundaries to scale in the diagrams

On a Diagram of Survey and Diagram of Parcels:

- an irregular boundary must be depicted to show its true shape and relationship to other boundaries [r 9.6.8(a) and r 10.4.6], and
- where information that is to scale is unclear or ambiguous (eg a long narrow parcel where an irregular boundary and an adjoining stream boundary appear to merge), these boundaries may be shown as distorted in separate diagrams.

On a Diagram of Survey, the scale must be adequate to meet the accuracy requirements of rule 3.4 [r 9.6.8(b)].

Refer to Accuracy of water and irregular boundaries.

Last Updated: 31 March 2017

Recording permanent structure boundaries

The following information relates to recording a new permanent structure boundary, and an existing unit boundary under rule 19, in a CSD.

Depicting existing unit boundaries in a CSD

In the case of a subsequent stage of a unit development or where part of an existing unit development is being changed, unchanged unit boundaries that have been defined in a CSD under earlier Rules may be retained [r19].

This enables existing unit boundaries to be depicted in exactly the same manner they were depicted on the pre 2010 rule CSDs.

Note, rule 19 may only be applied to boundaries where no changes are being made to the related parcel boundaries, appellation, and computer register.

Where an existing stratum boundary is being adopted, the Diagram of Survey must include the same information as the originating CSD.

Refer to vertical datum information where stratum boundary has been adopted in terms of rule 19

Recording permanent structure boundaries where horizontal extent of a permanent structure boundary is coincident with structure

Where a permanent structure boundary is coincident with a physical structure, the Diagram of Survey and Diagram of Parcels must depict the relationship between the boundary and the structure clearly and unambiguously [r 9.6.9, r 9.6.15, r 10.4.7, and r 10.4.10]. The diagrams must also describe the permanent structure [r 9.6.9(d) and r 10.4.7(c)].

This relationship can be depicted or it can be annotated and the annotation can be applied to individual boundaries or it could be a generic note, provided that the relationship is clear in every instance of the boundary.

Where the boundary and the relationship to the structure are the same for each unit, the relationship to the physical structure does not have to be depicted around the full extent of every unit. Generic diagrams may be used, and may be distorted to provide clarity, provided they are referred to on a main diagram.

Two examples are shown here:

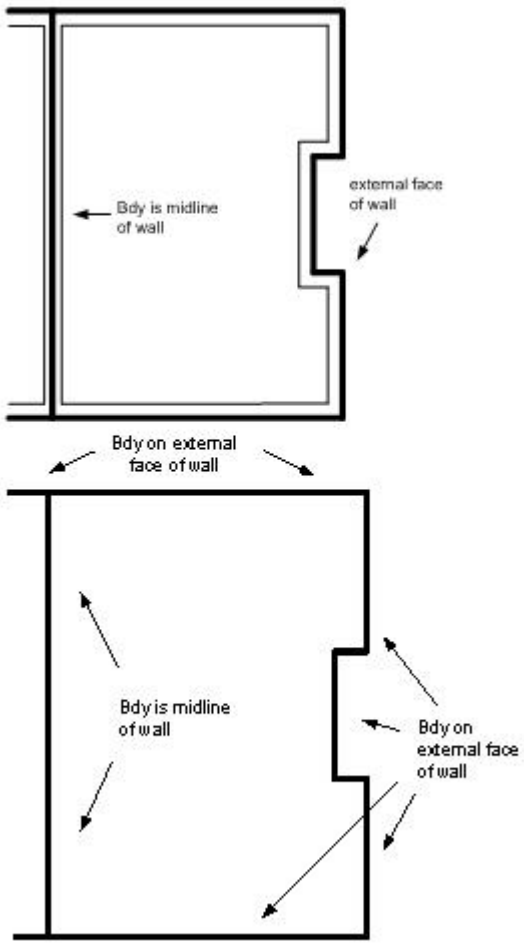


Figure 81: Where horizontal boundary coincides with the structure

Recording permanent structure boundaries where vertical extent of a permanent structure boundary is coincident with structure

Where the boundary is coincident with a physical structure, the Diagram of Survey and Diagram of Parcels must make the relationship between the boundary and the structure clear and unambiguous [r 9.6.9, r 9.6.15, r 10.4.7, and r 10.4.10]. The diagrams must also describe the permanent structure [r 9.6.9(d) and r 10.4.7(c)]

This relationship can also be depicted or annotated provided it is clear.

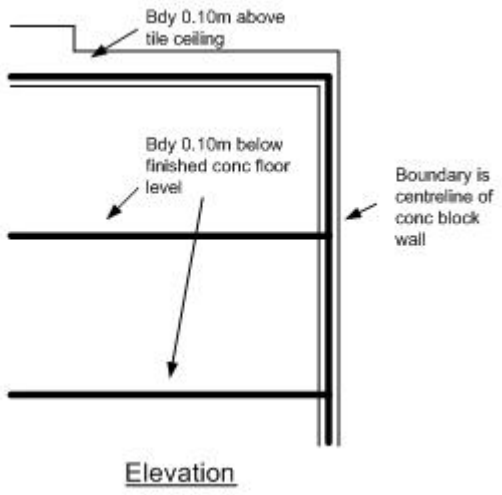


Figure 82: Where vertical boundary coincides with structure

Recording permanent structure boundaries where permanent structure boundary is coincident with underlying parcel boundary

Where the permanent structure boundary coincides with the underlying primary parcel boundary, the relationship of the physical structure to the boundary must be clearly depicted, particularly where the structure extends beyond the boundary [r 9.6.9, r 9.6.15, r 10.4.7, and r 10.4.10].

Generic diagrams may be used and may be distorted to provide clarity, provided that they are referred to on the main diagram.

The diagrams must also describe the permanent structure [r 9.6.9(d) and r 10.4.7(c)].

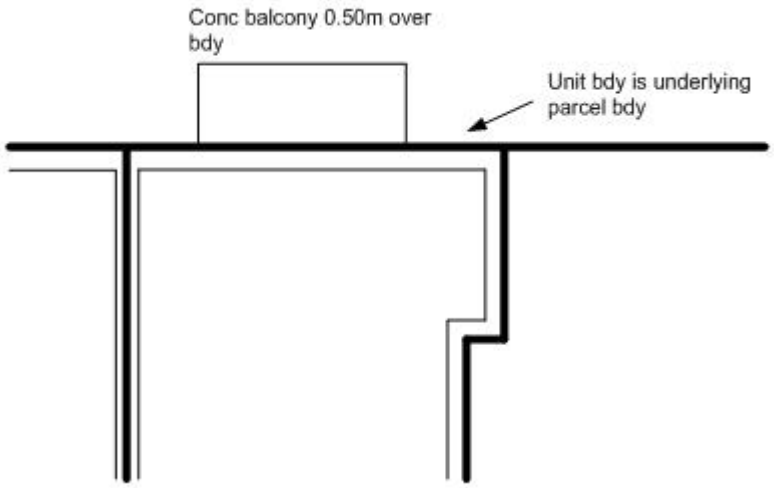


Figure 83: Bird's-eye view where unit boundary coincides with underlying boundary

Recording permanent structure boundaries where horizontal permanent structure boundary is not coincident with structure

A permanent structure boundary that extends beyond the physical structure to intersect with another boundary must be clearly defined. An example is where that boundary follows the extension of the centreline of the wall to where it meets the external boundary [r 9.6.9, r 9.6.15, r 10.4.7, and r 10.4.10].

Two examples are shown here:

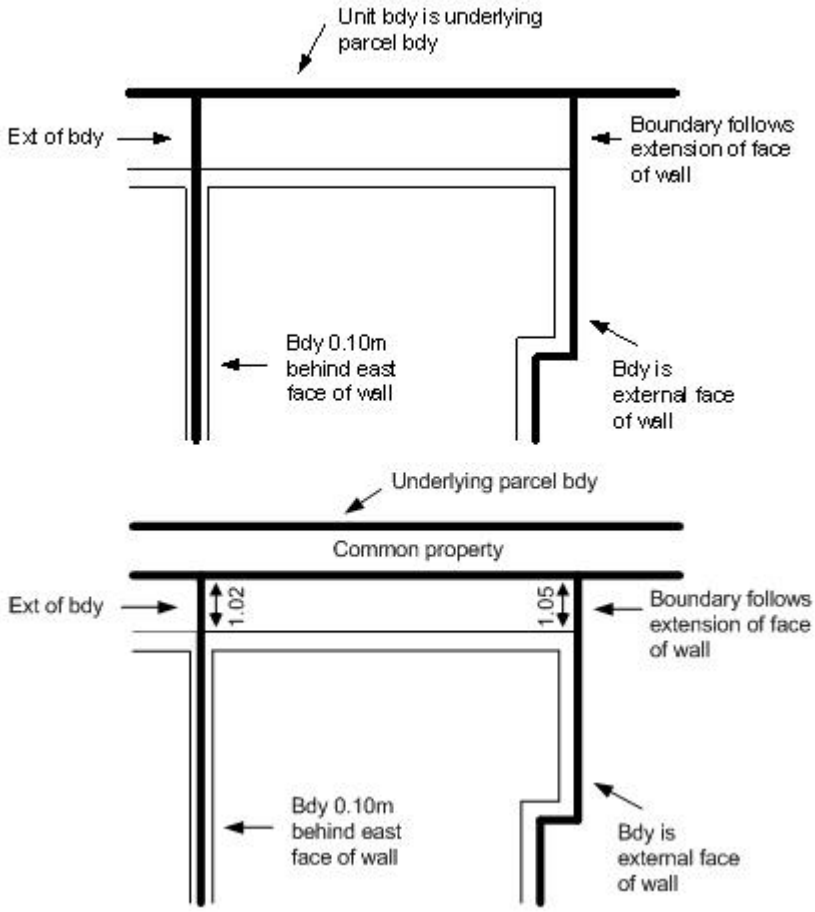


Figure 84: Bird's-eye view where the unit boundary extends beyond the physical structure

Recording permanent structure boundaries where vertical permanent structure boundary is not coincident with structure

In some cases, a unit boundary will be located in space above (or below) the physical structure. Such boundaries can be defined by dimensions (usually vertical distances) from clearly defined points on the structure [r 6.9(b), r 9.6.9, and r 10.4.7].

The 20m limit specified in rule 6.9(b)(ii) only applies in a horizontal sense.

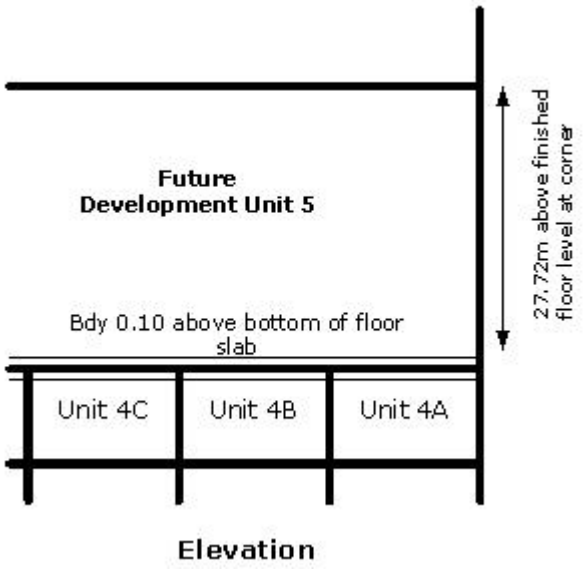


Figure 85: Elevation where unit boundary is in space above structure

Depicting the relationship of units and cross lease areas to estate boundaries in the CSD diagrams

For a unit title development, the land the plan relates to is to be held in only one computer register and should be the whole of the land in that computer register [s 32(1)(b) and (c) of the Unit Titles Act 2010]. However, if one computer register could be issued for that land, the plan can be deposited despite s 32(1)(b) and (c) [s 33(1) of the Unit Titles Act 2010].

Where there is more than one underlying primary parcel within an estate record (see Figure 86 below: A unit development over two underlying parcels below, where Lots 1 and 2 are in the one title), the spatial depiction of unit boundaries with any underlying primary boundaries internal to the estate boundary is not required [r 9.6.4(b) and r 10.4.3(b)]. This means that the 'internal' primary boundary is not required to be depicted.

For a cross lease development, where there is more than one underlying primary parcel within an estate record the spatial depiction of cross lease boundaries with any underlying primary boundaries internal to the estate boundary is required [r 9.6.5(b) and r 10.4.2(e)(i)].

Depicting the relationship of units and cross lease areas to primary parcel boundaries in CSD diagrams

On a Diagram of Survey and Diagram of Parcels, the depiction of the spatial relationship between each unit or cross lease boundary and the underlying primary parcel boundaries

must be sufficiently clear to ensure there is no ambiguity as to their relative positions [r 9.6.4(b), r 9.6.6(b), r 9.6.15(a), r 10.4.3(b), r 10.4.10(a)].

The depicted relationship must comply with the accuracy standard in r 3.5 if within 1 m of another boundary (class A) or 3 m (for class B) (refer to accuracy of permanent structure boundaries).

The depicted relationship also relates to the units and the underlying parcel boundary. This information can be depicted on the same plan graphic diagrams as the units.

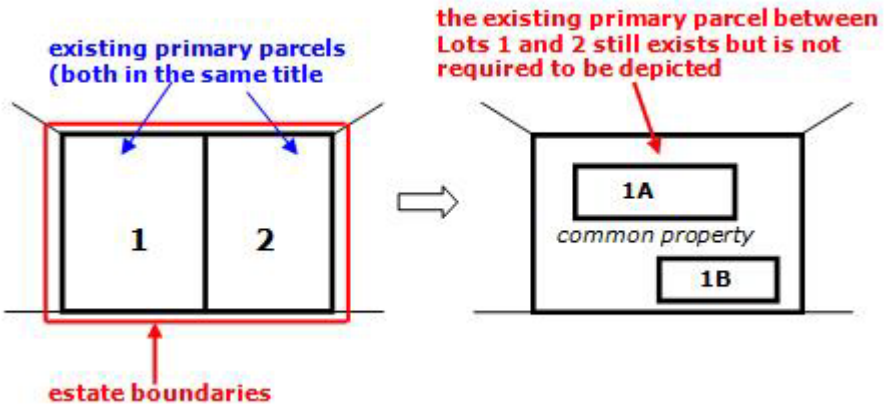


Figure 86: A unit development over two underlying parcels

Depicting the relationship of unit and cross lease boundaries where they are close

The depiction of the spatial relationship between each unit or cross lease area and every other non-primary parcel in the CSD must be sufficient to ensure an unambiguous spatial relationship between the parcels within the development [r 9.6.4(a), r 9.6.9(b), r 9.6.5(a), r 9.6.15(a), r 10.4.3(a), and r 10.4.10(a)].

The relationship must be depicted to match the accuracy standard in r 3.5 if within 1 m of another boundary (class A) or 3 m (for class B) (refer to accuracy of permanent structure boundaries).

In most cases, this relationship on the Diagram of Survey will be the distance between the units.

The Rules do not require survey traverses and ties to buildings to be part of a CSD.

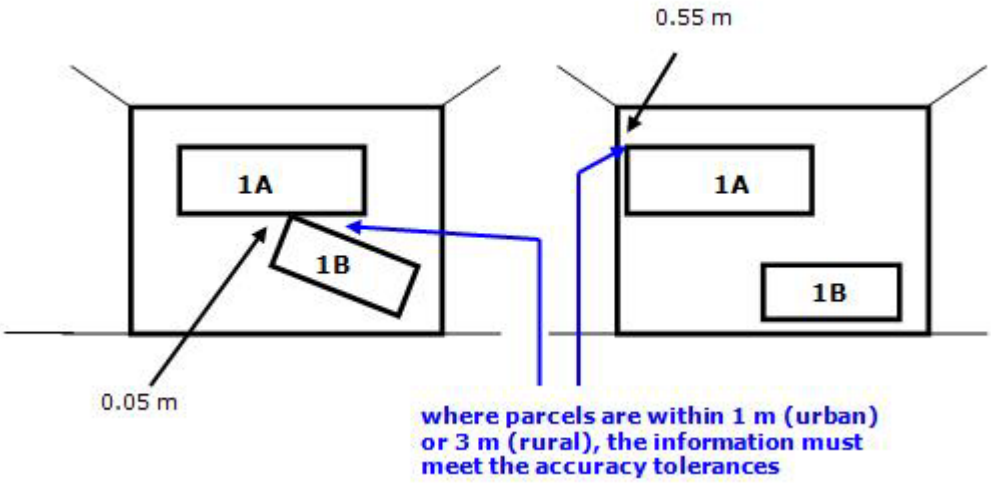


Figure 87: Where units and boundaries are close

Last Updated: 31 March 2017

Recording estate boundaries

The following information relates to recording an estate boundary and its associated estate record references in a CSD.

An estate boundary defines the extent of an interest in land. In the case of an estate registered under the Land Transfer Act, the estate boundary will be the boundary commonly or previously referred to as the CT boundary. A gazette boundary is also often an estate boundary.

An estate boundary will coincide with an existing primary parcel boundary.

Recording an estate boundary where it passes through land under survey

A Diagram of Survey and Diagram of Parcels must depict an estate boundary where it passes through the land under survey, clearly annotated with the estate record references [r 9.6.3(h)(i)] and r 10.4.2(f)(i)]. Where:

- there is more than one title associated with the land under survey, the estate boundary will normally coincide with a disappearing boundary of a primary parcel being extinguished. It will appear to cut though the new parcels.
- a water boundary has moved due to accretion, the estate boundary will normally coincide with the position of the old disappearing water boundary. The estate boundary will appear to cut through a new 'dry' primary parcel.

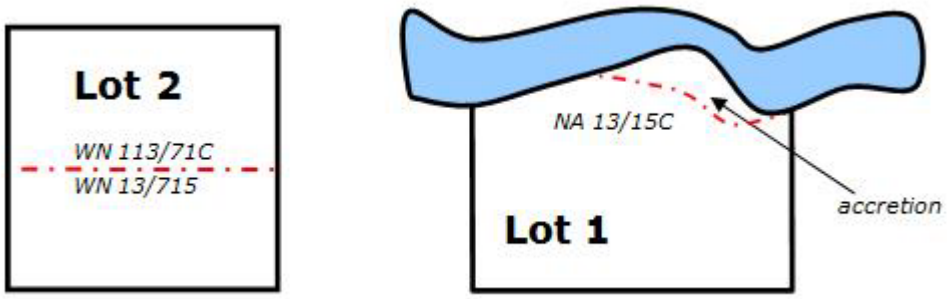


Figure 88: Estate boundaries passing through surveyed land

Last Updated: 31 March 2017

Recording boundary class and accepted boundary annotations

The following information relates to recording the accuracy class of a boundary, and the annotations required for magnetic bearings and missing bearings or distances on boundaries that have been accepted, in a CSD.

Recording class of survey in CSD plan

A CSD Plan must include the accuracy class of each boundary [r 9.4(a)]. This also applies to all water, irregular, and permanent structure boundaries, whether new, adopted, or accepted.

In the case of permanent structure boundaries where the information is depicted in a CSD as aspatial information (ie not captured digitally), the accuracy class could be recorded in the survey report.

Recording magnetic bearings or missing bearings or distances on Diagram of Survey

On a Diagram of Survey an accepted boundary must be annotated [r 9.6.12] as:

- 'bearing unknown' or 'distance unknown' when there is a missing bearing or distance,
- 'magnetic bearing' when the bearing is magnetic.

Refer also to Boundary information in the CSD for parcels over 100 ha

Last Updated: 31 March 2017

Recording water boundaries

The following information relates to recording a water boundary in a CSD.

Because parcels bounded by water boundaries are subject to specific survey and legal considerations, it is essential that CSDs record current and former positions of relevant water body margins correctly, clearly, and unambiguously.

Depiction of water boundary must be to scale and maintain shape in CSD diagrams

On a Diagram of Survey and a Diagram of Parcels, a water boundary must be depicted as an irregular line at a scale that shows its true shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)].

Where the scale required to include the full boundary on a diagram could result in ambiguity or a lack of clarity (eg. a long narrow stream where banks appear to merge), the water boundaries may be copied at a larger scale onto separate additional diagrams and, if necessary, distorted so that the information is clear and unambiguous.

Note that depiction of a water boundary on a Diagram of Survey must also be at a scale that reflects relevant accuracy specifications [r 9.6.7(a)(ii)].

Read more about accuracy of water boundaries and irregular boundaries

Using water boundaries from the Landonline database

Where water boundary information is extracted from Landonline and it is to be used in a new CSD, its shape and location must be verified from the original source datasets. This is because its shape and location in the spatial cadastre (Landonline) has often been distorted by the process of capture and maintenance and may not truly reflect the shape and location as surveyed.

Note that 'adopted from Landonline' or 'DCDB' are not acceptable references. The stated source of the adoption must be the CSD that defined the water boundary [r 9.4(b)].

CSD diagrams must include the legal boundary description

A Diagram of Survey and Diagram of Parcels must describe the legal water boundary [r 9.6.7(c) and r 10.4.5(c)]. In the case of a parcel adjoining:

- the common marine and coastal area or tidal river, this will normally be MHWM or MHWS in the horizontal plane, or
- a non-tidal watercourse or lake, this will normally be the left or right bank in the horizontal plane.

In the case of a stratum boundary, the diagrams must describe both the horizontal plane and vertical plane (eg the surface or bed of the sea or river or a contour level).

The legal boundary description must not be confused with the description of the physical feature required to be in the CSD Plan by rule 9.4(c). For example, the legal boundary may be MHWM, MHWS, left bank, or right bank while the physical feature that defines the boundary could be top of bank or bottom of bank.

CSD diagrams must distinguish between MHWS and MHWM

The distinction between MHWM and MHWS is legally significant, especially for existing parcels with boundaries set at MHWM and the impact of statutes such as the Resource Management Act 1991 and the Marine and Coastal Area (Takutai Moana) Act 2011.

Where the surveyor determines that the old position of MHWM and the new position of MHWS do not coincide, the depiction of the two positions must be clear and the land between the two positions dealt with correctly.

Where the surveyor determines that the old position of MHWM and the new position of MHWS coincide (within the margins of accuracy as specified in rule 3.4), and the old MHWM boundary is adopted to represent MHWS, the diagram must be annotated to this effect. The label 'boundary is MHWS/MHWM' is acceptable in this situation. In this case, the fact that the two boundaries coincide must be included in the survey report [r 8.2(a)(xii)].

CSD diagrams must include physical description

Where a physical feature (eg bottom of bank or top of bank) defines a water boundary, this must be described in the CSD Plan [r 9.4(c)].

The legal boundary description and the physical description must be clearly presented to avoid confusion between the two.

Further information on specific situations

The articles listed below provide detailed information about recording water boundaries in specific situations:

- Water boundaries and accretion or dry bed
- Water boundaries and erosion
- Water bed to vest
- Water bed excluded from a new title

Refer also to the following articles relating to the Marine and Coastal Area (Takutai Moana) Act 2011:

- Marine and Coastal Area Act (MACAA) and recording common marine and coastal area in a CSD
- Marine and Coastal Area Act (MACAA) and subdivisions
- Marine and Coastal Area Act (MACAA) and easements
- Marine and Coastal Area Act (MACAA) where Crown or local authority owns land
- Marine and Coastal Area Act (MACAA) where land is being acquired by Crown or local authority

Last Updated: 31 March 2017

Water boundaries and accretion or dry bed

The following information relates to recording a water boundary in a CSD where there has been accretion affecting the water boundary or the adjoining water body has dried up.

Where accretion or dry bed is not claimed

When the owner of land with an ambulatory water boundary decides not to claim accretion or title to a dried up water body (even though the margin of the water body has moved since the previous survey), the water boundary can continue to be depicted in its existing recorded position [r 6.7(b)]. The unclaimed dry land will remain part of the adjoining water body for the purposes of the cadastre and title record.

The Diagram of Survey and Diagram of Parcels must:

- Depict the adopted or accepted former water boundary in its existing position as an irregular line at a scale that clearly shows its shape and relationship to other boundaries of the parcel [r 9.6.7(a) and r 10.4.5(a)].
- Show the relationship between the adopted or accepted water boundary and the physical water's edge, or include a statement that the parcel boundary and the water's edge are not coincident [r 9.6.7(b) and r 10.4.5(b)].

The extent of the adjoining hydro parcel will remain unchanged. Although this hydro parcel is not required to be depicted on the diagrams, its name or description is required [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples of a suitable description for a water body that does not have a name include stream, river, and lake.

Refer also to Where current MHWS is seaward of old MHWM because of accretion or avulsion

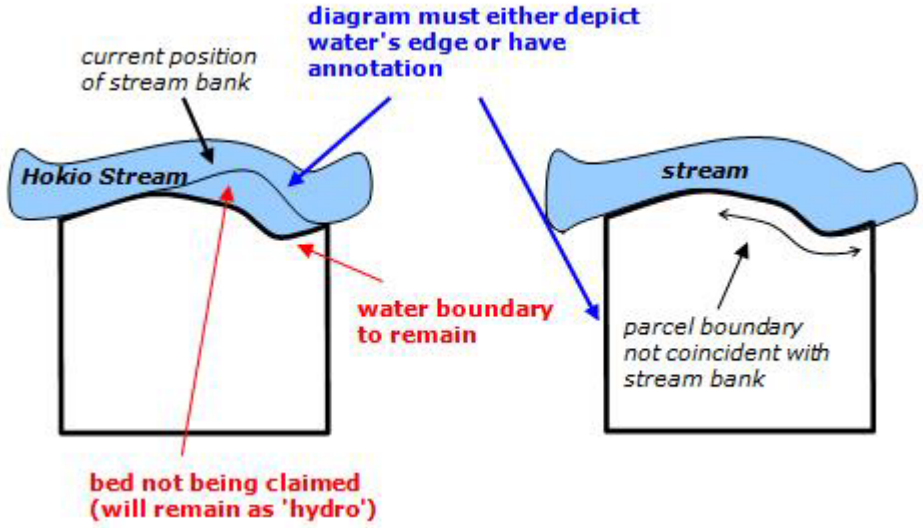


Figure 89: Where dry bed is not being claimed

Where dry bed is claimed

Where a dried bed is being claimed, the bed may either be depicted in conjunction with the adjoining land or as a separate primary parcel.

Requirements where a dry bed is being claimed and is depicted with the adjoining land

Where a claim is being made for a dried up water bed, the area being claimed may be depicted with the adjoining land in a single primary parcel.

The Diagram of Survey and Diagram of Parcels must depict:

- the new primary parcel boundaries as marked right-line boundaries [r 6.5(a)(i) and r 7.1],
- the former water boundary as an estate boundary that passes through the land under survey [r 9.6.3(h)(i) and r 10.4.2(f)(i)] and the estate record references, including that for the dried up water bed (eg dry stream bed), and
- the name of the balance water body parcel abutting the new parcel, or a simple description if no name is available [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)].

The portion of the water bed that is not being claimed will be a balance parcel. This parcel must be:

- included in the CSD but its extent need not be depicted in full on the diagrams [r 9.6.3(a) and r 10.4.2(a)],
- an abutting parcel. It must not be given an appellation, but must be named or described [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples of a description include stream, river, and lake.
- given the parcel intent hydro.

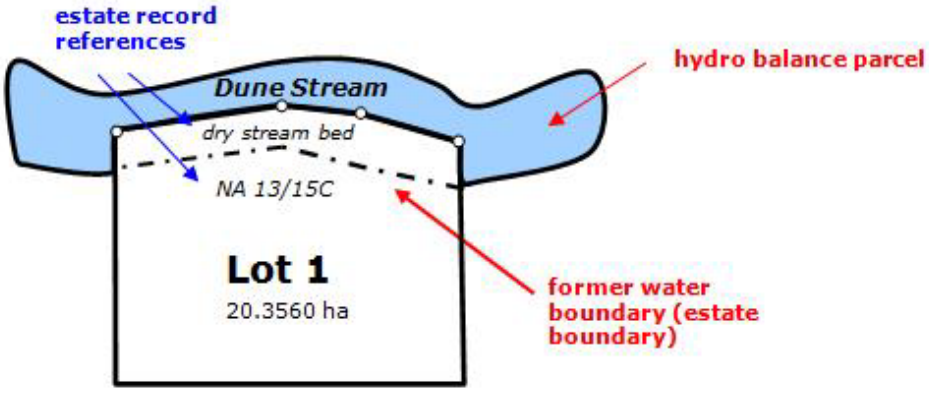


Figure 90: Stream bed being claimed with adjoining land

Requirements where a dry bed is being claimed and is depicted as a separate primary parcel

Where a claim is being made for dried up water bed, the area being claimed may be depicted as a separate primary parcel.

The Diagram of Survey and Diagram of Parcels must depict the bed being claimed as a parcel with:

- all of the parcel boundaries right-lined and marked, unless class C [r 6.7(a)(ii)], and
- an appellation (eg Lot 1) and an area [r 5.5.1 and r 5.3(a)].

The portion of the water body that is not being claimed will be a balance parcel. This parcel must be:

- included in the CSD, but its extent need not be depicted in full on the diagrams [r 9.6.3(a) and r 10.4.2(a)].
- as an abutting parcel. It must not be given an appellation, but must be named or described [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples of a description include stream, river, and lake.
- given the parcel intent hydro.

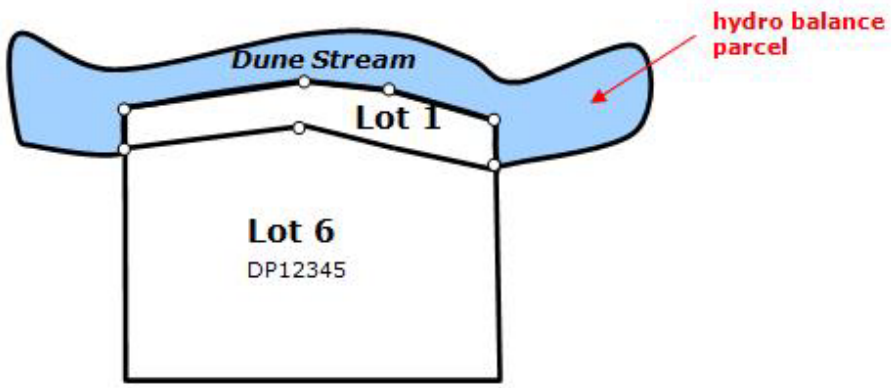


Figure 91: Stream bed being claimed as a separate parcel

Where accretion is claimed

Separate parcel for accretion must not be shown

Where the land owner plans to claim accretion, the land abutting the water body and the land claimed as accretion must be combined as a single primary parcel. A successful accretion claim results in the area of accretion being added to the estate record of the adjoining land.

A Diagram of Survey and Diagram of Parcels must depict the:

- water boundary as an irregular line in its new position at a scale that clearly shows its shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)]. This means the boundary must be shown to scale,
- land being claimed as accretion with the description accretion [r 9.6.3(h)(ii) and r 10.4.2(f)(ii)] and with a separate area [r 9.6.3(e) and r 10.4.2(d)(iv)]. The total area of the new primary parcel must include the accretion area [r 9.6.3(e) and r 10.4.2(d)(iv)], and
- former water boundary as an estate boundary that passes through the land under survey [r 9.6.3(h)(i) and r 10.4.2(f)(i)]; the annotation accretion is sufficient as the estate record reference for the accretion.

The adjoining water body will be a balance hydro parcel which must be included in the CSD but its extent need not be depicted in full on the diagrams [r 9.6.3(a) and r 10.4.2(a)]. As an abutting parcel it must referenced with its name or description [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples of a description of an unnamed water body include stream, river, and lake.

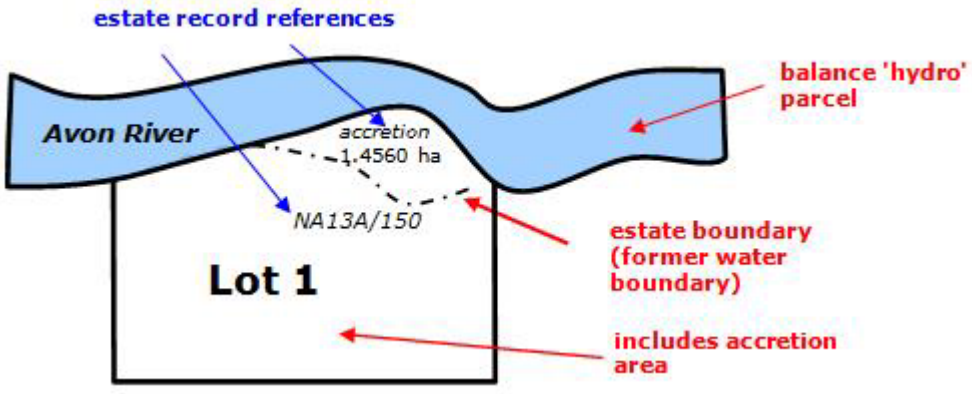


Figure 92: Depiction of accretion on diagrams

Last Updated: 3 October 2017

Water boundaries and erosion

The following information relates to recording a water boundary in a CSD where erosion affecting the water boundary has occurred.

Where erosion has occurred, the Diagram of Survey and Diagram of Parcels must depict:

- the erosion as a separate residue parcel, which must be described as erosion without any other description or appellation [r 9.6.3(h)(iii) and r 10.4.2(f)(iii)]. An area is not required,
- the water boundary in its new position as an irregular line at a scale that clearly shows its shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)],
- the former water boundary as an accepted irregular line boundary [r 6.3(b) and r 6.7(c)], and
- the name or a simple description (such as sea, stream, river, or lake) for the water body that abuts the new erosion parcel r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]

The erosion parcel must have the parcel intent hydro.

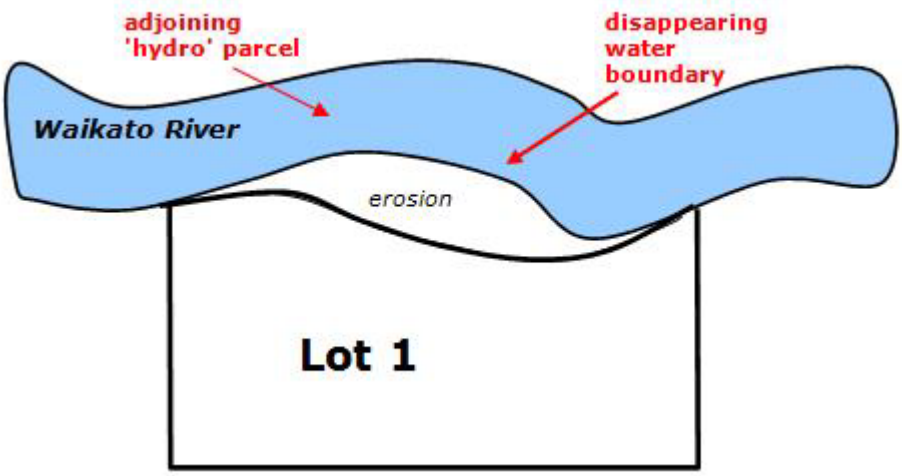


Figure 93: Erosion as a residual primary parcel

Refer to Where current MHWM is inland from old MHWM because of erosion

Last Updated: 31 March 2017

Related Content

- Water boundaries
- Recording water boundaries
- Water boundaries and accretion or dry bed

Water bed to vest

The following information relates to the recording in a CSD of water bed to vest in a local authority or the Crown under sections 237A or 239(1)(c) RMA 1991.

Where land is to vest under sections 237A or 239(1)(c) RMA 1991

Where a parcel that is part of the bed of a river or lake is to vest under sections 237A or 239(1)(c) of the Resource Management Act 1991 (RMA), the Diagram of Survey and Diagram of Parcels must depict:

- the land to vest as a new primary parcel,
- any new water boundary as an irregular line at a scale that clearly shows its shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)], and
- any old water boundary that is common with the adjoining water body (the disappearing boundary) as an irregular boundary [r 6.7(c), r 9.6.8, and r 10.4.6].

The primary parcel of land to vest must be treated in the same manner as other primary parcels and must have an appellation and an area [r 9.6.3 and r 10.4.2(d)] (refer to Disappearing water boundaries may be accepted boundaries).

The parcel must have the parcel intent "Vesting on deposit in the Territorial Authority (Sec 237A(1)(a) RM Act)" or "Vesting on deposit in the Crown (Sec 239(1)(c) RM Act)" as applicable. Upon vesting and integration into the spatial cadastre, the appellation will not be visible.

The adjoining hydro parcel, where applicable, need not be fully depicted but must be named or described [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Examples of descriptions are sea, lake, river.

The Title Plan must include a notation regarding a vesting of land (refer Notations and memorials in Title Plan).

Note, land to vest under ss 237A or 239(1)(c) RMA includes land that is defined by fixed boundaries.

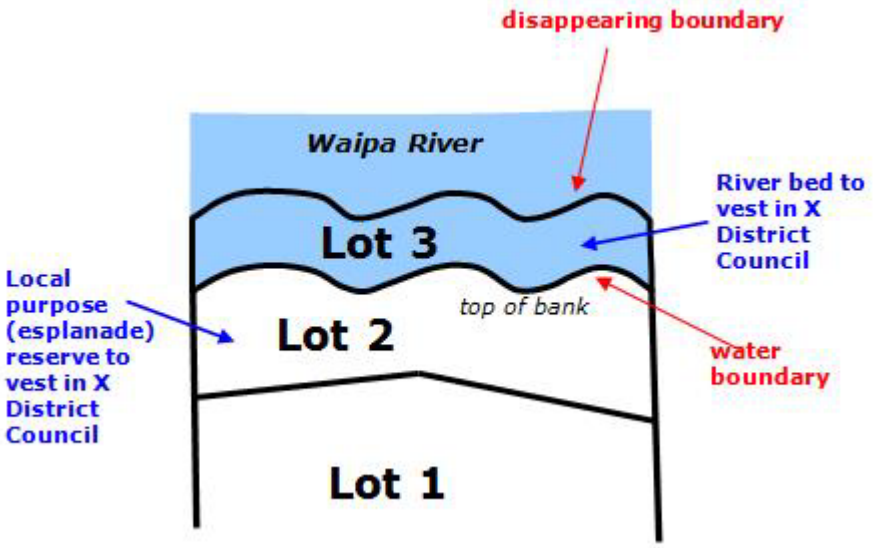


Figure 94: Example of river bed vesting under s 237A or 239(1) RMA

Refer to the articles below for guidance on dealing with land that is part of the common marine and coastal area.

Last Updated: 31 March 2017

Related Content

- Marine and Coastal Area Act (MACAA) and recording common marine and coastal area in a CSD
- Marine and Coastal Area Act (MACAA) and subdivisions
- Marine and Coastal Area Act (MACAA) where Crown or local authority owns land

Water bed excluded from a new title

The following information relates to the recording of a water body and its boundaries in a CSD where the water body is intended to be excluded from a new title.

A previously undefined watercourse in an existing primary parcel must not be included in lots on a new subdivision, where it is the intention that a new title will not issue for that watercourse. An example is when the subdivision uses the stream banks as the boundary between new parcels and the territorial authority does not require the streambed to vest under s 237A of the Resource Management Act 1991.

The Diagram of Survey and Diagram of Parcels must depict the:

- new water boundaries as irregular lines at a scale that clearly shows their true shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)].

- watercourse as a residue parcel. This residue parcel must not have an appellation but must show its name or a description [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)]. Where the water course is unnamed, examples of a suitable description include stream, river, and lake. An area is not required [r 5.3].

The residue parcel will have the parcel intent hydro.

A parcel of stream bed should not be given an appellation (eg Lot 3) unless it is intended to vest the bed or have a title issued.

The survey report must confirm the intention to exclude the bed from any new title to be issued [r 8.2(a)(i)].

Note: the above illustrates one method of dealing with stream beds. Different requirements will apply where alternative methods, such as including the stream within one of the new parcels, have been used.

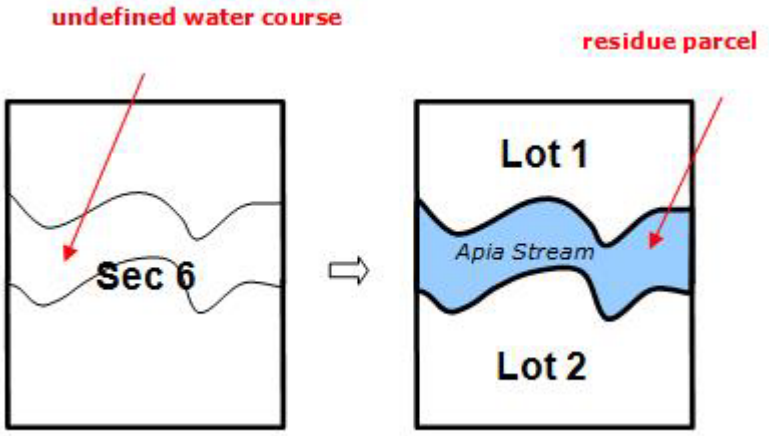


Figure 95: A stream being a residue parcel

Survey Marks

Non-boundary marks

The following information relates to rules 7.3 and 7.4 and the types of non-boundary marks used in a cadastral survey.

It is essential that the framework of non-boundary marks and boundary points link together. This enables the boundary positions to be correctly reinstated in the future.

Rules 7.3 and 7.4 specify:

- the attributes and location of marks that make up the network of non-boundary marks, and
- the proximity of survey network marks to boundary points.

Types of non-boundary marks

- Permanent reference marks (PRMs)
- Witness marks
- Other marks used in the survey that are not boundary marks. These include traverse marks and similar marks used to facilitate the survey.

Traverse marks

The Rules do not require the surveyor to place or use traverse marks. If such marks are used, they must be recorded in the CSD [r 9.6.2(a)] and meet the same accuracy requirements as PRMs and witness marks [r 3.1]. This is because they are treated as non-boundary marks.

Last Updated: 4 April 2017

Permanent reference marks

The following information relates to permanent reference marks (PRMs) and referencing requirements under rules 7.4, 16.4 and 17.1.

Attributes of PRMs

PRMs are required to have such physical attributes, and be placed in such locations, to provide a reasonable assurance that they should remain undisturbed and useable for at least 50 years [r 7.4.3(b)].

Responsibilities of surveyors regarding PRMs

The rule only holds the surveyor to account where the mark's loss could have been reasonably foreseen at the time it was placed or used in the survey.

Although existing marks (eg old iron spikes and tubes) may have been in the ground for a long time or appear to be substantive, they must be assessed as to whether they can be expected to survive another 50 years.

Examples of PRMs

Marks that are close to the surface of roads or footpaths or are in the likely building platform of an undeveloped urban lot or a ROW, are unlikely to satisfy these criteria. Marks buried at a safe depth, particularly in a rural environment, are more likely to meet these criteria.

Historically, some survey marks have been shown with a double circle where they were iron tubes or where, at that time of the survey, the mark was considered more durable than other marks. A new survey will need to re-assess any existing marks to determine whether they meet the criteria specified in rule 7.4.3. This includes an existing order 5 or higher control mark or where a mark was considered a PRM on an underlying survey.

Number of PRMs

Every cadastral survey required to have a witness mark must include a minimum of two PRMs [r 7.4.1(a)].

The requirement for two PRMs applies to a survey of new class C covenant boundaries in terms of rule 16 (Alternative requirements for covenant parcels) [r 16.4(c)] and rule 17 (Alternative requirements for non-primary parcels)[r 17.1(d)(iv)].

A boundary reinstatement survey is not required to include a PRM [r 7.4.1(b)].

PRM distance criteria for primary parcel boundaries

Each of the two PRMs required by rule 7.4.1(a) must be within 300 m for class A and 500 m for class B of any boundary point that is required to be witnessed [r 7.4.2] (as illustrated by the blue circles).

In addition to those two PRMs, other substantive marks such as trigs and control marks that meet the longevity criteria of rule 7.4.3(b), but do not fall within the prerequisite distances (as illustrated by Trig A), may be treated as additional PRMs for the purpose of the survey.

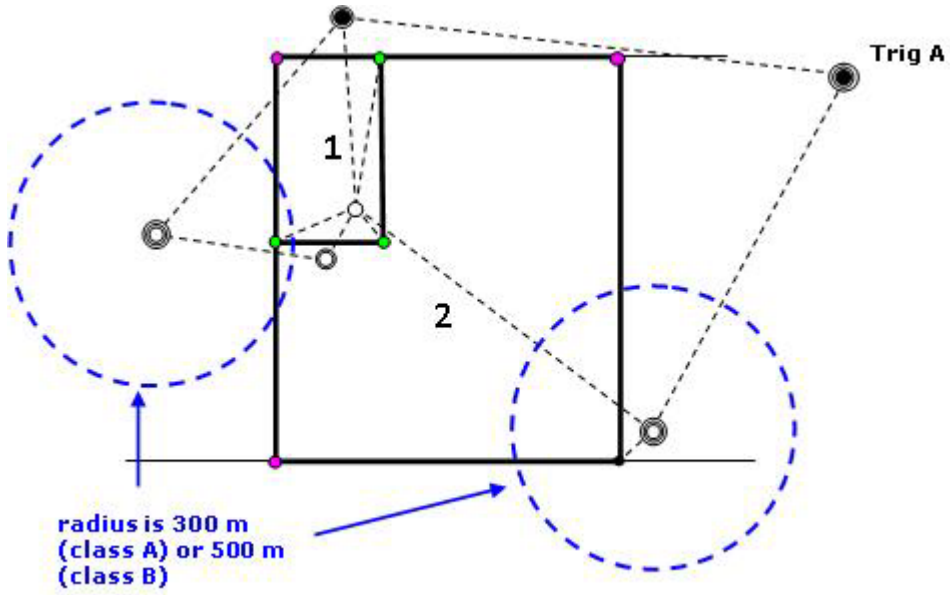


Figure 96: PRMS for class A and class B

Line of sight for PRMs

Line of sight between a PRM and any other non-boundary mark or boundary mark is not a requirement of the Rules.

PRM can be a witness mark

A PRM may be used as a witness mark where it is within the distance specified for witness marks [rule 7.4.3(c)].

Last Updated: 4 April 2017

Witness marks

The following information relates to witness marks and witnessing requirements under rules 7.3, 16.4 and 17.1.

Attributes of witness marks

Witness marks are required to have such physical attributes and be placed in such locations that provide a reasonable assurance that they should remain undisturbed and remain useable for at least 10 years [r 7.3.3].

Responsibilities of surveyors regarding witness marks

The rule only holds the surveyor to account where the mark's loss within 10 years could have been reasonably foreseen at the time it was placed or used in the survey.

Although existing marks may have been in the ground for a long period of time or appear to be substantive, they must be assessed as to whether they can be expected to survive another 10 years.

Old survey marks need to be reassessed

Historically, some survey marks have been shown with a double circle where they were iron tubes or where, at that time of the survey, the mark was considered more durable than other marks. A new survey will need to re-assess any existing marks to determine whether the mark meets the criteria specified in rule 7.3.3.

Boundary reinstatement surveys and witness marks

A boundary reinstatement survey, that is not a monumentation CSD, must include at least one witness mark [r 7.3.2(d)]. A monumentation CSD is not required to have a witness mark but is required to have an old non-boundary mark that is in terms of the boundary point that has been marked [r 11.1(a)(ii) & r 11.2(c)].

Examples of boundary points to be witnessed

Figure 97 illustrates a primary parcel being subdivided into two new parcels in class B. The eastern and southern boundaries of Lot 1 are new boundaries. The blue circles represent the distance between a boundary point and a witness mark specified by rule 7.3.2.

The requirement to witness boundary marks applies to every:

- boundary point defined by the survey [r 7.3.1(a)]. A green cross indicates an unmarked boundary point defined by survey,
- new boundary mark on the parcel under survey [r 7.3.1(c)] (depicted as green circles), and
- old boundary mark on the parcel under survey [r 7.3.1(c)] (depicted as a black circle).

Note that:

- the existing boundary points shown in purple are defined by adoption and are not required to be witnessed,
- while Trig A can be classified as a witness mark [r 7.3.3] and can count as one of the three (or four) required witness marks [r 7.3.2(c)] it does not count as a mark witnessing a boundary point.

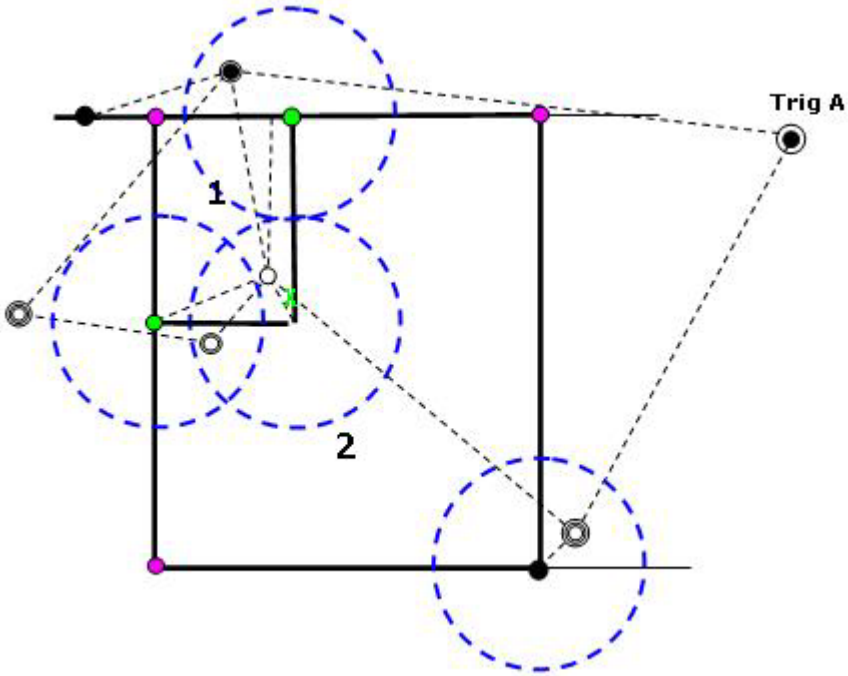


Figure 97: Boundary points required to be witnessed

Witnessing old marks off parcel

Witnessing is not required for an old boundary mark that has been connected to by the survey, but is not on the boundary of a parcel under survey (as illustrated by the old boundary mark to the north west of Lot 1 in Figure 97) [r 7.3.1(c)].

Multiple boundary points and witness marks

A witness mark may be used to witness more than one boundary point if it falls within the witnessing distances (as illustrated for the southern boundary points of Lot 1 in Figure 97).

Witness mark can be a PRM

A witness mark can also act as a PRM if it complies with the criteria of rule 7.4.3(b).

Witness marks and adopted and accepted points

Witness marks are not required for boundary points defined by adoption or accepted.

A control mark at boundary point cannot witness itself

An existing control mark (including a trig) on a boundary point, cannot be a witness mark to that particular point [r 7.3.3(b)].

Witnessing non-primary parcel boundary points

A new non-primary parcel boundary point must be witnessed when:

- it is on a lease parcel and the boundary is a right line or arc boundary [r 7.3.1(b)],
- the non-primary boundary point has been marked [r 7.3.1(c)], unless it is a class B or C boundary point on a covenant parcel marked by a post that is not coincident with an underlying parcel boundary [r 16.2],
- rule 17 applies (refer to Survey requirements when rule 17 is applied to non-primary parcels), or
- it is a stratum boundary point.

A non-primary parcel boundary point does not have to be treated as a new primary parcel point when it coincides with a primary parcel boundary. This coinciding position is only required to be witnessed in the circumstances set out in the preceding paragraph.

Refer to non-primary parcel boundary intersections

If a boundary point or mark has been witnessed, a survey must include a minimum of three witness marks (class A) or four witness marks (class B) [r 7.3.2(c)]. It must also include permanent reference marks [r 7.4.1].

An example where this applies is in the case of a unit development where a unit has a new stratum boundary.

Witnessing water boundaries

Where there is a new water boundary on a primary parcel, only the end points of that water boundary must be witnessed [r 7.3.1].

The positions along the water boundary fixed as part of the field survey to determine the boundary's shape and location are not boundary points for the purpose of the Rules and are not required to be witnessed.

There are no witnessing requirements for existing water boundaries that are defined by adoption or accepted.

Line of sight for witness marks

Line of sight between a witness mark and other non-boundary marks or boundary points is not a requirement of the Rules.

Last Updated: 4 April 2017

Boundary marking

The following information relates to rule 7.1 and when a boundary point must be marked.

Because landowners are entitled to rely on boundary marks as being the definitive markers of their estate, it is essential that:

- they are placed whenever the boundary is potentially in dispute, and
- when they are placed, they are recognisable.

Meaning of the term 'practicable'

Practicable [r 7.1] applies to the circumstance where it is reasonably possible in practice to achieve the requirement. This generally includes circumstances where ground marking is difficult or inconvenient.

When requirement to mark boundaries applies

The requirement to mark boundary points applies only to primary parcels.

Ground marking of boundary points associated with non-primary parcels, including rights of way, is not required by the Rules.

Boundary marking when land is Crown land or Māori land

Where a boundary point is common to new parcels that are all intended to remain in Crown ownership, or the point is on a survey under the jurisdiction of the Māori Land Court, then the point is not required to be ground marked [r 7.1(a)(i) and (ii)].

Note that these boundary points are required to be witnessed [r 7.3.1] and the survey must include PRMs [r 7.4.1].

The Crown agency commissioning the survey, or the Māori Land Court, might specify ground marking where they consider it appropriate.

Boundary marking when boundary is in common ownership

A boundary point is not required to be marked where the point is common to parcels that are required to be, or as a result of the survey will be required to be, held in common ownership [r 7.1(a)(iii)]. An example of this is when the parcels are subject to a compulsory amalgamation condition under the Resource Management Act 1991.

However, this exemption does not apply to those cases where two adjoining parcels will be held in common ownership without any legal requirement to be held together. In this case, the points are to be marked.

Boundary marking when position is not required to be located

A boundary point is not required to be marked where the point is unlikely to be needed to be physically located in the foreseeable future because of the terrain, ground cover, or protected vegetation [r 7.1(a)(v)].

Examples include boundary points coinciding with a cliff face or within current or intended bush covenants.

Boundary marking segregation strips

Where an existing primary parcel is being subdivided and a new segregation strip created to adjoin an existing road, the common boundary of the segregation strip with the road:

- must be defined by survey in the case of a parcel in class A less than 0.4 ha [r 6.2], or
- may be defined by adoption in other cases [r 6.4]. Note, the criteria for accepting a boundary will never be able to be met in these circumstances.

Irrespective of class, these boundary points are not required to be marked [r 7.1(a)(iii)].

Where a new road and segregation strip are being created at the same time, the new common boundary of the segregation strip with the road must be defined by survey [r 6.2(a)(ii)], but it is not required to be marked [r 7.1(a)(iii)].

Marking boundaries when occupation is at boundary point

A boundary point is not required to be marked where the point is readily identifiable by occupation along the boundary [r 7.1(a)(vi)]. Note that where the offset of a fence or post exceeds the accuracy standard, the new boundary point must be marked.

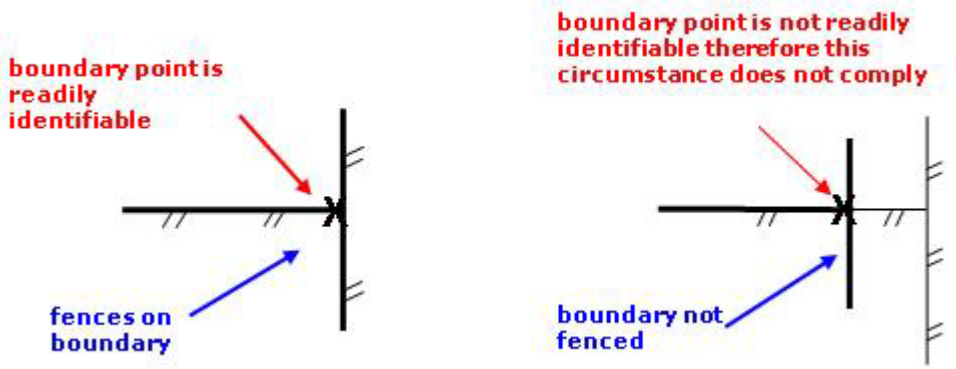


Figure 98: Occupation in regard to a boundary point

Note: Although the above diagram depicts 'fence symbology', the Rules do not include specific symbols for depicting fences, but rule 9.5(a) does require that the feature be described.

Marking boundaries where there is conflict

A boundary or boundary point that is required to be defined by survey because there is conflict [r 6.2(a)(vi)] must be marked where practicable unless there is already a reliable boundary mark in place [r 7.1(b)].

Marked boundaries to be defined and witnessed

In those cases where a boundary mark is placed, the mark is to be:

- defined by survey [r 6.2(a)(ii) and (v)], and
- witnessed [r 7.3.1(c)].

The survey report must record when rule 7.1 is used as an exemption from marking [r 8.2(a)(xiii) and (xiv)].

Last Updated: 4 April 2017

New boundary marks

The following information relates to rule 7.2 and the physical attributes of new boundary marks. It also explains the requirements relating to extraneous boundary marks.

Boundary mark types

Boundary marks must be a traditional wooden peg, a post, or another type of peg (eg aluminum or plastic) [r 7.2(a)].

Where another type of peg is used, it is required to be labelled as a boundary mark. If the use of any of those is not practical, then any other type of mark can be used, which must be clearly labelled as a boundary mark [r 7.2(a)(iv)].

Iron spike as a boundary mark

An iron spike would probably not comply unless it was clearly labelled as a boundary mark.

Lead plug as a boundary mark

A lead plug in concrete would probably not comply unless it was clearly labelled as a boundary mark.

Dumpy peg as a boundary mark

A dumpy peg would generally fall into the criteria specified in rule 7.2(a)(iii) and therefore would be considered a boundary mark that must be clearly labelled.

Wooden stake as a boundary mark

A wooden stake would not generally fall into the criteria specified in rule 7.2(a)(iii) and therefore would not be considered a boundary mark.

Engraving boundary marks

Engraving or branding of lot numbers, 'R', 'RW' and a broad arrow are not required on boundary markers, although surveyors may continue to show them if they wish.

Extraneous boundary marks

Where a new parcel is being created, additional boundary marks may be placed along existing and new parcel boundaries. These marks must be witnessed [r 7.3.1].

In the future, new boundaries may be calculated between these marks noting:

- in some cases, the boundary points must be defined by survey [r 6.2(a)] and therefore witnessed on that later survey [r 7.3.1].
- for all other cases, the points may be defined by adoption providing the relevant accuracy standards are met.

Where additional marks are placed that are not on boundaries, they must be treated as non-boundary marks in a CSD and meet the accuracy tolerances for non-boundary marks [r 3.1].

In the future, when these marks are used as boundary marks:

- they must be defined by survey as they are new boundary points on that later survey [r 6.2(a)(ii)] and
- the mark labelling, witnessing, and PRM requirements apply [r 7.2, r 7.3.1(c) and r 7.4.1(a)].

Last Updated: 6 April 2017

Old marks and existing positions

The following information relates to dealing with old marks, including disturbed, renewed, reinstated and unofficial marks.

It is essential that the primary evidence of boundary location (ie old marks) is dealt with in a consistent and appropriate manner. This not only ensures that boundaries are correctly

relocated, but that future users are able to evaluate the evidential value of this information.

Old boundary marks

'Old' means 'already in cadastre'. The definitions for old survey mark and old boundary mark mean that a mark is permitted to be recorded as 'old' only where its presence is already recorded in the cadastre (normally where the mark has already been recorded on an approved CSD).

Old mark no record

Where a mark is found but its presence is not already recorded on a CSD (ie the mark is unofficial), then this mark must be considered as new to the cadastre (irrespective of the physical age of the mark).

In the cadastre there are CSDs that have been approved as to survey or approved for records purposes only. In both cases, these CSD may have recorded OP No record or other similar marks. These marks are official for the purposes of future surveys but their evidential value would need to be carefully assessed and their positions proven. If used in a later survey they must be referred to as an old mark with the prior CSD reference.

Treatment of unofficial marks

Where an unrecorded boundary mark is included in a CSD and has evidential value, it must be considered as new to the cadastre. This can be achieved by treating:

- the mark as a new boundary mark. In this circumstance, the surveyor is taking responsibility for the correctness of its position as a new boundary marker [r 6.2(v)], or
- by treating the mark as evidence for the purposes of definition in a similar manner to a fence post (occupation). In this circumstance, the surveyor is required to provide details about the mark [r 9.5(a)(iv)].

Where an unrecorded boundary mark is included in a CSD but it has been determined as being incorrectly placed and is ignored for the purpose of definition, the peg may be shown as an occupational feature [r 9.5(a)(iv)]. In this case, the survey report must outline why the mark is not part of the survey evidence [r 8.2(a)(ix)].

An unrecorded non-boundary mark must be treated as a new mark. This includes traverse marks placed by a survey not yet approved by LINZ.

Marks from monumentation CSDs are authoritative

A monumentation CSD is an authoritative CSD source. Surveys that use a mark originally recorded on a monumentation CSD must treat it as an old survey mark [r 2].

Disturbed marks to be treated as new

A disturbed mark is a mark that is not in its original position, and therefore it must be treated as a new mark in its new position [r 7.6].

The use of the term 'disturbed' is a clear indicator that the primary evidence (ie the old mark) has been found but that the surveyor has determined that it is not in the position it was originally placed. This allows future users to evaluate the evidential value of this information.

Historically, old marks (particularly old traverse marks) that appeared to be physically undisturbed, but when compared with other old marks via adopted vectors did not fit within mathematical tolerances, were in some cases termed unreliable. The meaning of this term is not clear and its use is therefore not appropriate. The surveyor is required to determine if a mark is in its original position or not. The fact that measurements indicate a mathematical disagreement with other marks does not necessarily determine the mark as being disturbed.

Capturing disturbed marks

Renewed marks

The term 'renewed mark' applies to a mark placed in the same position as an old mark that has been physically located. This applies to both boundary and non-boundary marks. If an old mark is not found, a new mark cannot be considered to be renewing it.

'In the position of' or 'replaced' instead of 'renewed' are not appropriate terms as they are not clear as to whether an old mark had been found prior to the placement of a new mark. Using 'renewed' is a clear indicator that the primary evidence of a position was found (ie the old mark) before it was replaced with a new mark.

Capturing renewed marks

Reinstated marks

'Reinstated' applies to a mark placed in the same documentary position as an unfound mark placed by a prior survey. This applies to both non-boundary and boundary marks.

'In the position of' or 'replaced' instead of 'reinstated' are not appropriate terms as they are not clear as to whether an old mark had been found prior to the placement of a new mark. Using 'reinstated' is a clear indicator that the primary evidence of a position (ie the old mark) was not found and a new mark has been placed on that boundary point. This allows future users to clearly evaluate the evidential value of this information.

Capturing reinstated marks

Survey mark names

The following information relates to rule 7.5 and the naming of survey marks.

The cadastre is being continually updated by the integration of new cadastral survey datasets and the introduction of more and more survey marks. It is essential that survey marks that relate to particular points are able to be identified and not confused with other marks.

New non-boundary marks to be given unique names

All new non-boundary survey marks and points must be given unique names [r 7.5(a)]. These include new PRMs, new witness marks, and other new non-boundary marks (including traverse marks or unmarked points included in the CSD).

Note, new boundary points and boundary marks are not required to be given unique names although surveyors may do so for referencing purposes.

Components of a new non-boundary mark name

The name must be described by the use of three components in the following sequence [r 7.5(b)]:

1. Physical mark type which may be abbreviated, for example 'IT' for iron tube
2. Unique alpha-numeric identifier, for example '1'. Note, the same alpha-numeric identifier cannot be used for more than one new mark on the same CSD (eg there cannot be a new IT 1 and a new IS 1)
3. Type and number of the CSD, for example 'DP 405689'

Changing the name of an existing survey mark

Rule 7.5(a) requiring a unique name for non-boundary marks applies only to new marks.

If an existing non-boundary mark or boundary point does not have a unique name, a unique identifier may be added in brackets before the CSD reference. For example, marks adopted from DP 7700 could become IT (1) DP 7700 and UNMK (2) DP 7700. This unique name will then be used on future CSDs to comply with rule 9.6.2(d)(ii), unless there are duplicate names, in which case the identifier may be changed to make it unique.

If additional information is to be added to a mark for the benefit of future users (eg a geodetic code), it must be clear that this information is not part of the mark name. One way of ensuring this is to add the information under the mark name in brackets.

Name of undisturbed old mark

An undisturbed old non-boundary or boundary mark must retain its existing name [r 7.5(c)] including the physical mark type, unique identifier (if it has one), and the CSD source type and number.

Last Updated: 28 May 2020

Recording marks and points

The following information relates to the recording of survey mark and point information and symbols in CSDs.

The primary evidence of boundary location (ie. boundary points and marks) must be recorded in a consistent and appropriate manner. This ensures that the information is correctly located and referenced in the cadastre and that future users can interpret the information correctly.

Recording new marks and points on the Diagram of Survey

On a Diagram of Survey, new marks and points are depicted with the symbol types specified in rule 12.2 and survey mark and point information specified in rule 9.6.2. The following table illustrates the information requirements for these marks and points.

Historically, identifiers were required for boundary points. While this is no longer the case, they can be added to the CSD if the surveyor considers they will enable the data to be more easily interpreted (shown as optional in the table below).

A reinstated mark is treated as a new mark.

Find out more about reinstated marks

New Marks & Points	Physical mark type	New identifier	Symbol	Example
New witness mark	✓	✓	new	 IT 3
New PRM	✓	✓	new	 IT 5
New non-boundary mark (eg. traverse)	✓	✓	new	 IS 3
New unmarked non-boundary point		✓	new	 8

New boundary peg or post		optional	new	
New boundary mark (other than peg or post)	✓	optional	new	 LP
New unmarked boundary point		optional	new	

Recording old marks and points on the Diagram of Survey

On a Diagram of Survey, old marks and points are depicted with the symbol types specified in rule 12.2, and survey mark and point information specified in rule 9.6.2. The following table illustrates the information requirements for these marks and points.

Old Marks & Points	Old mark type	Original identifier (if exists)	Original CSD reference	Symbol	Example
Old non-boundary mark	✓	✓	✓	old	 IT VI DP214
Old non-boundary mark, now a witness mark for the purpose of the survey	✓	✓	✓	old	 IT 3
Old non-boundary mark, now a PRM for the purpose of the survey	✓	✓	✓	old	 IT 5
Old boundary peg or post		✓	✓	old	 LP DP 214  DP 214
Old marked boundary mark (other than peg or post)	✓	✓	✓	old	 LP DP 214  DP 214

Recording adopted marks and points on the Diagram of Survey

On a Diagram of Survey, adopted marks and points are depicted with the symbol types specified in rule 12.2 and survey mark and point information specified in rule 9.6.2. The following table illustrates the information requirements for these marks and points.

Adopted Marks & Points	Original identifier (if exists)	Original CSD reference	Symbol	Example
Adopted marked non-boundary mark (including if a witness mark or PRM on the original CSD)	✓	✓	adopted	○ VI DP 214
Adopted unmarked non-boundary point	✓	✓	adopted	✕ VI DP 214
Adopted boundary mark (peg or other mark type)	✓	✓	adopted	○ DP 214
Adopted boundary mark (post)	✓	✓	adopted	□ III DP 214
Adopted unmarked boundary point	✓	✓	adopted	✕ DP 214 ✕ III DP 214

Recording disturbed marks on the Diagram of Survey

On a Diagram of Survey, disturbed marks are depicted with symbol types specified in rule 12.2 and survey mark and point information specified in rule 9.6.2. The following table illustrates the information for these marks.

Disturbed Marks	New Mark type	Original ID	New ID	Origin CSD ref	Symbol	Notation	Example
Disturbed non-boundary mark	✓	If it exists	✓	✓	New	disturbed	○ IS 3 (VI DP214 Dist)
Disturbed boundary mark		If it exists		✓	new	disturbed	○ (XV DP 214 Dist) □ (DP 214 Dist)

Recording renewed marks and points on the Diagram of Survey

On a Diagram of Survey, renewed marks are depicted with the symbol types specified in rule 12.2 and survey mark and point information specified in rule 9.6.2. The following table illustrates the information required for these marks.

Renewed Marks	Old mark type	New mark type	Original ID	New ID	Origin CSD ref	Symbol	Notation	Example
Renewed non-boundary mark, now a witness mark for the purpose of the survey	✓	✓	if it exists	✓	✓	old	renewed	 IT 4 (IS VI DP214 ren)
Renewed boundary peg or post	✓		if it exists		✓	old	renewed	 (Peg DP 214 ren)  IS (Peg DP 214 ren)
Renewed boundary mark (other than peg or post)	✓	✓	if it exists		✓	old	renewed	 IS (LP DP 214 ren)
Old peg renewed IT, now a PRM for the purpose of the survey	✓	✓	if it exists		✓	old	renewed	 IT 5 (peg DP 254)

Exceptions to depicting boundary points on the Diagram of Survey

Boundary points on an existing easement boundary not severed by the creation of a new underlying boundary are not required to be shown on a Diagram of Survey [r 9.6.3(f)(ii)].

Refer to Vectors not required for unaffected non-primary parcel on a Diagram of Survey

Boundary points of boundaries accepted under rule 6.3(c) are not required to be shown on a Diagram of Survey [r 9.6.2].

Refer to Boundary information in the CSD for parcels over 100ha

Name of control marks on the Diagram of Survey

Where the mark is from the national survey control system, the mark's name from that system must be used [r 9.6.2(i)].

Note: the geodetic code is not part of the name for CSD purposes although it may be included on the diagram.

Last Updated: 6 April 2017

Related Content

- Capturing disturbed marks
- Capturing Renewed Marks
- Capturing Reinstated Marks

Cadastral Survey Datasets (CSDs)

Cadastral survey datasets (CSDs)

The following information relates to the general purpose of a cadastral survey dataset (CSD) and provides links to further detail about CSD structure, information required in a CSD, CSD purposes and types, CSD certification and compliance, and dispensation from the rules.

A cadastral survey dataset (CSD) provides an authoritative source of information as to where a boundary is located, where a parcel of land is located, and the attributes of that parcel and boundary. This information enables the correct and unambiguous allocation and management of land rights and the correct re-establishment of the boundaries in the future.

The following articles explain the rules that relate to the structure of a CSD, the different types of CSDs, the information required in different types of CSDs, and CSD certification:

- Structure of a CSD
- CSD plan
- Title plan
- Additional information in a CSD
- Datum information in a CSD
- Survey report
- Recording vectors and dimensions in a CSD
- CSDs from adopted information
- CSDs with a computed boundary point
- CSD to be lodged for boundary marking survey
- Boundary marking surveys and SO CSD types
- Content of a boundary marking SO CSD
- Monumentation CSDs
- Reinstatement CSDs
- Full CSD (Conflict)
- CSDs to record survey information only
- Plan requirements for unit title developments
- Compliance, certification and dispensations for cadastral surveys
- Datasets for other than cadastral purposes

Last Updated: 7 April 2017

Compliance, certification and dispensations for cadastral surveys

The following information relates to the responsibilities and implications of CSD certification, dispensation from compliance with the Rules for Cadastral Survey, and retention of field information relating to a CSD.

Certification

Materiality of CSD certification

Rule 13 requires surveyors to certify as to accuracy and correctness of a CSD and its compliance with the Rules. The certification applies to all rules irrespective of whether the surveyor considers a particular rule is material to the survey or not.

In completing the certification, the surveyor is stating the dataset and its related survey were undertaken by the certifier (licensed cadastral surveyor) personally, or under their personal direction. You can refer to schedule 2 of the Cadastral Survey Act 2002 for more detail.

Read about Surveys directed by other surveyors

The certification applies to all the data contained within the CSD.

The certification is specifically required to appear in the CSD plan [r 9.1(c)].

Irrespective of the tools used by the licensed cadastral surveyor to create a CSD (including tools provided by LINZ which predetermine the form of some of the data components), the data in the CSD as submitted and certified, will remain unchanged as submitted to LINZ. This means the responsibility for the correctness and accuracy of the CSD rests on the licensed cadastral surveyor.

Title Plan certification information

The name of the certifying surveyor and the survey firm is required to be part of the Title Plan [r 10.1(b)].

Where boundaries are defined by survey

The certification includes compliance with rule 6.1 which requires a surveyor when defining a boundary by survey, to gather and interpret evidence in accordance with all relevant enactments and rules of law. This means that in the context of a boundary defined by survey, the surveyor is certifying that they have properly considered:

- the Cadastral Survey Act 2002 and other legislative requirements particular to that survey and include statutory regulations, rules and rulings. Examples include the Conservation Act 1987, LTA, Te Ture Whenua Māori Act 1993, Surveyor General's Rulings and so on, and
- other rules of law. This includes relevant common law precedents such as recent legal judgments, the hierarchy of evidence, and the doctrine of accretion and erosion.

Record purposes only CSDs

There is no provision for a CSD of a lesser standard to be lodged for 'record purposes only'.

Every CSD must be fully compliant with all applicable rules. On acceptance by LINZ, every CSD will contain authoritative data.

No exclusions to certification

The surveyor may wish to include in the CSD, diagrams and information that were prepared for other purposes. Examples include 'as built diagrams' or 'scheme plans'.

If this information is included, it must be correct. Any statements that were designed to limit liability for those other purposes must be removed before inclusion in the dataset. Examples include 'the users of this information must independently verify the information' or 'this information is subject to survey'.

Surveys directed by other surveyors

Surveyors need to be particularly aware of their obligations when certifying a survey which has been partially completed under the direction of another licensed cadastral surveyor (refer to Survey Quarterly Issue 56, December 2008, p30). Read the article.

Schedule 2 Cadastral Survey Act 2002 states that a licensed cadastral surveyor is guilty of professional misconduct if the cadastral surveyor is found in any proceedings or appeal under Part 4:

- **(1)(b)** to have certified to the accuracy of any cadastral survey or cadastral survey dataset without having personally carried out or directed the cadastral survey and the related field operations,
- **(1)(c)** to have certified to the accuracy of any cadastral survey or cadastral survey dataset without having carried out sufficient checks to ensure the accuracy of the entries in any field book and the accuracy of all calculations, working plans, and other cadastral records that may have been made by any person employed by him or her in relation to the cadastral survey,
- **(1)(d)** to have certified to the accuracy of any cadastral survey carried out by the cadastral surveyor or under his or her personal direction if the operation of pegging

and ground marking, and all other requirements of the cadastral survey, have not been carried out in accordance with standards set under Part 5.

Dispensations

Dispensation requirement to act as a rule

When a surveyor has had a dispensation granted by the Surveyor General (or his delegate) allowing an exemption from a particular requirement or specifying alternative requirements, the dispensation becomes part of the rules for the purpose of the surveyor's certification for that survey [s 47(6) of the Cadastral Survey Act 2002]. The surveyor must either fully comply with the terms of the granted dispensation or with the normal rule(s).

Availability of dispensation

Dispensations are not specifically provided for in the Rules but can be considered under s 47(5) of the Cadastral Survey Act 2002.

Generally dispensation requests will only be granted where:

- there are no significant risks to the cadastral outcomes,
- the circumstances are exceptional, and
- the particular case is not covered by the Rules.

Dispensation requests must be accompanied by sufficient relevant information. Read more about how to apply for a dispensation and the information that must be included.

Requirements relating to field information

Field information consists of entries made at the same time as the facts of a survey are ascertained. It is therefore particularly important as evidence of the survey, as recognised in the Cadastral Survey Act 2002 and by the New Zealand Courts.

All relevant field information must either be included in the CSD to which it relates or be retained for at least seven years from the date of certification of the CSD (r 14).

Last Updated: 7 December 2018

Structure of a CSD

The following information relates to the structure and key components required for a cadastral survey dataset (CSD), and the inclusion of additional non-mandatory information.

Components for a CSD creating a new parcel

Where a new parcel is being created, the content of a CSD must include three key plan components [r 8.1]:

Component	Description
CSD Plan [r 8.1(a)]	This component holds survey information and is designed for survey users. The information provides a record of the survey as lodged and certified, and is necessary to enable the accurate re-establishment of boundaries in the future.
Title Plan [r 8.1(b)]	This component holds title information, and is designed for tenure managers and right holders. The information is necessary for the correct management and allocation of rights; to support the resource consent process (before and after lodging with LINZ); and to depict the rights for current and future landowners, right-holders and other interested parties.
Other specified information [r 8.1(c)-(f) and r 8.2]	This component holds information not required to be part of the CSD Plan or Title Plan, but necessary for the CSD to be integrated into the cadastre and to enable the tenure manager to issue the intended rights.

How the CSD components fit together for the Rules

The CSD Plan, Title Plan, and Other specified information combine to make up a CSD (refer to Figure 99 below).

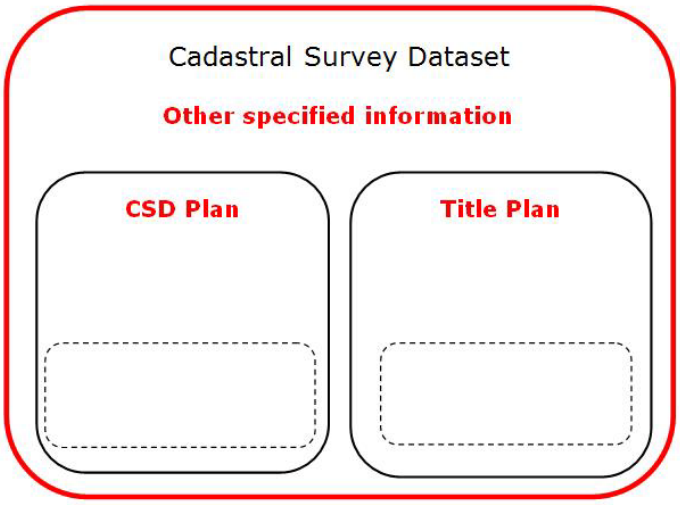


Figure 99: Relationship between CSD components

Title Plan not required where no new parcel

Where a new parcel is not being created (eg a CSD that records only survey information or the placement of a boundary mark), the Title Plan component is not required (refer to Content of a boundary marking SO CSD).

How the CSD components fit together in Landonline

In Landonline, the CSD Plan, Title Plan, and Other information combine to make up a CSD (refer to Figure 100 below).

'Other information' will include the mandatory information specified by rules 8.1(c)-(f) and 8.2 plus non-mandatory information supporting the CSD.

The CSD Plan will include the mandatory information specified by rule 9. Some of the non-diagrammatic information will be captured as components of the survey header and the mark and vector report. Where the information is attached as a 'Plan graphic' supporting document, Landonline will incorporate it as part of the Diagram of Survey and the Diagram of Parcels.

The Title Plan will include the mandatory information specified by rule 10.

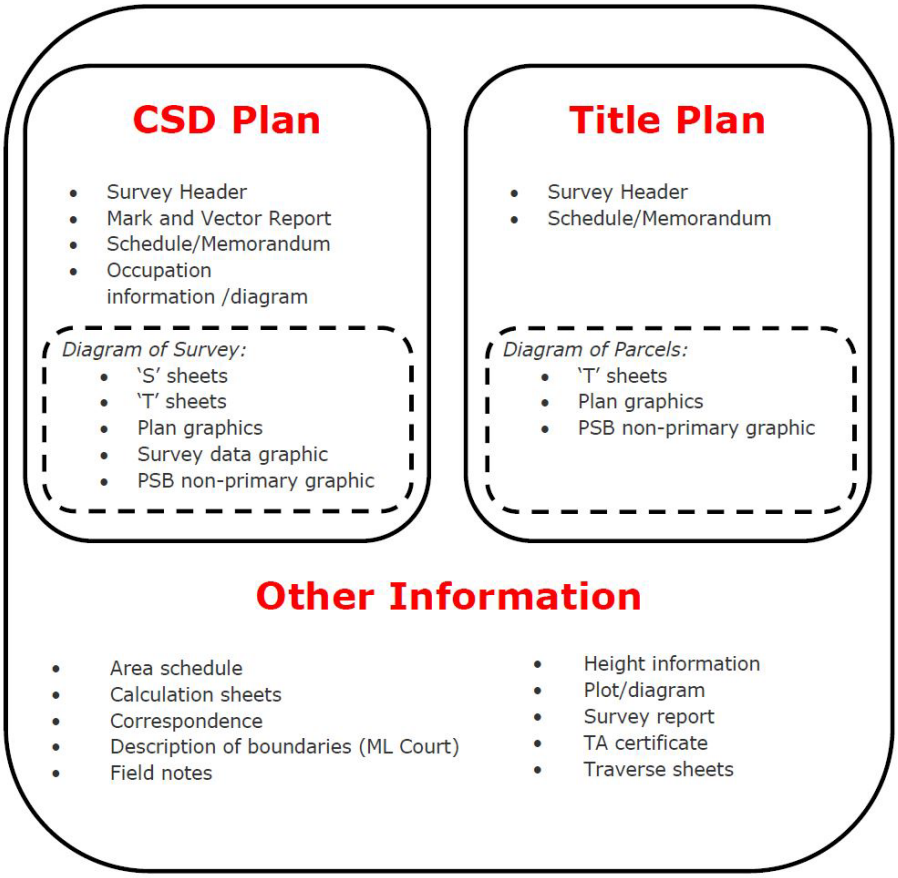


Figure 100: CSD format in Landonline

Non-mandatory information

Additional information may be included in CSD, such as traverse sheets, calculation sheets, schedules for legalisation CSD or additional diagrams. Where it is included in a CSD, it must be consistent with the other information in the CSD required by the Rules.

Last Updated: 6 March 2018

CSD plan

This article relates to the information that is required to be included in a CSD Plan under rule 9 including information on PRMs, occupation, and how to deal with unofficial boundary marks.

The CSD Plan holds survey information designed for survey users. The information is necessary to provide a record of the survey as lodged and certified and to enable surveyors to use this information to re-establish the boundaries in the future.

Components of a CSD Plan

Every CSD must include a CSD Plan [r 8.1(a) and r 11.3(a)].

This includes CSDs without survey information for unit and cross lease developments where the CSD plan and the Title plan may be quite similar. The majority of information will be aspatial information depicted on plan graphics.

A CSD Plan consists of both diagrammatic and non-diagrammatic information. The diagrammatic information must be depicted on a Diagram of Survey [r 9.6 and r 11.4.1].

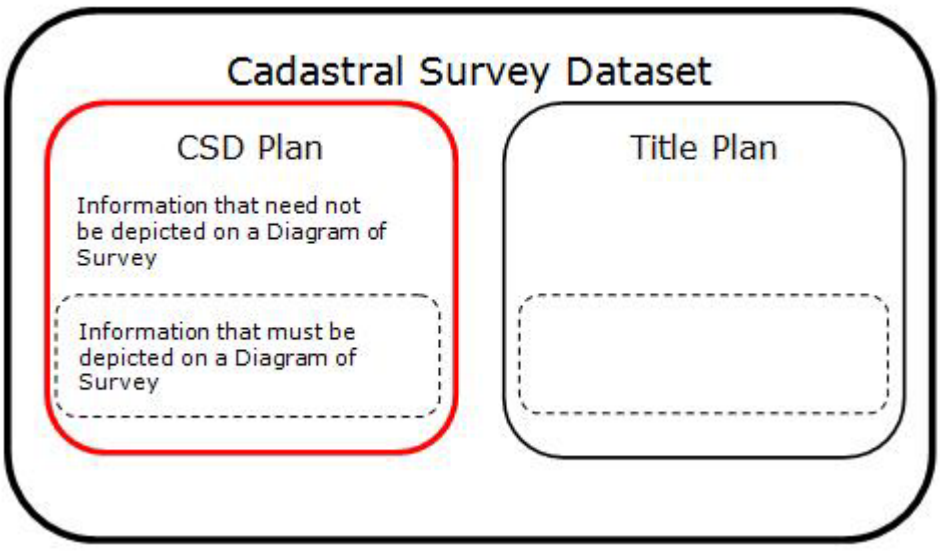


Figure 101: Information in a CSD Plan

Non-diagrammatic information in a CSD Plan

In a CSD Plan, information not required to be presented diagrammatically includes information about:

- existing CSDs used for the survey [r 9.1(a)] (note, the land district reference is required for CSDs with a number less than 300 000),
- the location and description of PRMs [r 9.1(b)] (refer to Information for permanent reference marks below),
- horizontal and vertical datums used in the survey [r 9.2] (refer to Datum information in a CSD),
- adopted vectors, bearing adjustments, and the type of vectors [r 9.3] (refer to Recording vectors and dimensions in a CSD)
- adopted boundaries, the survey class, and the description of a water boundary [r 9.4] (refer to Recording class of survey in CSD plan and CSD diagrams must include physical description), and
- occupation and physical features [r 9.5] (refer to Occupation and physical features below).

Non-diagrammatic information may be in Diagram of Survey

In a CSD Plan, the surveyor can choose to include non-diagrammatic information on the Diagram of Survey. Its inclusion on the diagram satisfies rules 9.1 to 9.5.

Information for permanent reference marks

A CSD Plan must include the description and location information for a PRM where that information is not already recorded in the cadastre [r 9.1(b)]. Historically this information was often recorded in a location diagram.

While the rule does not specify content, the information could include:

- the relationship of the mark to physical features and structures in close proximity,
- the mark's relationship to ground level, and
- a description of any material used to stabilise the mark (eg concrete).

It is recommended that this information is captured in the Landonline 'mark detail – description' field. This enables the information to be displayed on the Diagram of Survey and to be viewed with the object information tool in the spatial window. It will also appear in the 'mark and vector' schedule of the CSD plan.

Alternatively, this information can be provided on a location diagram in conjunction with the 'occupation diagram' that gets incorporated into the 'CSD plan'.

Descriptions for geodetic control marks included in the geodetic database satisfy rule 9.1(b).

Occupation and physical features

Meaning of extent of occupier's use of land

A CSD Plan must include occupation information [r 9.5(a)].

If a field note is used to depict occupation, this note must be included in the CSD as an 'occupation diagram' so that it becomes part of the CSD plan.

The requirement to provide occupation information applies both when the extent of occupation is contained inside the parcel under survey and where the land used extends beyond the parcel boundaries as shown in Figure 102 below.

Historically, occupation has been interpreted as the physical objects in close proximity to a boundary rather than the extent of an occupier's use.

To satisfy rule 9.5, the information must now include the nature and age of the feature (fence) and its relationship to the parcel boundary.

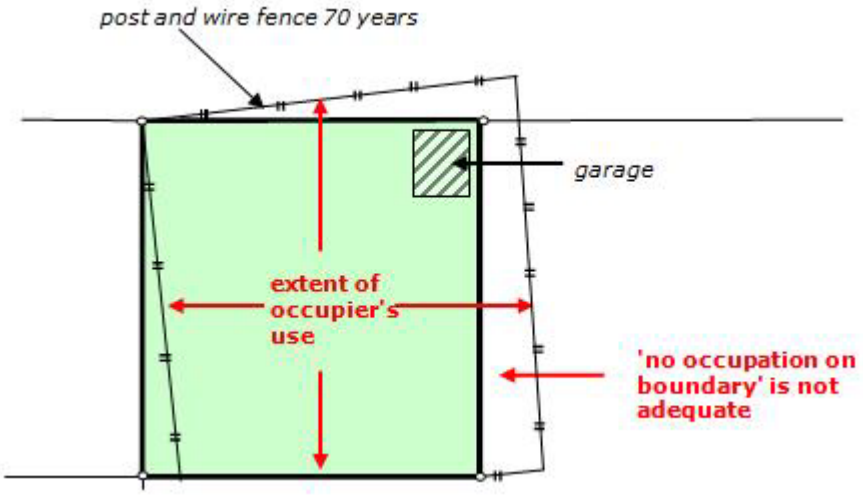


Figure 102: Extent of occupier's use

When occupation information is required

The longstanding practice of including occupation information only for new boundaries and in some cases only where occupation was within 1 m of a boundary, no longer applies.

The requirement to include occupation in a CSD Plan applies to all:

- new primary parcel boundary points defined by survey on an existing boundary [r 9.5(b)(i)]. Line pegs are an example.
- existing points being marked or remarked [r 9.5(b)(ii)]. This applies to both primary and non-primary parcels.

- existing or new boundary points required to be defined by survey because of conflict or when there is the potential for another party to have an interest in the boundary location [r 9.5(b)(iii)].

Note that in this case the occupation must be in the form of a diagram [r 9.5(b)(iii)] to enable a layperson to easily interpret the relationship between the occupation and the boundary.

Relevant occupation can be inside or outside the parcel under survey.

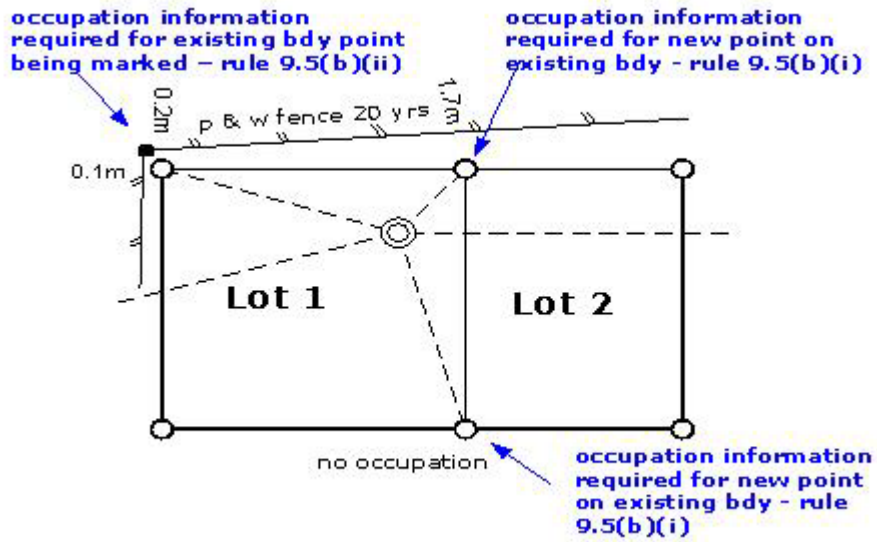


Figure 103: Ocupation diagram example

OP no record can be occupation

If an old peg is not used as a boundary mark on the new survey, it must be recorded in the CSD Plan as occupation information [r 9.5(a)(iv)] (refer to Old mark no record). While the details to be provided are not specified, the information could refer to the mark being unofficial and having the appearance of a boundary mark.

The information required by rule 9.5(a)(iv) and mark position may be depicted on the Diagram of Survey as an alternative method of complying with this rule.

Last Updated: 7 April 2017

Title plan

This article relates to the information that is required to be included in a Title Plan under rule 10.

A Title Plan holds title information and is designed for tenure managers (for example the Registrar General of Land and the Māori Land Court), right holders, and other users (including lawyers and local authorities).

The information is necessary for the correct management and allocation of rights, to support the resource consent process (before and after lodging with LINZ), and to depict the extent and location of rights for current and future landowners, right-holders, and other interested parties.

When a Title Plan is required

A CSD must include a Title Plan whenever a new parcel is being created [r 8.1(b)].

Components of a Title Plan

A Title Plan consists of both diagrammatic and non-diagrammatic information. The diagrammatic information must be depicted on a Diagram of Parcels [r 10.4].

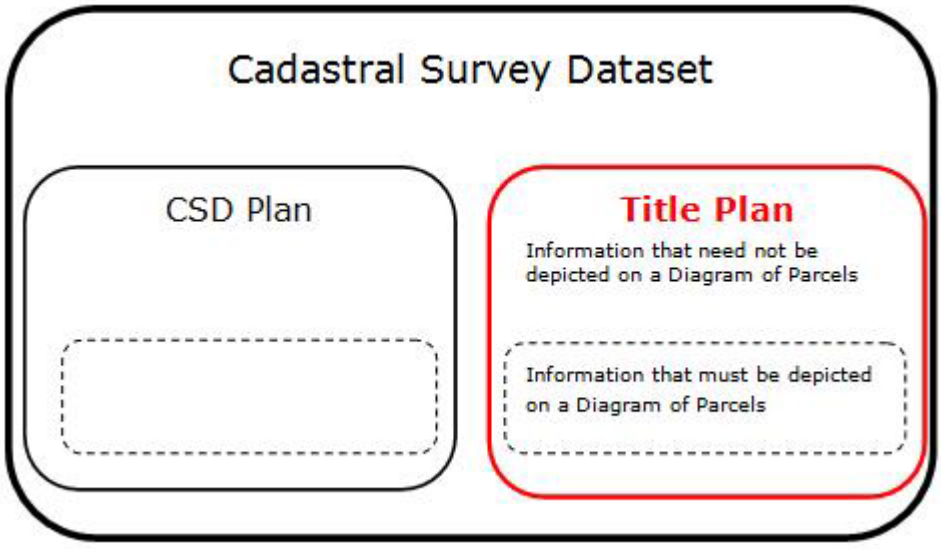


Figure 104: Information in a Title Plan

Non-diagrammatic information in a Title Plan

Information which is not required to be presented diagrammatically on the Diagram of Parcels includes:

- information that enables a tenure manager to process the CSD [r 10.1],
- easement information relating to either a memorandum or schedule [r 10.2], and
- notations required to support new or existing covenants [r 10.3].

Non-diagrammatic information may be in Diagram of Parcels

In a Title Plan, the surveyor can choose to include non-diagrammatic information on the Diagram of Parcels. Its inclusion on the diagram satisfies rules 10.1 – 10.3.

Parcel intent in Title Plan

A Title Plan must include the parcel intent for each parcel [r 10.1(e)].

Appellation of underlying parcel in Title Plan

A Title Plan must include the appellation of each underlying parcel [r 10.1(f)], that is the parcels whose interests are or will be directly affected or encumbered by a non-primary parcel (refer to Underlying parcel).

The underlying parcel must not be confused with the parcel to be extinguished.

Notations and memorials in Title Plan

In a Title Plan, the notations, memorials, or other matters required by law [r 10.1(g)] will be determined by the legislation applicable to the survey. Examples of where notations may be required are for land being vested, dedicated, transferred, proclaimed, or amalgamated.

In the case of land that is to vest in the Crown or territorial authority upon deposit of a subdivision CSD, a vesting notation must be shown on the Diagram of Parcels (of the Title Plan). This notation must include the vesting purpose, the fact that the land is to vest, and in whom the land is to vest [RGL requirement for CSD to deposit].

In the case of land that is in the coastal marine area, the notation 'Common marine and coastal area' or, where applicable, 'erosion (common marine and coastal area)' must be depicted on the Diagram of Parcels of the Title Plan [RGL requirement for CSD to deposit].

This includes land in a primary parcel where it must become common marine and coastal area upon deposit of a subdivision CSD pursuant to s 237A RMA 1991) (refer to MACAA and land becoming common marine and coastal area under s 237A of the RMA) or land in a residue parcel where it is already common marine and coastal area (refer to MACAA and land already part of common marine and coastal area as residue parcel).

Last Updated: 6 April 2017

Additional information in a CSD

This article relates to the information required in a CSD under rule 8 in addition to that required in either the CSD Plan or the Title Plan under rules 9 and 10.

The additional information is required to:

- allow the CSD to be integrated into the cadastre,
- enable the tenure manager to issue the intended rights, and
- ensure future users of the CSD (including future surveyors) understand the evidence and the rationale used by the certifying surveyor when certifying the CSD.

The other specified information includes:

- the appellation of each parcel that is to be extinguished [r 8.1(c)] (refer to Extinguished parcel),
- vertical datum information [r 8.1(f)] (refer to Vertical datum information),
- vectors to ascertain and verify the relationship between points and marks [r 8.1(d) and 8.1(e)] (refer to Recording vectors and dimensions in a CSD), and
- a survey report [r 8.2] (refer to Survey report).

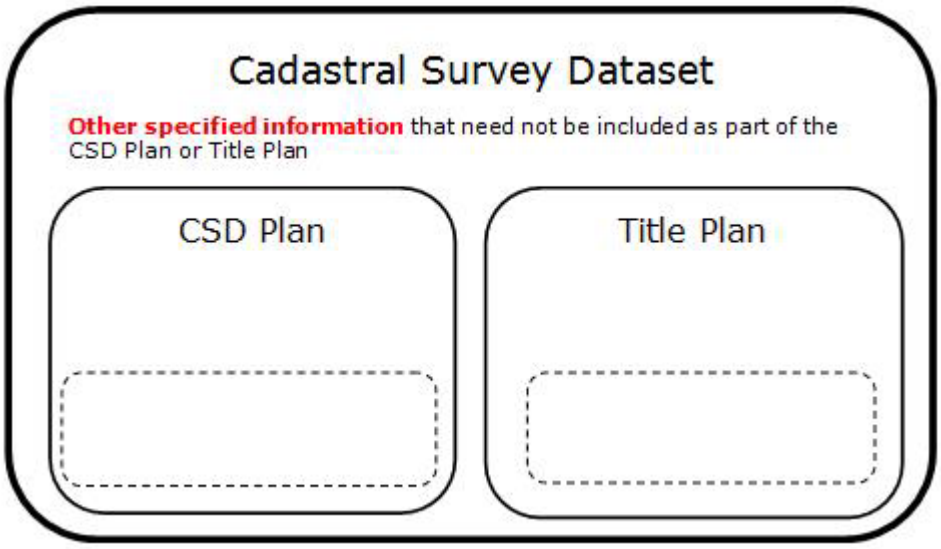


Figure 105: Other information in a CSD

Last Updated: 7 April 2017

Datum information in a CSD

This article relates to datum information that is required to be included in a CSD under rule 9.2.

Horizontal datum information

A CSD Plan must identify the horizontal datum and projection used [r 9.2(a)].

No reference is required in a CSD to coordinate values or an origin of horizontal coordinates.

Vertical datum information

Where a reduced level is used to mathematically describe a stratum boundary, the CSD Plan must include the vertical datum [r 9.2(b)].

Where a reduced level is used, the CSD must include information on the origin of the heights [r 8.1(f)].

Where an existing stratum boundary is being adopted in terms of rule 19 (Use of existing unit and lease parcel boundaries), the Diagram of Survey must include the:

- height datum
- heighted non-boundary marks with their reduced levels (they may have been noted as bench marks)
- reduced levels of the stratum boundary.

Last Updated: 7 April 2017

Related Content

- Horizontal Datum - orientation
- Vertical datum

Survey report

This article relates to the information that is required to be included in a survey report under rule 8.2.

A CSD must include a survey report [r 8.2(a)] unless the CSD is a monumentation CSD (refer to Monumentation CSD rule exemptions).

Survey report must address all information requirements

Rule 8.2(b) requires that the report must address each of the requirements of rule 8.2(a) by:

- providing the information in the survey report, or
- noting in the survey report where this information is otherwise provided in the CSD, or
- noting in the survey report that the specified requirement is not applicable to the dataset.

Survey report must include purpose of survey

While rule 8.2(a)(i) is not specific, the purpose of the survey could include:

- the general purpose. Examples include the exchange of freehold land for reserve, the uplifting of limitations, claim for accretion;
- the legislation which will be used to complete the intended action. Examples include the Land Transfer Act 2017, Unit Titles Act 2010, Public Works Act 1981, Local Government Act 1974 or Te Ture Whenua Māori Act 1993. This information is relevant where the process being used is unusual, as in the cases of deed of settlement claims, treaty settlement legislation, or special Acts of Parliament;
- related issues that clarify the process to be used. Examples include the treatment of non-primary parcels, limited titles, staged unit developments, substituted developments, water bed not in a new title, vestings, and claims.

Survey report must include basis for determining the orientation of bearings

The basis for determining the orientation of bearings [r 8.2(a)(ii)] is an important element of the survey report because the Rules do not specifically require the identification of origin marks.

The information could include:

- a description of the method used to orientate the survey in terms of the official geodetic projection. Examples include:
  - GNSS orientation on two marks, or
  - bearing observations from control marks (refer to Vectors to distant control marks), or
  - by a traditional three mark origin from existing marks in association with confirmation that the orientation is in terms of NZGD2000,
- an analysis of the reasons why bearings in terms of NZGD1949 and NZGD2000 have been determined as being one and the same, and
- details where the survey does not include field measurements as in the case of new non-primary parcels or where all the boundaries have been adopted or accepted.

Survey report must include information on old marks

The survey report must include:

- an assessment of the adequacy of the number and location of old survey marks used to define boundaries [r 8.2(a)(viii)],
- information about existing marks looked for and not found [r 8.2(a)(vii)]
- the reasons why relevant marks were not searched for [r 8.2(a)(vii)], and
- the reasons why an old mark was not relied on [r 8.2(a)(vi)].

Survey report must include reference to prior correspondence with LINZ

The survey report must include reference to any prior correspondence with LINZ on issues relevant to the application of the Rules [r 8.2(a)(xv)]. Examples include reference to a survey dispensation, correspondence with the Registrar-General of Land, or to any other advice provided by LINZ.

Last Updated: 12 November 2018

Related Content

- Survey report: Tips for compliance with Rule 8.2
- Horizontal Datum - orientation

CSDs from adopted information

The following information relates to CSDs compiled from adopted information and requirements where a new boundary is calculated between adopted boundary points.

Historic application of compiled plan does not apply

Historically, a compiled plan was defined as a plan prepared from existing survey records. It was a CSD prepared without any field survey.

This dataset type was used for all classes of survey where the boundaries of a new parcel were adopted boundaries that already existed in the cadastre, or were calculated from existing points in the cadastre.

The current Rules do not use the term compiled plan.

Current CSD type where data is adopted

Rules 6.3 and 6.4 specify when a boundary and boundary points are permitted to be defined by adoption or accepted.

In some cases, all parcel boundaries in a CSD will fit the criteria of rules 6.3 and 6.4 and be permitted to be adopted from existing survey records. In these cases the CSD will be a CSD of parcels without survey information (refer to Parcels without survey information below).

The Rules require that adopted information is identified as adopted [r 12.3], copied correctly [r 8.4], and that the source of the information is included [r 9.3]. Note that rule 8.4 enables an adoption to include a bearing adjustment.

The Rules do not require the notation Compiled Plan to be on the diagrams or included in the CSD.

Parcels without survey information

'Parcels without survey information' is a CSD type used in Landonline.

It is a CSD where the captured marks and vectors only include boundary points and vectors between boundary points. It does not include captured non-boundary marks and associated vectors. An example where this can occur is an easement only CSD where the boundaries are computed or a mixture of computed and adopted boundaries.

Where a new boundary is calculated between two existing points, there must be sufficient vectors in the CSD to enable the relationship between the points to be ascertained and verified [r 8.1(d)].

Where these points have not been in the past linked together by a vector, verifying that the calculated relationship between the two points is within the accuracy tolerances can be problematic. Often the most appropriate proof of this relationship will be by the use of traverse adoptions which must be captured. In this case, while the boundary is a calculated boundary, the CSD type will be 'survey' not 'Parcels without survey information'.

Calculating a new boundary between existing boundary points

Where a new primary parcel boundary is to be calculated between existing primary parcel boundary points:

- If the boundary is class A and the new parcel is less than 0.4 ha and comprises less than 90% of the parcel it is replacing, the existing boundary points must be defined by survey [r 6.2(a)(iv)] and witnessed [r 7.3.1(a)]. The survey must include field work because witness marks must not be adopted [r 7.3.3(a)] and PRMs are required [r 7.4.1(a)].
- For other parcels, the existing boundary points may be defined by adoption providing the points meet the accuracies specified in rule 3.3. The CSD must include sufficient vectors to ascertain and verify the relationship between the boundary points in accordance with the applicable accuracy standard [r 8.1(d)(ii)]. The use of adopted boundary vectors and, in some cases non-boundary vectors, linking these points may serve this purpose. The survey will be able to be completed without field work.

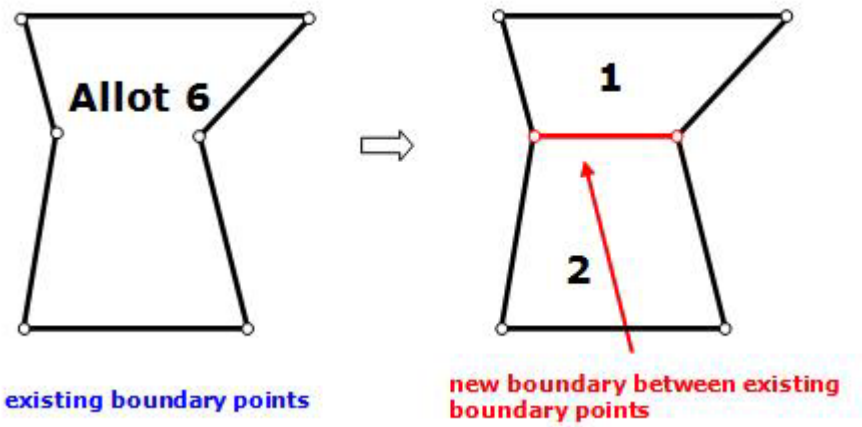


Figure 106: new boundary between existing primary parcel boundary points

Where a new non-primary parcel boundary is to be calculated between existing parcel boundary points, the existing boundary points may be defined by adoption providing the points meet the accuracies specified in rule 3.3. The CSD must include sufficient vectors to ascertain and verify the relationship between the boundary points in accordance with the applicable accuracy standard [r 8.1(d)(ii)]. The use of adopted boundary vectors and, in some cases non boundary vectors, linking these points may serve this purpose.

In all cases, the CSD will include a CSD Plan and a Title Plan

Last Updated: 26 September 2017

CSDs with a computed boundary point

The following information relates to CSDs with a computed boundary point.

Historic application of computed plan does not apply

Historically, a computed plan was defined as a plan prepared either under the proviso in s 167(1) of the Land Transfer Act 1952 or any similar dispensation granted by the Surveyor-General. It was a CSD prepared where a new boundary point was computed without any field survey.

The dataset type was used for all classes of survey where one or more of the boundaries and boundary points of a new parcel were calculated without any boundary marking on the ground.

The current Rules do not use the term computed plan.

Current application where a boundary point is computed

Rule 7.1 specifies the conditions where a primary parcel boundary point must be marked. Where a new primary parcel boundary point is not required to be marked, it must still be defined by survey [r 6.2(a)(iv)] and witnessed [r 7.3.1(a)].

Where a CSD only contains non-primary parcels, no new parcel boundary points are required to be marked, witnessed, or to have PRMs [r 7.3.1, r 7.4.1(a)].

Note, there is an exception with some types of non-primary lease boundary points where boundary points must be witnessed [r 7.3.1(b)] and new stratum boundary points where there must be heighted PRMs and witness marks [r 7.3.1(d) and r 7.4.3(d)].

The Rules do not require the notation Computed CSD on the diagrams or included in the CSD.

Last Updated: 6 March 2018

CSD to be lodged for boundary marking survey

The following information relates to rule 8.5 and lodging a CSD to record a boundary marking only survey. This information includes the timeframe for lodging a CSD, the type of CSD to be lodged, the use of stakes or dumpy pegs, and marking boundaries of Māori land held in provisional titles.

Obligation to lodge a CSD recording boundary marking

A CSD recording the placement of a boundary mark must be lodged when a boundary mark has been placed to define an existing boundary or boundary position on an existing boundary and the survey does not create a new parcel (for example, is not a subdivision survey) [r 8.5(a)].

Lodgement within six months for boundary marking CSD

A CSD recording the placement of a boundary mark must be lodged within six months of the placement of a boundary mark [r 8.5(a)].

When a boundary position has been repeatedly re-marked (for example, due to ongoing site works removing the mark), a CSD must be lodged within six months of the first time the position was marked. The data on this CSD must record the survey of the last placement of a mark in that position [r 8.5(b)].

Boundary marking CSD to be lodged as SO

A CSD recording a boundary marking only survey is to be lodged as a survey office (SO) CSD with a unique CSD reference number.

Where a stake has been used to indicate a boundary position

If something other than a boundary mark as defined by rule 7.2 has been used to set out an existing boundary point (for example, a stake or painted cross), it is not necessary to lodge a CSD to record the survey.

Note that if a dumpy peg is placed with a stake, then the dumpy peg is considered to fall within the criteria of a boundary mark [r 7.2(a)(iii)].

Boundary marking surveys and Māori land provisional titles

Where a boundary marking survey is to be carried out and the boundary point is defined on a CSD previously approved under LINZS10000: Interim standard for computed cadastral survey datasets for Māori freehold land, the point being marked must be defined by survey [r 6.2(a)(v)]. This means that all the relevant evidence (including evidence relating to Māori Land Court minutes) must be gathered and considered.

If, after taking into account the evidence, the position of the point does not agree with that defined in the previously approved CSD, a boundary marking survey must not be carried out.

If a new boundary point is to be recognised as authoritative, a Māori land survey creating new title is required.

Last Updated: 4 April 2017

Boundary marking surveys and SO CSD types

The following information relates to the different types of boundary marking surveys and their associated survey office (SO) CSD types, including a summary of survey and CSD requirements.

Survey types for boundary marking

Depending on the complexity of the survey, a boundary marking survey must be either a:

- 'boundary reinstatement survey' which is recorded in Landonline as a 'Boundary Marking – Monumentation CSD' or a 'Boundary Marking – Reinstatement CSD', or
- 'full survey' which requires a full CSD and in Landonline is recorded as a 'Boundary Marking – Full CSD (Conflict)'.

Note: the term 'full' is an informal term used in this guide to refer to a survey which includes witnessing, PRMs, etc and a CSD which includes information relating to definition, vectors, reporting, etc.

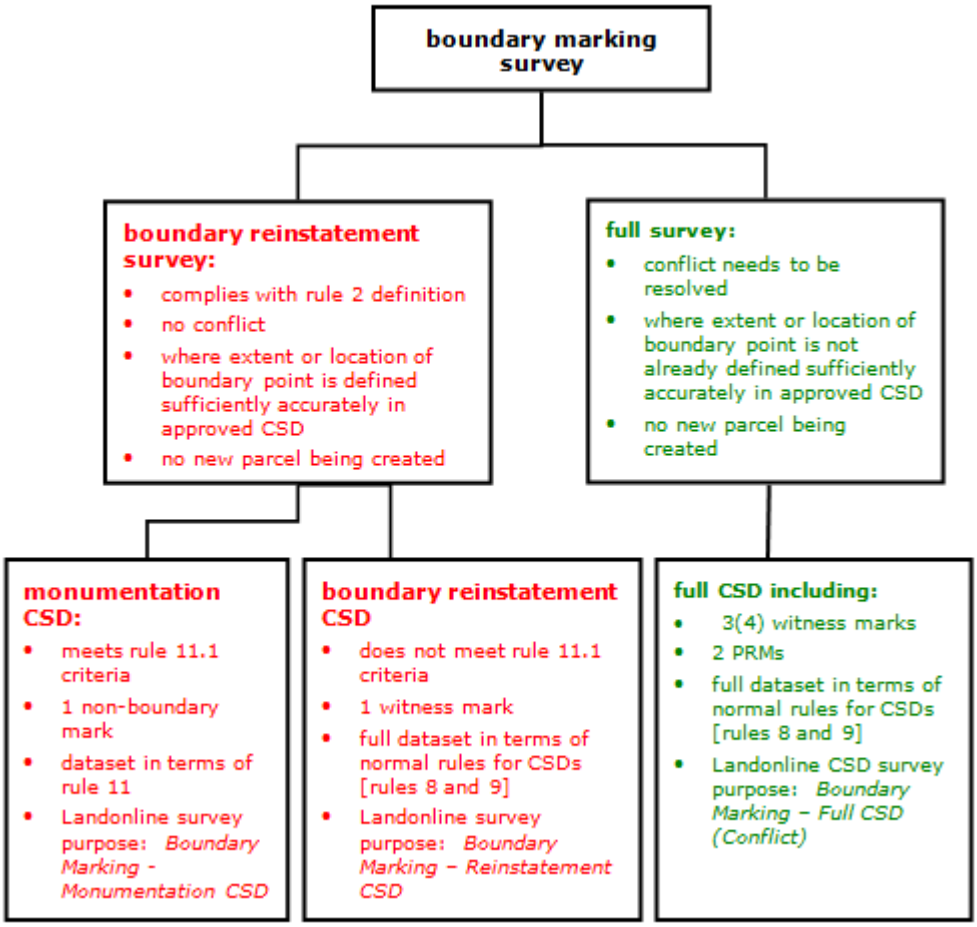


Figure 107: Types of surveys and CSDs for recording boundary marks

Boundary reinstatement survey CSD type

Depending on the quality of the existing survey work and the survey marks found, a boundary reinstatement survey may be recorded on one of two different types of survey office (SO) CSDs:

- **Boundary Marking - Monumentation CSD**. Where rule 11.1 criteria are able to be met, a boundary reinstatement survey without witness marks may be completed and recorded on a monumentation CSD [r 8.5(c)]
- **Boundary Marking - Reinstatement CSD**. Where rule 11.1 criteria are not able to be met, a boundary reinstatement survey with one witness mark but no PRMs [r 7.3.2(d) and r 7.4.1(b)] is to be completed and recorded on a CSD that complies with all the data requirements of rules 8.1, 8.2, and 9 (refer to Summary of survey and CSD requirements below).

The surveyor may choose to prepare a reinstatement CSD even though the monumentation CSD criteria are able to be met.

The placement of a boundary line mark can be treated as a boundary reinstatement survey, even though it is not reinstating a previously defined point. A monumentation CSD is not appropriate in these cases.

Where the survey does not meet the criteria for a boundary reinstatement survey (refer to definition of 'boundary reinstatement survey' in rule 2), then a full survey is required.

'Full' CSD for boundary marking survey

Where an existing boundary has been located, but the survey does not comply with the criteria for a boundary reinstatement survey [rule 2], a full survey must be carried out.

This survey must include three witness marks [r 7.3.1(a)] and two PRMs [r 7.4.1(a)].

Examples where a full survey must be carried out are where:

- the boundary point is subject to conflict [r 6.2(a)(vi)]
- the location of the boundary point is not sufficiently defined in an approved CSD [r 6.2(a)(vii)] (this includes boundary positions that are defined only on a 'diagram on transfer').

The survey purpose in Landonline for a full survey recorded on a boundary marking survey office (SO) CSD is Boundary Marking - Full CSD (Conflict). The CSD must include all the data requirements specified in rules 8.1, 8.2 and 9.

Summary of survey and CSD requirements

There are different requirements for each type of boundary marking surveys and their associated CSDs (refer to Boundary reinstatement survey CSD type and 'full' CSD for boundary marking survey above). Here is a summary of requirements:

Rule	Monumentation CSD *	Reinstatement CSD or Full CSD (Conflict) **
PRMs	Not required [r 11.2(d)]	Full survey must have a minimum of 2 PRMs [r 7.4.1(a)] Boundary reinstatement survey is not required to include a PRM [r 7.4.1(b)]
Witnessing	Not required [r 11.2(c)]. The old survey mark does not need to meet the witness mark criteria of r 7.3.3(b).	Full survey must have a minimum of 3 (or 4) witness marks [r 7.3.2(c)] Boundary reinstatement survey must have minimum of one witness mark [r 7.3.2(d)].

Survey Report	Not required [r 11.2(f)]	Normal requirements for both Boundary reinstatement survey and Full survey [r 8.2(a)]
Vectors in the CSD	Marks must be joined by one or more vectors which are depicted on the Diagram of Survey [r 11.4.1(d)].	Normal requirements for both Boundary reinstatement survey and Full survey (sufficient vectors to enable the relationship between the points to be ascertained [r 9.6.13(a)] and verified [r 8.1(d)]. This will normally require more than one vector between the points and can include adopted vectors).
Marks in the CSD	Must include boundary mark(s) placed and the old non-boundary survey mark [r 11.4.1]. Other old marks, such as might be used to obtain orientation or provide reliability, are not required (but can be included).	Normal requirements for both Boundary reinstatement survey and Full survey including old, new or adopted marks that have been used to determine the position of the marked boundary.
Two vectors for each point/mark	Not required [r 11.2(e)].	Normal requirements for both Boundary reinstatement survey and Full survey.

* Monumentation CSD (recording a 'boundary reinstatement survey' that meets the criteria of rule 11.1)

** Reinstatement CSD (recording a boundary reinstatement survey that does not meet the criteria of rule 11.1) or a Boundary Marking – Full CSD (Conflict) (recording a full survey)

Last Updated: 4 April 2017

Content of a boundary marking SO CSD

The following information relates to the key components that are required in a boundary marking survey office (SO) CSD.

A Title Plan is not required in a SO CSD that only records the placement of a boundary mark [r 8.1(b) and 11.3]. This is because a new parcel is not being created.

Key plan components of an SO CSD recording boundary marking are:

- A CSD recording boundary marking is required to include only a CSD Plan [r 8.1(b) and 11.3].
- This CSD plan consists of both diagrammatic and non-diagrammatic information.
- The diagrammatic information must be depicted on a Diagram of Survey [r 9.6.1 and 11.3(b)(v)].

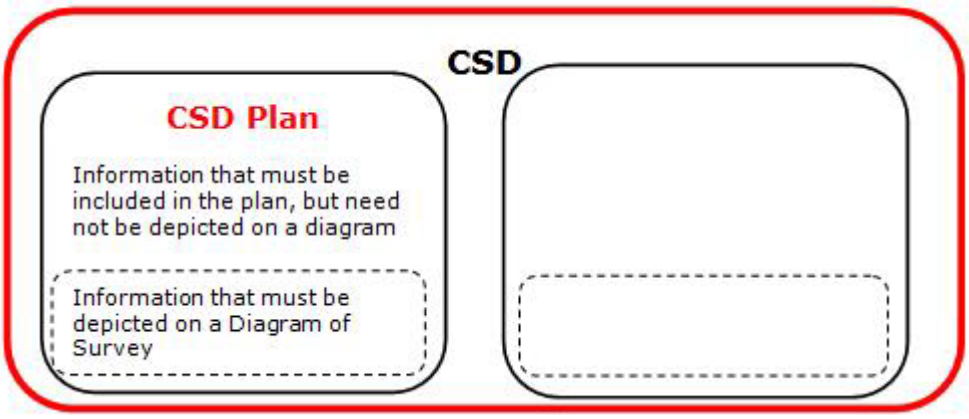


Figure 108: Components of a CSD recording boundary marking

Last Updated: 4 April 2017

Monumentation CSDs

The following information relates to the use of a monumentation CSD provided for in rule 11, the associated exemptions from the usual requirements of the Rules, and the content and capture requirements for this CSD type.

A monumentation CSD is a boundary marking survey office (SO) CSD that records in the cadastre the placement of a boundary mark in the position of a previous boundary mark or boundary point. This type of CSD is recorded in Landonline as a Boundary Marking – Monumentation CSD.

Monumentation CSD use

Authoritative information on monumentation CSD

Despite the reduction in information required in a monumentation CSD, the CSD must still be certified [r 13] and must comply with the relevant rules [s 9(a) Cadastral Survey Act 2002]. The information is therefore authoritative.

The historic 'approval for record purposes' option is not available.

Read about record purposes only CSDs

When monumentation CSD must not be used

A monumentation CSD must not be used:

- when conflict needs to be resolved to correctly determine the boundary position [r 11.1(b)]. In this case a 'full' CSD must be lodged (refer to 'full' CSD for boundary marking survey); or
- where a boundary mark is placed on the line of an existing boundary (ie. a line mark). In this case a boundary reinstatement survey must be completed (refer to Boundary reinstatement survey CSD type).
- for recording only survey offsetting or survey traverses [r 11.1(a)]. In these cases, the CSD type is 'Survey information' (refer to CSDs to record survey information only).

Each position to be defined by survey on monumentation CSD

Each boundary position that is marked and recorded in a monumentation CSD must be defined by survey [r 6.2(v)]. This means that all evidence must be used to determine its correct position [r 6.1].

Boundary point must exist in cadastre for monumentation CSD

A monumentation CSD must only be used to record the placement of a new mark at an existing boundary point [r 11.1(a)].

The placement of a line peg on an existing boundary where the point is not already recorded in the cadastre must be recorded in a boundary reinstatement CSD.

Read about where a stake has been used to indicate a boundary position

Boundary point must be class A or B for monumentation CSD usage

A monumentation survey must only be used where the point is a class A or class B boundary point [r 11.1(a)(i)].

Non boundary mark and boundary point from same CSD for monumentation CSD

For the purpose of a monumentation survey, the boundary mark must be placed in terms of an old non-boundary mark [r 11.1(a)(ii)]. The old non-boundary mark does not need to have the attributes of a witness mark [r 11.2(c)].

The boundary point and the old non-boundary mark must have been previously recorded in the **same CSD** and that CSD must have been fully approved as to survey [r 11.1(a)(iii)].

Where the CSD that records the old survey mark did not find, place, or reinstate the boundary mark or point, then rule 11.1(a)(iii) has not been met. In this case, a boundary

reinstatement CSD will need to be lodged and will include the adoptions used to determine the relationship between the old survey mark and the boundary point.

Marks that are only recorded on datasets 'approved for record purposes only' must not be used.

Accuracy between existing marks for monumentation CSD

The existing accuracy between the boundary point and the old non boundary mark must meet the boundary witnessing accuracy standard specified in rule 3.6 [r 11.1(a)(iv)] before a monumentation CSD can be used.

Monumentation CSD rule exemptions

Rule 11.2 specifies a number of exemptions for a monumentation CSD, including exemptions from the requirement to:

- be orientated in terms of an official projection [r 4.1(a)],
- connect to a cadastral survey network mark [r 4.2],
- connect to witness marks [r 7.3],
- connect to PRMs [r 7.4],
- include a CSD Plan in accordance with rule 9 [r 8.1(a)]. A CSD Plan is required in terms of rule 11.3,
- include vectors in the CSD to ascertain and verify the relationship between all marks [r 8.1(d)]. One or more vectors are required on the Diagram of Survey [r 11.4.1(d)],
- include a minimum of two vectors for each mark [r 8.1(e)],
- include a survey report [r 8.2].

Content of a monumentation CSD

A monumentation CSD includes diagrammatic and non-diagramatic information in a CSD Plan (refer to Content of a boundary marking SO CSD).

Diagrammatic information

In a monumentation CSD, the Diagram of Survey must include:

- the old non-boundary mark and the new boundary mark [r 11.4.1(a) and (c)]. Other marks (including traverse marks) used in the survey may be, but are not required to be, depicted,
- at least one vector between the non-boundary mark and the new boundary mark [r 11.4.1(d)]. This vector may be measured or calculated,
- parcel appellation information for adjoining parcels [r 11.4.1(b)],
- mark types (other than a peg or post) [r 11.4.2(a)] and names [r 11.4.2(b) and (c)], and
- a north point [r 11.4.3(c)].

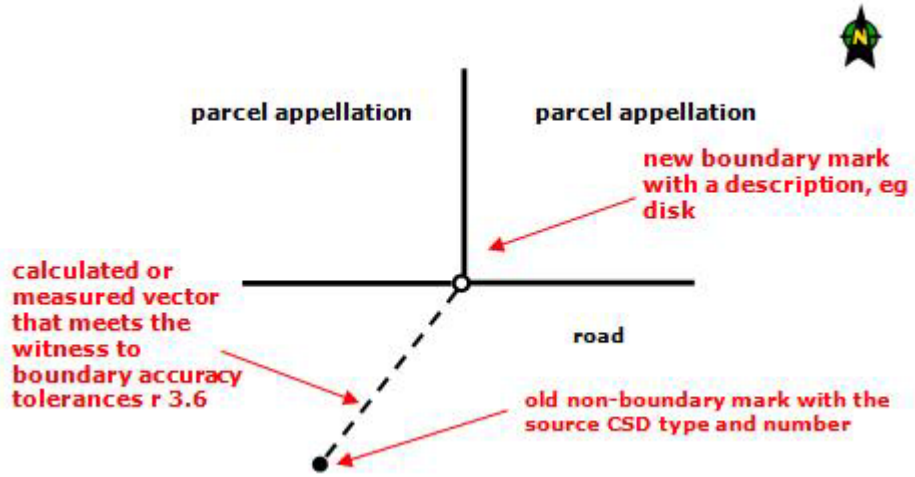


Figure 109: Simple monumentation CSD diagram of survey

Non-diagrammatic information

In a CSD Plan for a monumentation CSD, information which is not required to be represented diagrammatically includes:

- the surveyor's certification [r 11.3(b)(i)],
- information on the horizontal datum and circuit used in the survey [r 11.3(b)(ii)],
- the CSD reference of the approved CSD refered to in rule 11.1(a)(iii) [r 11.3(b)(iii)], and
- occupation information [r 11.3(b)(iv)] (refer to occupation and physical features).

In a CSD Plan, the non-diagrammatic information may be included on the Diagram of Survey. Its inclusion on the diagram satisfies rules 11.3(b)(i) – (iv).

Landonline capture of a monumentation CSD

For a Boundary Marking - Monumentation CSD, the following are the minimum Landonline capture requirements:

- all new boundary marks must be captured (the non-boundary mark/s used to set out the boundary mark need not be captured)
- the CSD must be connected to at least two nodes existing in Landonline, and
- the nodes must be connected by non-boundary vectors.

Upon capture of this information, Landonline requires an image to be produced in the CSD Plan using the plan generation functionality. This image becomes part of the Diagram of Survey.

In addition to these capture requirements, Rules 11.3 and 11.4 specify some additional information that has to be included on a Diagram of Survey (eg the old non-boundary mark, and vectors joining it to the boundary mark; adjoining appellations). These

requirements can be satisfied either by using Landonline capture functionality, or by attaching a 'survey data graphic' supporting document. In most cases there would be little difference between the information required to be captured and the information required by the Rules to be in the CSD.

Where a survey data graphic has been added there will be two plan images comprising the Diagram of Survey – the one generated by the Landonline plan generation functionality, plus the survey data graphic.

Additional information in monumentation CSD

Other non-mandatory information may be included in the monumentation CSD. Examples include adoptions, survey marks, and 'traverse' vectors related to the boundary marking survey. Note that this additional information must be consistent with all other information required by the Rules.

This information can be provided using either a 'survey data graphic' supporting document or by using the normal capture and plan generation functionality in Landonline.

Where the survey data graphic has been added there will be two plan images comprising the Diagram of Survey – the one generated by the Landonline Plan Generation functionality, plus the survey data graphic.

Last Updated: 4 April 2017

Reinstatement CSDs

The following information relates to the content and capture requirements for a boundary reinstatement survey recorded on a survey office (SO) CSD in Landonline as a 'Boundary Marking – Reinstatement CSD'.

A boundary reinstatement CSD includes diagrammatic and non-diagrammatic information in a CSD Plan (refer to Content of a boundary marking SO CSD).

It requires information to support the definition including a survey report, vectors to ascertain and verify the positions, and adoptions. This information is specified by rules 8.1, 8.2, and 9.1 – 9.6.

Landonline capture of a boundary reinstatement CSD

For a Boundary Marking - Reinstatement CSD, the Boundary Marking - Monumentation CSD capture and plan generation functionality in Landonline may be used.

Alternatively, the normal full capture functionality may be used.

Where monumentation CSD functionality is used for boundary reinstatement CSD

If the Boundary Marking - Monumentation CSD e-capture and plan generation Landonline functionality is used for a Boundary Marking - Reinstatement CSD, the following is the minimum Landonline capture requirements:

- all new boundary marks must be captured (the non-boundary mark/s used to set out the boundary mark need not be captured)
- the CSD must be connected to at least two nodes existing in Landonline, and
- the nodes must be connected by non-boundary vectors.

Where a survey places a line mark at a new point on an existing boundary the two existing boundary marks on either side of the new line point and the vectors to them from the new point will also have to be captured.

With the capture of this information, Landonline requires an image to be produced in the CSD plan using the plan generation functionality. This image will become part of the Diagram of Survey.

In addition to these capture requirements, the additional information supporting the definition, including the vectors to ascertain and verify the positions, and adoptions as specified by current rules 8.1, and 9.1 – 9.6, may be provided in a suitably drawn field note or diagram attached to the CSD as a 'survey data graphic' supporting document.

Note, all information must be legible, clear, and unambiguous [r 9.6.15].

Where the survey data graphic has been added there will be two plan images comprising the Diagram of Survey – the one generated by the Landonline Plan Generation functionality, plus the survey data graphic.

Note, the CSD must still include a survey report, and provide details supporting the definition [r 8.2(a)(ix)].

Last Updated: 4 April 2017

Full CSD (Conflict)

The following information relates to the required content of a boundary marking survey recorded on a survey office (SO) CSD in Landonline as a Boundary Marking - Full CSD (conflict).

A Boundary Marking – Full CSD (Conflict) includes diagrammatic and non-diagrammatic information in a CSD Plan (refer to Content of a boundary marking SO CSD).

In Landonline, the CSD type is Boundary Marking - Full CSD (Conflict).

This full CSD requires information to support the definition including a survey report, vectors to ascertain and verify the positions, and adoptions. This information is specified by rules 8.1, 8.2, and 9.1 to 9.6.

Last Updated: 4 April 2017

CSDs to record survey information only

The following information relates to a CSD prepared to record only survey information, such as the placement of a non-boundary mark or new or adopted survey measurements.

A CSD that records survey information only:

- does not create a new parcel and therefore a Title Plan is not required [r 8.1(b)] (refer to Title Plan not required where no new parcel).
- does not place any boundary marks and therefore witness marks and PRMs are not required [r 7.3.1 and r 7.4.1]
- the non-boundary marks must meet the relevant accuracy standards specified in rule 3.1.

Last Updated: 7 April 2017

Datasets for other than cadastral purposes

The following information relates to lodging specialist datasets that are not prepared under the Rules for Cadastral Survey.

Historically, plans such as electoral plans, parliamentary plans, airshed plans, and some graphical description plans, have been lodged in the cadastre for a variety of purposes. As these are not cadastral survey datasets, they are not provided for under the Rules.

Some types of graphical description plans did define the extent of a right or interest in land. In these cases, the appropriate CSD must be used (eg a reserve re-classification CSD could be a 'legalisation' CSD).

LINZ does allow the lodgement of some specialist datasets for recording in Landonline that are not cadastral survey datasets in terms of the Cadastral Survey Act 2002. Application to LINZ must be made prior to the lodgement of any dataset which is not certified in accordance with the cadastral rules.

Last Updated: 7 April 2017

Unit plans

Guidance on meeting the requirements of the Rules for Cadastral Survey 2010 (RCS 2010), Unit Titles Act 2010 (UTA 2010) and Landonline capture for all types of unit plans.

Unit Titles Act 2010

Unit plans are prepared for the purposes of the Unit Titles Act 2010 The (UTA 2010) which came into force on 20 June 2011, repealing the Unit Titles Act 1972.

Unit Titles Act 2010

The purpose of the UTA 2010 is to provide a legal framework for the ownership and management of land and associated buildings and facilities on a socially and economically sustainable basis by communities of individual owners and, in particular:

a. to allow for the subdivision of land and buildings into unit title developments comprising units that are owned in stratum estate in freehold or stratum estate in leasehold or licence by unit owners, and common property that is owned by the body corporate on behalf of the unit owners; and
b. to create bodies corporate, which comprise all unit owners in a development, to operate and manage unit title developments; and
c. to establish a flexible and responsive regime for the governance of unit title developments; and
d. to protect the integrity of the development as a whole.

[from Section 3 UTA 2010].

The UTA 2010 provides for the following types of unit title developments:

- Standard unit title developments
- Layered and subsidiary unit title developments
- Stage unit title developments
- Redevelopments

Key terms

Accessory Unit (AU) - A unit that is designed for use with any principal unit (including, without limitation, a garden, garage, car parking space, storage space, swimming pool, laundry, stairway, or passage) and that is shown on a unit plan as an accessory unit [s5(1) UTA 2010]

Body Corporate - An entity made up of all the unit owners in a unit title development that has responsibility for a variety of financial, management and administrative tasks and owns the common property.

Car Park - A space for parking a single motor vehicle [s5(1) UTA 2010].

Common Property - Land and facilities in a unit title development, which are not contained in a principal unit, accessory unit, or future development unit, and are shared by the unit owners. Any access lot or share of an access lot associated with the base land is part of the common property [s 55 UTA 2010]. The common property is owned by the body corporate of a unit title development. The owners of all the units are beneficially entitled to the common property in shares proportional to their respective ownership interest (or proposed ownership interest in the case of FDUs) [s 54 UTA 2010].

Future Development Unit (FDU) - In relation to a subdivision of land or a principal unit into units in stages, means a unit shown on a stage unit plan that is proposed to be developed or subdivided into 1 or more principal units (with or without accessory units or common property) at a later stage of the development.

Ownership Interest - The interest assigned to a unit by a registered valuer based on the relative value of the unit in relation to each of the other units in a unit title development. The interest is used to determine, amongst other things, a unit owner's share in common property and in the base land upon cancellation.

Permanent Structure Boundary (PSB) - A boundary related to a building or recognisable physical structure that is likely to remain undisturbed for 50 years or more in accordance with rule 6.9 RCS 2010; or the outline of a future development unit [rule 2 & rule 6.9(c) RCS 2010].

Principal Unit (PU) - A unit designed for use as a place of residence or business or any other use, and that is identified on a unit plan as a principal unit. A principal unit must either contain a building or be a car park.

Strata Parcel - A parcel defined in the upper and lower extents by either a stratum boundary or permanent structure boundary [LINZS70000 Standard for lodgement of cadastral survey datasets]

Stratum Boundary - A boundary that defines the upper or lower extent of a parcel by a surface that is mathematically described where at least one point has a reduced level [rule 2 & rule 6.8(a) RCS 2010].

Stratum Estate - The freehold or leasehold estate created upon deposit of a unit plan in each principal unit, each accessory unit, and each FDU on that plan, comprising the estates and beneficial interests as set out in sections 18, 22 or 27 of UTA 2010.(That is, the bundle of legal rights applying to the unit [s4(1)(b)(vii) UTA 2010].

Supplementary Record Sheet (SRS) – A record that is created in Landonline when a unit plan is deposited on which is noted:

- that the body corporate owns the common property; and

- that the owners of all the units are beneficially entitled to the common property as tenants in common in equal shares proportional to their ownership interest; and
- all instruments that are registered and that affect the base land and the common property; and
- all other matters that, in accordance with UTA 2010, the Unit Title Regulations 2011, and other Acts, have to be noted on the SRS.

Unit - In relation to any land, means a part of the land consisting of a space of any shape situated below, on, or above the surface of the land, or partly in one such situation and partly in another or others, all the dimensions of which are limited, and that is designed for separate ownership [s5(1) UTA 2010].

Unit Plan - A plan that has been, or is intended to be, deposited under the Land Transfer Act 2017 in accordance with UTA 2010, and includes: a proposed unit development plan; a stage unit plan; a complete unit plan; a unit plan amended in accordance with this Act; a plan that has been or is intended to be deposited in substitution for an existing unit plan [s5(1) UTA 2010].

Unit Title Development – The individual units and common property comprising a stratum estate [s5(1) UTA 2010].

Base land requirements

Base Land means the underlying parcel or parcels of land that are subdivided into a unit title development, including an access lot or share in an access lot associated with that land. Any land or share in land added to the common property of a unit title development becomes part of the base land. In relation to a subsidiary unit title development, base land means the land from which its head unit title development was subdivided.

Title requirements

The base land must be held in one record of title or capable of being held in one record of title [s 32(1)(b) & s33(1) UTA 2010]. This means that if there is more than one record of title for the base land, they must be for the same type of estate (freehold, leasehold, etc) and held in the same ownership. The base land must be the whole of the land in that record of title or titles [s 32(1)(c) UTA 2010], including any share in an access lot contained in the record of title(s).

Note - If the base land title refers to being for "surface only" the minerals (sub-surface) could be reserved to the Crown or held in a separate title by a different owner. These situations may not meet the criteria of being held in one title and advice should be sought to find out if the unit development will be affected by it. (See DP 485904)

Qualified Record of Title – s32(1)(a) UTA 2010 prohibits the deposit of a unit plan over base land that is held in a qualified record of title under the Land Transfer Act 2017.

Limited Title - The record of title(s) for the base land must be free from all limitations as to parcels or title. Any limitations must be removed before the unit plan can deposit [s 32(1)(a) UTA 2010].

Interim Title - UTA 2010 does not expressly prohibit the deposit of a unit plan if the base land has a Hawke's Bay interim record of title. However, s 32(1)(a) UTA 2010 indicates that the title to the base land should be conclusive before a unit development is established on it. Therefore, the interim nature of the record of title must be removed before a unit plan can deposit.

Diagram on Transfer - A unit development is permitted where a boundary of the base land has been defined in a diagram on transfer providing the appropriate accuracy standards of RCS 2010 can be met (see Survey Accuracy Requirements).

Survey accuracy requirements

Any boundary of the base land, where its extent and location as defined in an approved CSD are insufficient for the determination of its compliance with the accuracy standards of rules 3.5(c) or 3.3.1 RCS 2010 specified below, must be defined by survey [rule 6.2(a)(vii) RCS 2010].

- the accuracy between any new permanent structure boundary points and underlying parcel boundary points must comply with the applicable accuracy specified in rule 3.3 RCS 2010 wherever the boundaries are within 1m for class A and 3m for other classes [rule 3.5(c) RCS 2010]
- the accuracy between any new right-line or stratum boundary points and underlying parcel boundary points must comply with the applicable accuracies specified in rule 3.3.1 RCS 2010.

Common marine and coastal area

If any part of the base land of a unit title development is in the coastal marine area, a separate LT Subdivision CSD showing that land as Common Marine and Coastal Area must be approved before a unit plan can be submitted for approval under Section 223 Resource Management Act 1991 [s237A Resource Management Act 1991].

Standard unit title developments

A standard unit title development, or standard unit development, is a subdivision of land into units and common property (if any) in a single stage that is not a layered unit title development. [Note, this is different from 'Standard Unit Title Development' defined in section 5(1) of UTA 2010 as any unit title development that is not part of a layered unit title development, and therefore includes a stage unit title development].

A standard unit plan shows the subdivision of a parcel of land to create a standard unit development, which will include:

- Two or more principal units, and
- The number of accessory units (if any) as required, and
- The remainder of the land not comprised in any unit as common property.

A standard unit plan must show the complete development of the base land all on one plan and must not show any future development units (FDUs).

Example: DP 459270

Refer to CSD requirements for unit plans

Stage unit title developments

A stage unit title development, or stage unit development, is the subdivision of land that is completed in stages by the successive deposit of:

- A Proposed Unit Development (PUD) plan and a First Stage Unit Plan together, and
- One or more further Stage Unit Plans (if any), and
- A complete unit plan (called Complete Stage Unit Plan in Landonline).

[See section 24(2) UTA 2010]

Note: A Substituted Proposed Unit Development (SPUD) plan may also be introduced in a stage development.

A Proposed Unit Development (PUD) shows the proposed layout of all the units and the whole of the common property (if any) that will comprise the development when it is completed [see section 25(1) UTA 2010].

A First Stage Unit Plan or a Stage Unit Plan shows:

- Each unit and each part of the common property (if any) that has so far been completed up to and including that stage of the development; and
- The uncompleted portion of the development as one or more Future Development Units (FDUs). [section 25(2) UTA 2010]

A Future Development Unit is a unit that is proposed to be subdivided into one or more principal units, with or without accessory units or common property, at a later stage of the development. It is not possible to prepare a First Stage Plan comprised entirely of FDUs.

A Complete Stage Unit Plan shows all the principal and accessory units and the whole of the common property comprised in a completed stage unit development.

The complete (final) stage of a stage unit development is where all of the remaining Future Development Units (FDUs) will be developed into units and common property (if any).

The Complete Stage Unit Plan will be deposited in substitution for the previously deposited Stage Unit Plan.

Examples: DP 443739/A (PUD), DP 447255/B (First Stage Unit Plan), DP 435100/C (Stage Unit Plan) and DP 436223 (Complete Stage Unit Plan).

Refer to CSD requirements for unit plans

Substituted proposed unit developments (SPUD)

A Substituted Proposed Unit Development (also known as a "SPUD") is a new PUD that replaces an existing PUD when undeveloped and developed units in a stage unit development are being altered. The new PUD shows all the proposed principal and accessory units and common property making up the entire development, incorporating changes to any units or common property (this could be either created or proposed).

A SPUD is used when the owners of a staged unit development want to change the development before the complete stage unit plan has been deposited. There are four scenarios where a SPUD is required:

- when the undeveloped portion of an uncompleted stage unit development is being changed (i.e. affects existing FDU's only);
- when completed units in an uncompleted stage unit development are being redeveloped under Sections 65-71 Unit Titles Act 2010;
- when part of the common property of an uncompleted stage unit development is being transferred out of the development;
- when land from outside the unit development is being added to the common property of an uncompleted stage unit development.
- when land in an incomplete stage unit development is acquired by proclamation under the Public Works Act 1981.

Any combination of the above scenarios may occur at the same time.

When there is a redevelopment of existing units or common property part way through a stage unit development, both a redevelopment plan and a SPUD are required [see section 64 UTA 2010].

A SPUD does not have to be accompanied by a Stage Unit Plan. Once a SPUD has deposited, any subsequent stage unit plans must be drawn in accordance with the new PUD.

A SPUD cannot be used on its own to:

- change developed units or common property within an existing development (the proper plan to do this is a Redevelopment Plan or Simple Redevelopment Plan); or
- change the extent of common property by adding land to or removing land from the base land (the proper plan to do this is a unit plan in substitution).

Refer to:
Redevelopments
Adding or removing land from unit title developments
CSD requirements for unit plans

Layered and subsidiary unit title developments

A subsidiary unit title development, or subsidiary development, is the subdivision of an existing principal unit and any associated accessory units, into new principal units with their associated accessory units and common property (if any).

A head unit title development, or head development, is the unit title development created when the base land (fee simple or leasehold) was first subdivided.

A layered unit title development, or layered development, is a grouping of unit title developments in which there is one head unit title development and at least one subsidiary development.

A parent unit title development, or parent development, is the unit title development that contains the principal unit that was subdivided to create the subsidiary unit title development.

Each subsidiary development may be used for different purposes, such as retail, commercial, or residential. To manage the different functions, each subsidiary development has its own body corporate which can make rules that best suit the function of the subsidiary development.

If a principal unit that is being subdivided has an accessory unit and both units are included on the same record of title, both the principal unit and the whole accessory unit must be subdivided to create a single subsidiary unit title development [see Section 20(2) UTA 2010].

Each layer in a layered development may support more than one subsidiary unit development. However, only one subsidiary development may be created out of each principal unit and its associated accessory units (if any).

In a two-layer development, the head and parent development will be one and the same. However, any principal unit on a subsidiary development can itself be subdivided into another subsidiary, in which case it becomes the parent of the next subsidiary.

Existing common property cannot be subdivided in a subsidiary unit development.

A subsidiary development may subdivide a principal unit (and its associated accessory units) in an already developed stage of a stage unit development (the parent development) prior to the completion of the subsequent stages. In such cases, the subsequent stage plans of the parent development would need to annotate that the

subdivided units are subject to a subsidiary development e.g. PU 1 (subject to subsidiary DP 456789).

A subsidiary development may be created in one stage or in multiple stages. The respective requirements for standard unit title developments and stage unit title developments apply, as appropriate.

Refer to:
Standard unit title developments
Stage unit title developments

Subsidiary Standard Unit Plan is the Landonline survey purpose for a standard unit plan of a subsidiary development.

Examples: DP 444815, DP 444148 & DP 444149

A Subsidiary Staged Unit Development is effected by the successive deposit of:

- a Subsidiary Proposed Unit Development (Subsidiary PUD) Plan and a First Stage Unit Plan together
- one or more further Stage Unit Plans (if any), and
- a complete unit plan (called Complete Stage Unit Plan in Landonline).

A Subsidiary Proposed Unit Development is the Landonline survey purpose for a PUD of a subsidiary unit title development that is developed in more than one stage.

Note: A Substituted Proposed Unit Development (SPUD) may also be introduced in a subsidiary stage development.

Substituted Proposed Unit Development (SPUD)

Examples: See DP 471401 and DP 471401/A

Refer to CSD requirements for unit plans

Redevelopments

A redevelopment is an amendment to one or more developed units, or the common property, on a deposited unit plan for a completed unit title development or a completed stage of a stage unit development, and that does not add or remove land from the base land.

See section 8 UTA 2010 for the full 'Meaning of Redevelopment' under UTA 2010

Redevelopments can be made in relation to:

- standard unit developments
- subsidiary unit title developments
- developed stages of uncompleted stage unit developments (standard or subsidiary)

- completed stage unit developments (standard or subsidiary).

There are 2 types of redevelopment. These are:

- those requiring an amendment to a unit plan only [ss 65-67 UTA 2010], referred to as a simple redevelopment and
- those requiring the deposit of a new unit plan, which are usually referred to as a standard or complex redevelopment [ss 68-71 UTA 2010]

If a redevelopment affects units on the developed portion of an uncompleted Stage Unit Development, a Substituted Proposed Unit Development (SPUD) replacing the existing Proposed Unit Development (or a previous SPUD) is required in addition to a redevelopment unit plan.

Simple Redevelopment Unit Plan

Simple Redevelopment Unit Plan is the Landonline survey purpose for a unit plan of a simple redevelopment. It is a new, separate plan from the existing unit plan, but its purpose is to amend an existing unit plan, rather than completely replace it.

A simple redevelopment must consist solely of the adjustment of vertical or horizontal boundaries between developed units and must not alter common property.

The number of units existing after the redevelopment must be the same as the number of units before.

Note that a simple redevelopment cannot materially affect the use, enjoyment or ownership interest of any unit not having its boundary adjusted. Whether or not there is a material effect has to be determined by the body corporate of the unit development. A simple redevelopment plan will not be able to deposit without the necessary certificates confirming this [See sections 65(1)(b), 65(4) & 67(1) UTA 2010].

Examples: DP 86975 (Wellington) & DP 103496 (North Auckland)

Redevelopment Unit Plan

Redevelopment Unit Plan is the Landonline survey purpose for a unit plan of a redevelopment that requires a new plan in substitution for an existing unit plan under section 68 of UTA 2010 (i.e. a standard or complex redevelopment).

This type of redevelopment alters the developed units and/or common property shown on an existing unit plan to create new units and/or common property.

There are many possible scenarios, including:

- the adjustment of the vertical or horizontal boundaries between developed units and/or common property
- the reduction of the number of units

- the creation of additional units out of common property or out of a mixture of developed units and common property
- the conversion of a unit or units into common property.

Examples: DP 304451, LT 449347

Refer to CSD requirements for unit plans

Adding or removing land from unit title development

The addition of land to or removal of land from an existing unit title development can be achieved either by a subdivision under the Resource Management Act 1991, or by transfer or proclamation under the Public Works Act 1981. In every situation, an addition or removal of land involves dealing with common property.

The addition or removal of land may affect both common property and units within a development. However, it is not possible to remove part of a unit from a unit title development, or to add land from outside of the development to an existing unit, without the affected land first being added to or removed from the common property. For instance, if a portion of land, that comprises part of a unit and part of the common property of an existing unit title development, is to be sold to an adjoining landowner, the land within the unit would first have to be transferred into the common property, and then the common property could be transferred to the adjoining owner.

The body corporate, after special resolution to do so, may:

- sell the whole or any part of the common property [s 56(3) UTA 2010]
- grant a lease or license over common property [s 56(1) UTA 2010], or
- acquire an interest in land outside the base land to add to the common property [s 58(1) UTA 2010]

Unit plan in substitution

Units Plan in Substitution is the Landonline survey purpose for a unit plan prepared to replace an existing unit plan, where the extents of the common property are being changed by adding land to or removing land from the base land.

Example plans and associated dealings are:

- DP 66160 (South Auckland), Dealing 9196806 – see also SO 450284
- DP 84206 (Wellington), Dealing 8875944 – see also SO 429002
- DP 68792 (Wellington), Dealing 8416134 – see also SO 341776
- LT 25902/C (Otago) – see also DP 451942 & LT 25902

Refer to CSD requirements for unit plans

Adding land to common property

A body corporate (but not a subsidiary body corporate) can acquire land from outside the Unit Title Development (including an access lot or a share in an access lot) as common property. The land is included in the common property once it has been transferred.

The transfer must be accompanied by a new unit plan in substitution for the existing unit plan [s59(1) UTA 2010].

If the land to be added to the common property is only a portion of an existing parcel, then a LT subdivision or SO legalisation plan will be required to first create a separate parcel capable of being transferred to the body corporate.

The estate of the land being added to the common property must be compatible with the estate of the common property.

If the land to be included is a share in an access lot (with the other shares in the access lot remaining outside the development), then this is to be shown as Common Property on the Unit Plan complete with the appellation and share interest.

There is no requirement that land added to common property be contiguous to it, eg land across the road for car parking.

Removing land from common property

A body corporate (but not a subsidiary body corporate) can transfer the whole or part of the common property to become land outside the unit title development and cease to be stratum estate.

The transfer must be accompanied by a new unit plan in substitution for the existing unit plan [s57(1) UTA 2010].

An LT subdivision or SO legalisation plan of the base land must be also be carried out. The plan will show a parcel for the land being removed and a parcel for the land that will remain as the base land for the unit title development.

Uncompleted stage unit developments

Land can be added to or removed from an uncompleted stage unit development, but the substituted unit plan will consist of two plans [sections 57(3)(a) & 59(2)(a) UTA 2010].

If the next stage is not being developed immediately, then a SPUD and a Unit Plan in Substitution for the previous stage are required.

If the next stage is being developed immediately, then a SPUD and Stage Unit Plan for the next stage are required.

In either case, both plans must show the final effect of the addition or removal of land on the common property.

Public Works Act 1981

The Public Works Act 1981 (the PWA) can be used to acquire part of a unit and/or common property. This is usually achieved by a proclamation published in a Gazette Notice (i.e. a legalisation or statutory action) acquiring part of a unit and/or part of the Common Property, although this does not preclude a unit owner or the body corporate from executing a transfer in favour of the acquiring entity (acquisition by agreement).

Section 15 of the UTA 2010 (the UTA) clarifies the relationship between the PWA and the UTA, and allows the Registrar-General of Land to give effect to the acquisition of land under the PWA, whether the land is already common property, is in a unit, or is a mixture of both. It provides that in any situation where body corporate consent or resolution is usually required, that consent or resolution is not required when the acquisition is done by proclamation under the PWA.

Where a legalisation action takes the whole or any part of a unit and/or common property:

- A LT or SO plan must define both the portion of the underlying parcel to be removed from the unit title development, the remainder of that underlying parcel and any existing easements that are over the base land.
- A Units Plan in Substitution must also be lodged in all cases. This plan must show all existing easements which are over the base land and any units or common property.
- If the legalisation action acquires part of a unit the balance of the unit should be redefined on the unit plan as a new 'whole' unit with a new appellation unless the balance of the unit is otherwise dealt with (e.g. is involved with a complex redevelopment).
- Although the Crown or Local Authority acquires part of a stratum estate (in the unit or common property), that estate 'changes' during the acquisition to become fee simple (unless the Gazette Notice provides otherwise).
- Acquisition of all or part of a unit or common property from an uncompleted staged unit development will require a Units Plan in Substitution for the current Stage Unit Plan and a Substituted Proposed Unit Development (SPUD).

Combining unit plans

There are situations where it may be acceptable to combine different types of unit plans in one CSD.

In all instances, advice must be sought from LINZ to confirm that a combined plan is acceptable, what the survey purpose and dataset description should be, and what, if any, additional plans are required to deposit in conjunction with the combined plan.

All combined plans must clearly depict the essential information required for each type of plan being combined.

Easements and covenants

Easements and covenants may affect the base land, common property and/or units of a unit title development. Different provisions and requirements apply depending on whether an easement or covenant is registered before or after the unit title development is created.

Existing easements and covenants that burden or benefit the base land remain unaffected by the deposit of a unit plan [s 60(1) UTA 2010]. These easements and covenants are recorded on the supplementary record sheet for the unit title development, but are not recorded on any record of title for a unit [s 60(2) UTA 2010].

The body corporate of a unit title development may vary, surrender, or assign any existing easement or vary or revoke any existing covenant that affects the base land [s 61(1) UTA 2010].

New easements and covenants that burden or benefit the base land can only be registered before the unit title development is created, or after it has been cancelled.

New easements and covenants that burden or benefit common property may be granted, acquired or entered into by the body corporate of a unit title development [s 62 UTA 2010].

New easements and covenants that burden or benefit a unit may be granted, acquired or entered into by the owner of the unit. [s 63 UTA 2010].

When a unit title development is cancelled the effect of the cancellation is to:

- cancel every easement or covenant over or appurtenant to any unit [s 180(2)(d) & s 181(2)(c)];
- preserve easements or covenants that existed over the base land prior to the creation of the stratum estate [s 180(2)(b)]; and
- preserve easements or covenants that affect only the common property and do not affect units [s 180(2)(c) & s 181(2)(b)].

Refer to CSD requirements for easements and covenants on unit plans

Unit plans in Greater Christchurch

See Unit Title Developments – Rule 20.6 for information relating to unit title developments where boundaries have been affected by earthquake movement in greater Christchurch.

Unit Title Developments – Rule 20.6

See Reduced level for unaffected stratum boundaries for information on providing reduced levels for existing stratum boundaries that need to be corrected to be in terms of vertical earthquake movement in greater Christchurch.

Reduced level for unaffected stratum boundaries

CSD requirements for unit plans

General requirements

A Unit Plan must:

- Define the boundaries of the units and common property in accordance with RCS 2010.
- Specify which of the new units are Principal Units or Accessory Units and label each of them with an identifier (see Unit appellations).
- Clearly depict the location of unit and common property boundaries and their relationships to other boundaries that are required to be shown on the plan. This is likely to require cross section diagrams to show relationships in the vertical dimension [Rules 9.6.3(a), (f) & (g); 9.6.4, 9.6.9; 10.4.2(a); 10.4.3 & 10.4.7].
- Label all portions of the common property as "Common Property" with no identifier [Rules 5.5.2 Table 5 and 5.5.4 Table 6].

If the base land includes an access lot or a share of an access lot, then the entire access lot parcel must be depicted on the Unit plan, along with its appellation and share interest, and be labelled as Common Property. The dataset description of the Unit Plan must also include the appellation of the access lot (see DP 369528).

A principal unit must either contain a building or part of a building, or be contained in a building, or be a car park.

Every unit must be a single contiguous space defined in three dimensions (i.e. with horizontal and vertical limits). A unit must be defined in its horizontal extent by the types of boundary specified in rule 6.5(a) RCS 2010. Permanent structure boundaries are most commonly used, but right-line and arc boundaries are also common. The vertical extent of a unit must be defined by either a stratum boundary or a permanent structure boundary.

Each unit boundary must only be defined using one type of boundary. For instance: the same horizontal boundary must not be defined by a right-line boundary and a permanent structure boundary; the same vertical boundary must not be defined by a stratum boundary and a permanent structure boundary.

Where an existing unit plan is replaced by a new unit plan (eg PUD by SPUD, Stage Unit Plan by Complete Stage Unit Plan, Unit Plan by Redevelopment Plan or Unit Plan in Substitution) the definition of unchanged unit boundaries must be consistent with their definition on the unit plan being replaced. For a boundary to be defined consistently it

does not have to be defined by the same type of boundary as on the unit plan being replaced, but the survey report for the new unit plan must confirm that the spatial location and extent of the boundary has not changed. For instance, a stratum boundary can be converted to a permanent structure boundary, but it must be evident that the boundary has not moved. Any variation to the location or extent of a unit must be treated as a redevelopment.

Further information on definition and witnessing of stratum and permanent structure boundaries is available at:

- Permanent Structure Boundaries
- Accuracy of Permanent Structure Boundaries
- Recording permanent structure boundaries
- Stratum boundaries
- Recording stratum boundaries

Dataset description

The dataset description on the CSD must include the survey purpose and the legal description of the land under survey [Lodgement Standard 4.6] (e.g. Units on Lot 1 DP 12345; Redevelopment of Units 10A and 10B).

The dataset description will automatically display on each title sheet (if any) of the Diagram of Parcels, but should also be shown on each plan graphic sheet of the Diagram of Parcels for the purposes of clarity [Rule 10.4.10(a) RCS 2010].

Unit appellations

Appellations for units consist of a parcel type component, a unique parcel identifier and the CSD number. For new unit title developments the parcel type components are Principal Unit, Accessory Unit and Future Development Unit. The unique identifiers must be either a number or a number followed by a letter (r 5.5.4).

The Cadastral Survey Rules 2021 will allow for unique parcel identifiers to also be a letter followed by a number. This provides greater flexibility and allows appellations to align with addressing requirements. As this is a frequently requested dispensation, Landonline release 3.23 scheduled for 23 November 2020 will allow for the new unique identifiers to be captured using the 'general' appellation format. To allow for surveyors to use a letter followed by a number the Surveyor-General has issued a dispensation pursuant to s47(5) Cadastral Survey Act 2002. The dispensation remains in place until the Cadastral Survey Rules 2021 come into effect.

Where a unit title development has commenced under previous regulations, subsequent stages of that development must continue to use the appellations depicted on the Proposed Unit Development Plan. Rule 15(b) provides for these appellations to be retained.

The Diagram of Survey and Diagram of Parcels may show the parcel appellation in abbreviated form e.g. PU 4A or Unit 4A [Rules 9.6.3(d) and 10.4.2(d)(ii)].

Line types

The boundaries of principal, accessory and future development units, and common property must be thick solid lines on the plan graphic.

Any lines depicting occupation (buildings, fences, etc) must be clearly distinguishable from the line types specified in Rule 12.3 RCS 2010. [Rules 12.3 and 10.4.10(a) RCS 2010].

The line types for proposed unit boundaries on a PUD plan are not specified in the RCS 2010. However, they must meet the requirement for all information on the plan to be clear and unambiguous [Rule 10.4.10]. As a guide, the lines should be clearly differentiated from other lines on the plan and the line types used should be consistent on all the PUD plan diagrams. Thick pecked lines are commonly used.

Additional requirements for PUD and SPUD plans

A Proposed Unit Development (PUD) must be accompanied by a First Stage Unit Plan. However, the PUD must be submitted first so that the proposed units on the PUD can then be created, as applicable, on the First Stage plan. Landonline will only allow a First Stage Unit Plan to be submitted if a PUD has been previously submitted.

A PUD must show all the proposed units and all the proposed common property that will comprise the unit title development when it is completed [section 25(1) UTA 2010]. However, the PUD is not defining parcels in terms of the RCS 2010, so the boundaries of proposed units may be shown indicatively since an accurate definition of unit boundaries cannot usually be made until the structures they relate to have been constructed. Nevertheless, the PUD must clearly depict the horizontal and vertical extent of all parcels, which may require the use of cross section diagrams.

A Substituted Proposed Unit Development (SPUD) must show all the proposed principal units, accessory units and common property within a development, including those that have already been developed. There must not be any FDUs.

The unchanged units and common property (proposed or existing) shown on a SPUD must be consistent with their definition on the PUD and will retain the same appellations.

Existing developed units and common property must be retained unaltered on a SPUD unless there is a simultaneous redevelopment or addition/subtraction to the common property occurring.

Any new proposed unit shown on a SPUD resulting from an alteration to an existing PUD must have a new unique parcel appellation that complies with Rules 5.5.2 and 5.5.4 of the Rules for Cadastral Survey 2010 and not already used in the stage unit development.

Additional requirements for stage unit plans (including first stage and complete stage unit plans)

Stage unit plans must show each unit and each part of the common property (if any) that has been completed so far. Any undeveloped land must be shown as one or more future development units (FDUs).

Each FDU must include at least one proposed principal unit that was shown on the PUD plan may also include proposed accessory units and proposed common property. An FDU must not consist solely of proposed accessory units or proposed common property. These proposed units and common property are not required to be shown within an FDU on the stage unit plan, but if they are shown they must be consistent with their depiction on the PUD plan.

The external definition of boundaries of FDUs on stage unit plans must be consistent with their initial definition on a prior stage unit plan.

Complete stage unit plans must show each unit and each part of the common property (if any) that makes up the completed stage unit development. No FDUs can be shown.

The definition of boundaries of completed units and common property shown on stage unit plans must be consistent with their depiction on the PUD or the latest substituted PUD and prior stage unit plans.

Additional requirements for subsidiary unit plans

A unit plan for a subsidiary unit title development must:

1. identify the existing principal unit and its associated accessory units (i.e. the parent units) that are being subdivided
2. show the spatial relationship of the new units to the parent units, and show any abuttals, including adjoining existing units and common property.
3. show the relationship of the subsidiary development to each existing unit development in the entire layered development. This can be done by means of a diagram, as shown in Examples 2 and 3 of Schedule 1 of UTA 2010. The diagram must include the deposited plan reference of each Parent and Subsidiary Development.

Additional requirements for redevelopment unit plans

A Simple Redevelopment Unit Plan must:

- Define the boundaries of the adjusted units, and
- Specify which of the adjusted units are Principal Units or Accessory Units and label each of them with an identifier (number, which may be followed by a letter) not already used on the previous unit plan.

The Diagram of Parcels only needs to show the adjusted (new) units. Adjoining unaffected units and common property are shown as abuttals.

Existing common property must not be altered in either the horizontal or vertical extents.

A Redevelopment Unit Plan must:

- Define the boundaries of the new and adjusted units and/or common property
- Specify which of the new and adjusted units are Principal Units or Accessory Units and label each of them with an identifier (number, which may be followed by a letter) not already used on the previous unit plan.
- Label all portions of the common property as Common Property.

A redevelopment unit plan must also show all unaffected units, including any FDU's, and each part of the common property (if any) that are shown on the unit plan it is replacing. The appellation of unaffected units must not be changed.

The definition of boundaries of unaffected units and common property shown on a redevelopment unit plan must be consistent with their definition on the unit plan that it is replacing.

Additional requirements for unit plans in substitution

The new unit plan in substitution must show the final effect of the addition or removal of land, e.g. where land is being removed from the common property, the plan must show only the remaining common property; where land is being added to the common property, the plan must show the additional land as having been incorporated with the common property [ss 57(4) & 59(3) UTA 2010].

If a legalisation action acquires part of a unit (AU, PU or FDU) the balance of the unit must be redefined on the unit plan in substitution as a new whole unit with a new appellation unless the balance of the unit is otherwise dealt with (e.g. is involved with a complex redevelopment).

A unit plan in substitution must also show all unaffected units, including any FDUs, and each part of the common property (if any) that are shown on the unit plan it is replacing. The appellation of unaffected units must not be changed.

The definition of boundaries of unaffected units and common property shown on a unit plan in substitution must be consistent with their definition on the unit plan that it is replacing.

Plan numbering

When a PUD is created it gains a new plan number without a suffix (e.g. LT 456789). As soon as the first stage unit plan is created it will gain the existing plan number without a suffix and the PUD gains the letter "A" as a suffix to the original plan number (e.g. LT

456789/A). If the PUD and first stage unit plan are not created in the correct order, the plan numbering will be incorrect.

When a SPUD is created it gains the existing plan number with the letter "A" added as a suffix (e.g. DP 456789/A), while the PUD (or prior SPUD) that is being replaced gains the next available letter as a suffix to the plan number (e.g. DP 456789/D).

A subsequent stage unit plan will gain the existing plan number without a suffix providing the new CSD is linked to the correct existing unit plan, and the previous stage plan gains the next available letter as a suffix added to the original plan number (e.g. LT 456789/B).

When the complete stage unit plan is deposited it gains the existing plan number without a suffix (e.g. DP 456789). The previous stage plan gains the next available letter as a suffix added to the original plan number (e.g. DP 456789/D).

A subsidiary standard unit plan, or the subsidiary PUD for a subsidiary stage development, will be allocated a new plan number that is different from the parent development.

When a unit plan for a redevelopment (simple or complex), or a unit plan in substitution, is deposited it gains the existing plan number without a suffix (e.g. DP 456789). The unit plan that it is amending or replacing gains the next available letter as a suffix added to the existing plan number (e.g. DP 456789/D).

CSD requirements for easements and covenants on unit plans

Easement schedule/memorandum information

Existing easements to be retained, both subject and appurtenant, must be recorded in a schedule in tabular form containing the information specified in Rule 10.2.2(b) RCS 2010. This schedule must be included in the Title Plan of the unit plan as a schedule of existing easements [rule 10.2.2(a) RCS 2010].

New easements must be recorded in a schedule or, in the case of new easements required by a territorial authority, recorded in a memorandum. The schedule and/or memorandum must be in tabular form, include the information specified in Rule 10.2.1(b) RCS 2010, and be included in the Title Plan of the unit plan [rule 10.2.1(a) of the RCS 2010].

Burdened land (Servient tenement) for new and existing easements, and benefited land (dominant tenement) for new easements, must relate to the correct underlying parcels. New easements can only be registered over, or in favour of, the base land before the unit title development is created, or after it has been cancelled. Once the unit title development has commenced, easements can only be registered over, or in favour of, units or common property within the development.

Each easement parcel must have only one burdened land (servient tenement). Separate non-primary parcels must be defined for each unit and each area of common property that the easement will be registered over. The vertical extent of easements needs to be considered in this regard, as well as their horizontal extent. For instance, a single new easement parcel cannot have a unit (or units) and common property as the burdened land (servient tenement).

Covenant notations

Existing covenants to be retained must be recorded by a notation included in the Title plan of the unit plan [rule 10.3(a) RCS 2010]. The notation must include the covenant parcel identifier, the parcel intent, and the creating document reference [rule 10.3(b) RCS 2010]. This information may be shown in a schedule, but this is not mandatory, so a note on a plan graphic or supporting document that is included in the Title plan is sufficient.

New covenants must also have a notation in the Title Plan recording their parcel identifier and parcel intent, but because these are shown in the parcel list on the survey header of the Title Plan, no additional notations are required to satisfy the requirements of Rule 10.3 RCS 2010.

(Note that Lodgement Standard 4.5 requires all new non-primary parcels required by the RCS 2010 to be captured).

Lodgement Standard 4.5

Depiction and capture of covenants and easements

Existing covenants and existing subject easements that have been spatially defined on an approved CSD and are to be retained, must have the spatial relationship between the easement or covenant and each unit boundary depicted on a plan graphic [rules 9.6.4 & 10.4.3 RCS 2010]. Existing subject easements over the base land do not need to be captured and can be depicted on a plan graphic. However, if existing easements and covenants are being captured spatially in Landonline, then the requirements of Lodgement Standard 4.3(e) & (f) relating to extinguishing existing non-primary parcels must be complied with.

Standard for lodgement of cadastral survey datasets - LINZS70000

New easements and covenants on a unit title development must have the spatial relationship between the easement or covenant and each unit boundary depicted on a plan graphic [rules 9.6.4 & 10.4.3 RCS 2010].

If the new easement or covenant is intended to be registered over the base land before the unit development is created, then the new easement or covenant parcel must be spatially captured in Landonline where required by Lodgement Standard 4.5(a) and (b).

Plan graphics may also be required to clearly define elements of a strata parcel, such as its vertical extents.

Standard for lodgement of cadastral survey datasets - LINZS70000

If the new easement or covenant is intended to be registered over a unit then the parcel must be captured as an aspatial parcel and defined on a plan graphic only. If the new easement or covenant is intended to be registered over common property, and it is a strata parcel being created substantially at ground level, because the easement will continue on cancellation of the unit plan as provided for by section 180(2)(c) UTA 2010, the parcel should be captured as a spatial parcel, with a topology class of 'secondary'. This parcel should also be shown on the plan graphic to clearly show the relationship between each unit boundary and each other non-primary boundary to satisfy Rules 9.6.4 and 10.4.3. An easement parcel, being a strata parcel, created over common property not at ground level, must be captured as an aspatial parcel and shown on a plan graphic.

Each new easement or covenant parcel must have the parcel type of "Area" and be labelled with an identifier (a letter, which may only be followed by a letter) in accordance with Rule 5.5 RCS 2010. An existing easement or covenant parcel may be shown with its existing appellation (e.g. A on DP 12345).

The spatial relationship between each easement or covenant, whether new or existing, and each unit and each estate boundary, must be clearly depicted on the Diagram of Survey and Diagram of Parcels (i.e. 'S' sheets, 'T' sheets and/or plan graphics) in both the horizontal and, where applicable, vertical aspects [rules 9.6.4(b), 10.4.2(a) & 10.4.3 RCS 2010]. This may require cross section diagrams to show any relationships in the vertical dimension. Existing easements and covenants already defined in an approved CSD are not required to be dimensioned or to have their boundary points shown [rules 9.6.3(f)(ii), 9.6.13(b), 9.6.14(b)(i) & 10.4.9(a)(i) RCS 2010].

Compulsory easements are specified in the subdivision consent and are authorised by section 223 Resource Management Act 1991. Section 2 of the Resource Management Act 1991 includes Unit plans in the definition of a Survey Plan. Therefore compulsory easements may be created on a Unit Plan.

New easements outside of the base land may also be created on a Unit Plan and could also be compulsory easements.

Capture of pre-Landonline unit plans

When an existing unit title development with a pre-Landonline plan (CSD number <300,000) is being changed and a new unit plan is required, the capture of the existing units needs to be checked.

Existing units were not captured aspatially when Landonline was originally launched. Therefore, these units may need to be back captured to enable the new unit plan to correctly account for them.

This can be checked by adding the previous unit plan to the tree in the Landonline 'Searches' screen and expanding the 'Parcels' folder. If the existing units are included in the list of parcels, they are already aspatially captured. If they are not listed, back capture will need to be performed.

Back capture of a unit plan can be requested by submitting a 'Survey Information Complex' request to LINZ. Parcel capture for the new unit plan should not be attempted before back capture has been completed.

Landonline Requests - Survey

This requirement usually arises when carrying out a redevelopment of an existing unit development or continuing a staged unit development, but may also be necessary where a Unit Plan in Substitution is being prepared.

Capture requirements for new unit plans

The CSD Type for a Unit Plan must be 'LT'.

Survey Purpose: Use one of the following survey purposes, as appropriate for the type of plan being created. Note that each survey purpose has a '... with survey sheet' option. This must be used if the CSD includes non-boundary marks and associated vectors.

- Standard Unit Plan (must not be used for Subsidiary unit developments)
- Proposed Unit Development (must not be used for Subsidiary unit developments)
- First Stage Unit Plan
- Stage Unit Plan
- Complete Stage Unit Plan
- Substituted Proposed Unit Development
- Subsidiary Standard Unit Plan (must only be used for Subsidiary unit developments)
- Subsidiary Proposed Unit Development (must only be used for Subsidiary unit developments)
- Simple Redevelopment Unit Plan
- Redevelopment Unit Plan
- Unit Plan in Substitution

The Dataset Type for a Unit Plan must be 'Survey'.

Parcel Intent: Each Principal Unit (PU), Accessory Unit (AU) and Future Development Unit (FDU) must have an aspatial parcel created in the Parcel List for the CSD. There is no parcel intent for Common Property.

Aspatial Capture: For details of requirements on aspatial capture see Capture of Unit Development Plans in Landonline. Ensure all parcels are correctly listed in the parcel list with the appropriate current action and parcel intent. All new or extinguished units on the plan must be accounted for in the parcel list.

Capture of Unit Development Plans

Last Updated: 13 January 2021

Related Content

- Interim guideline for Unit Titles Act 2010 - LINZG20720
- Capture of Unit Development Plans in Landonline - updated version available
- Recording permanent structure boundaries
- Accuracy of permanent structure boundaries
- Unit title developments – Rule 20.6
- Depicting changes to Units and Common Property in the CSD diagrams
- Permanent structure boundaries
- Stratum boundaries
- Recording stratum boundaries
- Reduced level for unaffected stratum boundaries – Rule 20.10

Recording vectors and dimensions in a CSD

This article relates to recording the survey and boundary vector information required to be included in a CSD.

Under rules 8 and 9, CSDs must include vector information that describes the survey relationship between all marks and points. This enables the points and marks to be correctly located in the cadastre and for users to set out and relocate these positions in the future.

Vector types

The components of a vector are a bearing and distance.

A vector may be either adopted from an existing survey or measured or calculated.

The Rules do not specify that measured vectors must be provided in a CSD.

Figure 110 below illustrates two ways of using measured vectors and calculated vectors to ascertain the relationship between four marks. Both methods achieve the same result.

Surveyors may wish to distinguish between calculated and measured vectors in a CSD to indicate to future users how they undertook the survey and how the vector was

determined. The interpretation of what constitutes a measured vector and a calculated vector is left to the surveyor. Rule 9.3(c) requires that the CSD indicates whether the vector is calculated, measured, or adopted, and rule 12.3 specifies the appropriate line style where the vector is depicted on a diagram.

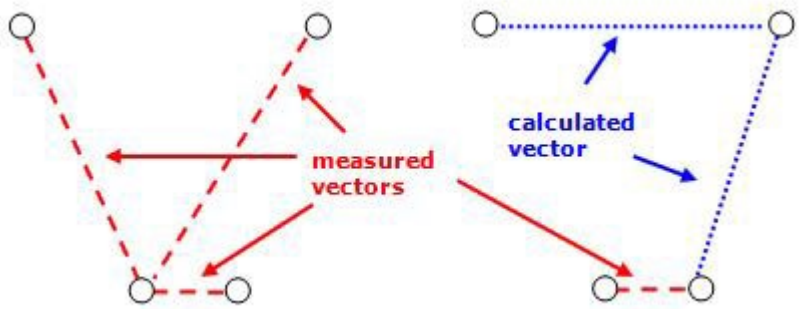


Figure 110: Two methods of ascertaining the relationship between marks

Demonstrating accuracies in a CSD

Number of vectors required to each survey point in CSD and CSD Plan

To ascertain the relationship between any two marks or points, they must be connected by a vector or a series of vectors.

To verify the relationship between these points, additional vectors are needed (ie by forming a closed circuit). Rule 8.1(d) requires that a CSD (but not necessarily the CSD Plan or Diagram of Survey) must include sufficient vectors to both ascertain and verify the relationships.

The CSD Plan must include sufficient vectors to ascertain the relationships.

Note that in most cases, vectors required by the Rules to be included in the CSD in order to ascertain and verify the relationships between points must be captured [Standard for lodgement of cadastral survey datasets (LINZS70000) – standard 4.2(a)].

Vectors between marks and points in a CSD

A CSD must include sufficient vectors to enable the relationship between all points and marks to be ascertained and verified in accordance with the accuracy standards [r 8.1(d)], except for boundaries accepted under rule 6.3 (refer to Accepted boundaries).

This applies to:

- new and old PRMs and witness marks
- new and old non-boundary (traverse) marks and points. Note that rule 8.1(d)(i) includes non-boundary points (in addition to non-boundary marks). Non boundary

https://www.linz.govt.nz/regulatory/70000points are locations where a physical mark was not placed in the ground

- boundary marks and points
- points on water boundaries and irregular boundaries (refer below to Vectors for water boundary or irregular boundary in a CSD).

Refer to Accuracy of non-boundary marks

Number of vectors to each mark or point in a CSD

At least two vectors are required for all boundary points (except those accepted under rule 6.3), and each new survey mark (boundary mark, non-boundary mark, PRM and witness mark) [r 8.1(e)]. These marks must not be left hanging. The second vector may be measured, calculated, or adopted.

For old non-boundary marks, while a single vector is necessary to ascertain the relationship, a second vector may not be necessary to verify this relationship. This will depend on how this old mark is held in the cadastre (Landonline):

- The positions of marks that are survey-accurate (eg by their SDC status or coordinate order), can be used to provide verification, but
- where the position of a mark in the cadastre is not survey accurate, additional vectors may be required to verify the accuracy between that mark and other marks and points.

Refer to Accuracy of non-boundary marks

Vectors to distant control marks

Where a vector to a control mark that is a long way from the parcel under survey is included in the CSD for the purpose of ascertaining or verifying a position, determining or confirming orientation, or to satisfy the requirement to connect to the control network, refer to Capturing remote trig observations.

Vectors for water boundary or irregular boundary in a CSD

The requirement that there must be a minimum of two vectors for each boundary point [r 8.1(e)] also applies between the end points of a water boundary or an irregular boundary and other boundary points, unless those boundary points have been accepted under rule 6.3.

On the Diagram of Survey only one of these vectors is required to be shown to each point [r 9.6.13(c)].

These vectors can be directly between each end point or, alternatively, to other boundary points or other non-boundary marks.

The Rules do not require intermediary points along a water boundary resulting from, for example, field ties, to be included in the CSD. However if such points are included, then two vectors to each point are required in the CSD [r 8.1(e)] although only one is required on the Diagram of Survey. (Refer to Capture of connections to water or irregular boundaries).

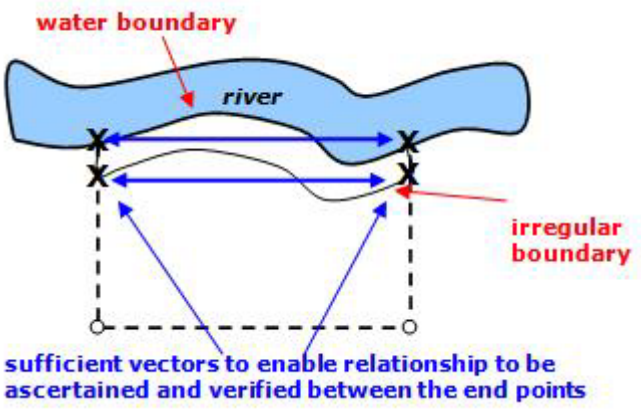


Figure 111: Additional vectors for water boundary or irregular boundaries

Vectors on a Diagram of Survey

A Diagram of Survey must include sufficient vectors to enable the survey relationship between all points and marks to be ascertained in accordance with the relevant accuracy standards [r 9.6.13(a)]. The vectors in the CSD that verify these relationships are not required on the diagram.

This means a Diagram of Survey must depict at least one vector to each mark and point, and every point must be connected to every other point by one or more vectors. This applies whether the points or marks are new, old, or adopted.

Vectors not required for unaffected non primary parcel on a Diagram of Survey

The requirement to depict sufficient vectors on a Diagram of Survey to ascertain the relationship between boundary marks and points does not apply to an existing non-primary parcel (eg an easement parcel) not severed by the creation of a new underlying parcel boundary [r 9.6.13(b)(i)].

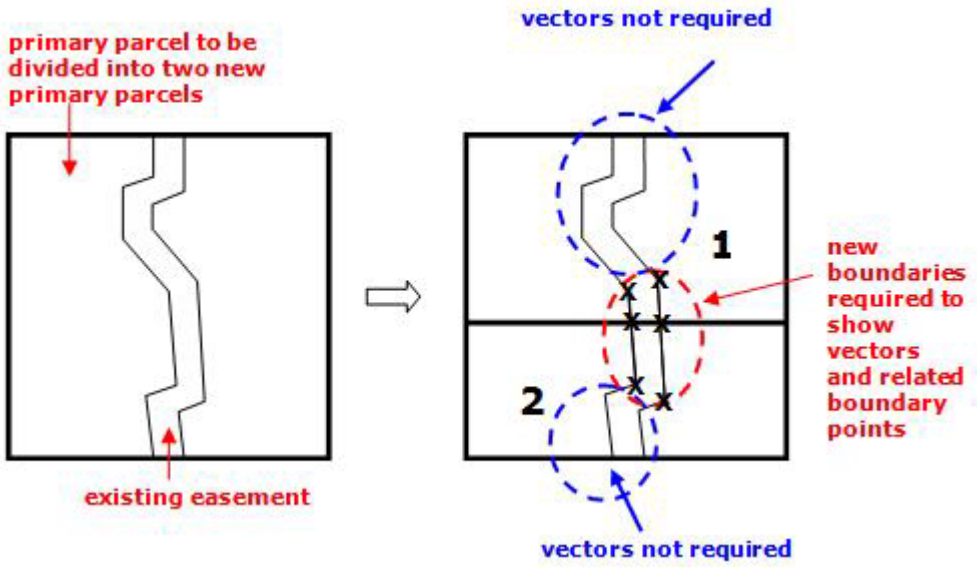


Figure 112: Vectors for an existing easement

Vectors for accepted boundaries on a Diagram of Survey

The requirement to depict sufficient vectors on a Diagram of Survey to ascertain the relationship between boundary marks and points does not apply in the case of accepted boundaries and boundary points [r 9.6.13(b)(ii)]. One example is residue parcels.

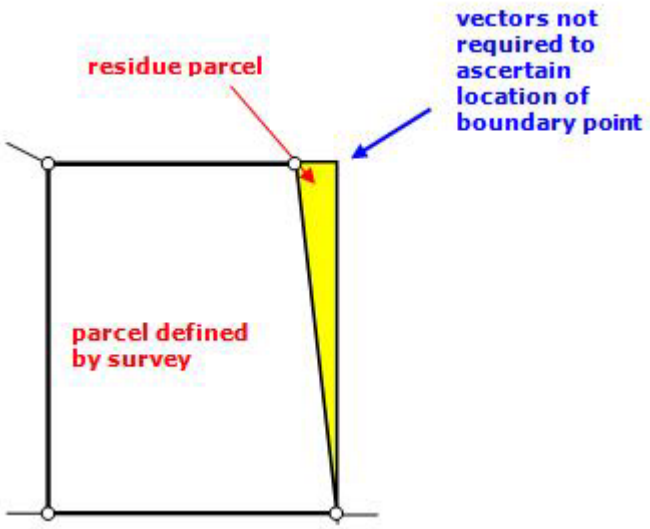


Figure 113: Accepted boundaries on a residue parcel

Vectors for water and irregular boundaries on a Diagram of Survey

A Diagram of Survey must include sufficient vectors to enable the points and marks at the end of water and irregular boundaries to be related to other boundary points [r 9.6.13(c)], unless those boundaries have been accepted.

Historically, the practice was to include a 'scaled' distance extending from a boundary mark or point to the water boundary.

To comply with rule 9.6.13(c), this vector must meet the boundary accuracy standards. A suitable computed value will satisfy this requirement.

These requirements also apply to irregular boundaries.

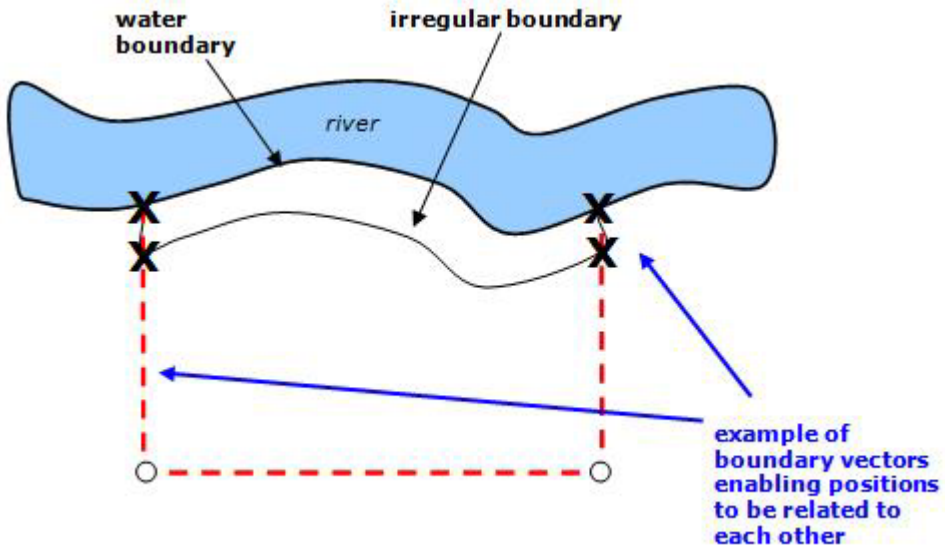


Figure 114: Vectors to ascertain position of end points

Adopted vectors on a Diagram of Survey

Adopted vectors used for the purposes of boundary definition, must be depicted on a Diagram of Survey [r 9.6.13(d)] unless they cannot be clearly shown (refer to Where impractical to show vectors on a Diagram of Survey below).

This includes poor quality traverse vectors and abutting boundary vectors used as the best evidence of a boundary location.

Refer to Adopted vectors and accuracy of non-boundary marks and Accuracy of adopted boundaries used for definition.

Note: the practice of not electronically capturing these vectors in the CSD and recording them on a calculation sheet is not appropriate.

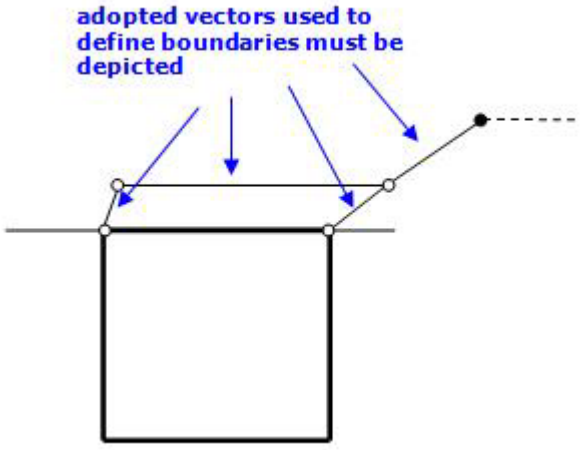


Figure 115: Adopted vectors depicted on the diagram

Where impractical to show vectors on a Diagram of Survey

Where the vectors that the Rules require to be depicted are numerous or extend beyond the parcel under survey, the historical practice of only including the vectors in a traverse sheet, rather than on the Diagram of Survey, is not permitted.

Where it is impractical to clearly show the vector dimensions (bearing and distance) on a Diagram of Survey, the line-work for the vector must still be depicted [r 9.6.13(e)]. The vector dimension must be included in the CSD Plan clearly referenced back to the related line-work on the diagram [r 9.6.15(a)].

Boundary dimensions

Historically, boundary dimensions were sometimes not required to be depicted when a parcel was a Class IV Parcel Diagram or a balance parcel in terms of rule 19(2A) SG Rules 2002/2. These exceptions no longer apply.

Boundary dimensions must be shown on a Diagram of Survey [r 9.6.14] and boundary distances on Diagram of Parcels [r 10.4.9].

Exception for recording boundary dimensions for existing easements

Boundary dimensions are not required to be depicted on a Diagram of Survey and Diagram of Parcels where an existing non-primary parcel (eg. an easement parcel) is to be retained and its boundaries are not severed by the creation of a new underlying parcel boundary [r 9.6.14(b)(i) and r 10.4.9(a)(i)].

Refer to Recording easement parcels

Exception for recording missing bearings or distances or magnetic bearings

In the case of accepted boundaries:

- When there are missing bearings or distances, a Diagram of Survey must depict the bearings or distances that exist in the cadastral record [r 9.6.14(b)(ii)]. The boundary must be annotated 'bearing unknown' or 'distance unknown', as appropriate [r 9.6.12].
- A magnetic bearing is not required to be depicted, but the boundary must be annotated 'magnetic bearing' [r 9.6.12].
- A Diagram of Parcels must depict the boundary distance where that distance exists [r 10.4.9(a)(ii)]. No boundary annotation is required.

Exception for recording residue parcel boundary dimensions

Boundary dimensions are not required to be depicted on a Diagram of Survey and a Diagram of Parcels where the vectors for accepted boundaries are not common with a new parcel [r 9.6.14(b)(iii) and r 10.4.9(a)(iii)].

Refer to recording residue parcels

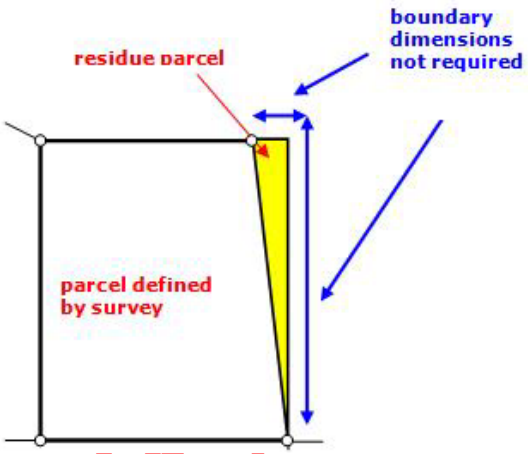


Figure 116: Accepted boundaries on a residue parcel

Exception for recording dimensions of existing boundaries on parcels over 100 ha

In the case of existing boundaries on parcels over 100 ha that are accepted under rule 6.3(c), boundary dimensions are not required to be depicted on a Diagram of Survey or a Diagram of Parcels [r 9.6.14(b)(iv) and r 10.4.9(a)(iii)]. Note that annotations are required on the Diagram of Survey and Diagram of Parcels.

Refer to Boundary Information in the CSD for parcels over 100ha.

Last Updated: 7 April 2017

Marine and Coastal Area Act (MACAA)

Related Content

- Common marine and coastal area considerations for surveyors
- Marine and Coastal Area (Takutai Moana) Act 2011

Marine and Coastal Area Act (MACAA) and subdivisions

The following information relates to determining the extent of land that is to become common marine and coastal area under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA) where land is being subdivided.

The MACAA made significant changes to s 237A of the Resource Management Act 1991 (RMA). Section 237A(1)(b) requires the CSD to show any part of the land that is in the coastal marine area (land below MHWS) as part of the common marine and coastal area.

Many existing parcels extend below MHWS to MHWM, and in theory it would seem to be a relatively simple task to identify the land between MHWS and MHWM. However, water boundaries are movable and often they are no longer in the same physical position as the survey which previously recorded them. Also some early surveys may not have accurately recorded the location of these boundaries. These factors have introduced variations in how parcels comprising of common marine and coastal area are to be defined.

This article explains the following variations:

- Where MHWS coincides with MHWM
- Where current MHWS is inland from old MHWM
- Where current MHWM is inland from old MHWM because of erosion
- Where current MHWS is within an inland parcel
- Where current MHWS is seaward of old MHWM because of accretion or avulsion
- Where current MHWS is seaward of earlier poorly-defined MHWM
- Where land is **not** being subdivided

Land owned by the Crown or a local authority is treated slightly differently, even if held under the Land Transfer Act 2017. Refer to MACAA where Crown or local authority owns land.

Where MHWS coincides with MHWM

Where an existing primary parcel with a water boundary at MHWM is subdivided, and the current MHWM and MHWS are coincident, then no land becomes part of the common marine and coastal area. An example of this is where the water boundary is a cliff face.

In this case, the CSD diagrams should show along the water boundary the notation 'MHWM/MHWS'.

Note: Rules 9.6.7(c) and 10.4.5(c) require the legal boundary to be described and s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. This notation is one way of complying with s 237A or demonstrating that s 237A is not applicable whilst complying with the Rules.

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

Figure 117: Where MHWM and MHWS coincide

Where current MHWS is inland from old MHWM

Where an existing primary parcel with a water boundary at MHWM is subdivided and the current MHWS is inland from this boundary, then the land in the parcel below MHWS becomes part of the common marine and coastal area.

In this case, the CSD diagrams should depict the:

- MHWS boundary and the MHWM water boundary, and
- land between MHWS and MHWM as a new primary parcel with an appellation (eg Lot 3), area, and an annotation 'common marine and coastal area'.

Note: s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. This notation, in conjunction with the new primary parcel, is one way of complying with s 237A.

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

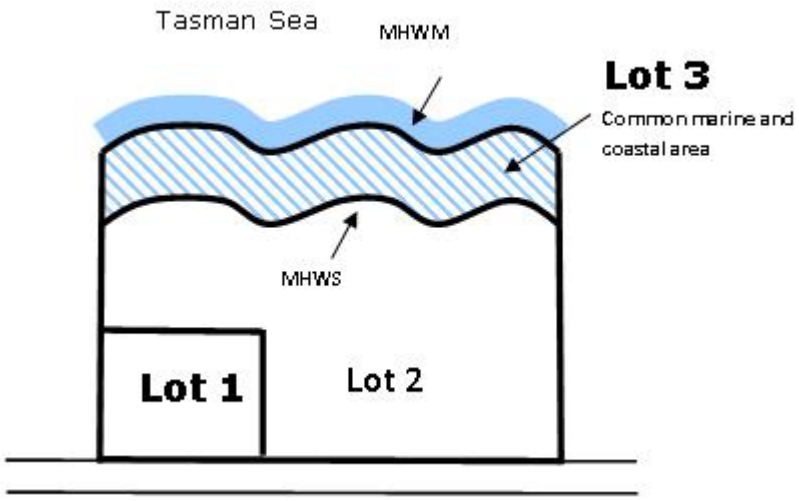


Figure 118: Where MHWS is inland of MHWM

Where current MHWM is inland from old MHWM because of erosion

If, because of erosion, the current MHWM is further inland than the existing primary parcel boundary of MHWM, the surveyor may exercise their judgment and show either:

- all of the land between the old MHWM and current MHWS as part of the common marine and coastal area, or
- land between the MHWM title boundary and current MHWM as 'erosion (common marine and coastal area)' and the land between the current MHWM and the current MHWS in a new primary parcel as 'common marine and coastal area'.

Note: s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. These notations, in conjunction with the new primary parcel, are one way of complying with s 237A.

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

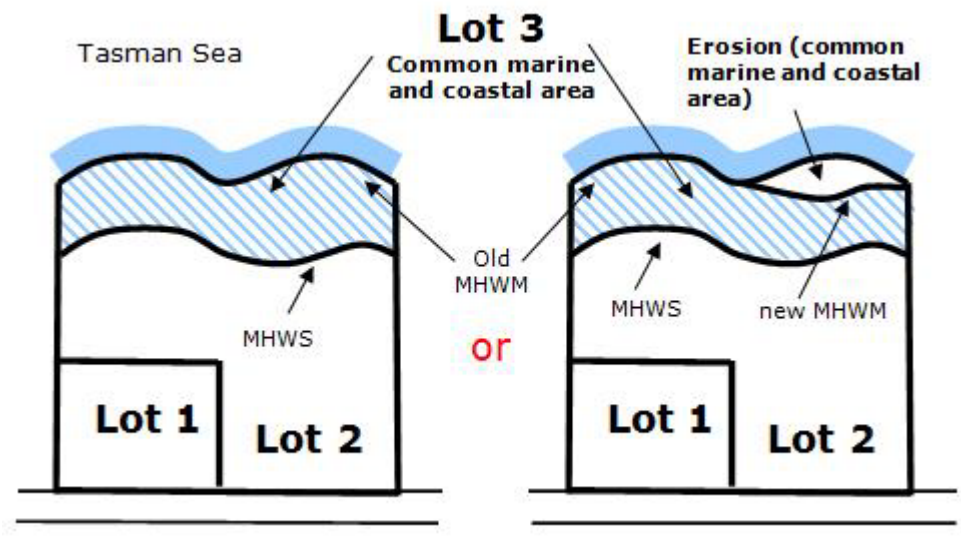


Figure 119: Where erosion affects MHWM

Where current MHWS is within an inland parcel

The requirements of s 237A(1)(b) of the RMA apply to parcels with fixed boundaries as well as parcels that do not adjoin the sea.

Where an existing primary parcel is subdivided any land below MHWS becomes part of the common marine and coastal area.

In this case, the CSD diagrams should depict:

- the new MHWS boundary, and
- the land between MHWS and the fixed boundary as a new primary parcel with an appellation, area and the annotation 'common marine and coastal area'.

Note: s237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. This notation, in conjunction with the new primary parcel, is one way of complying with s 237A.

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

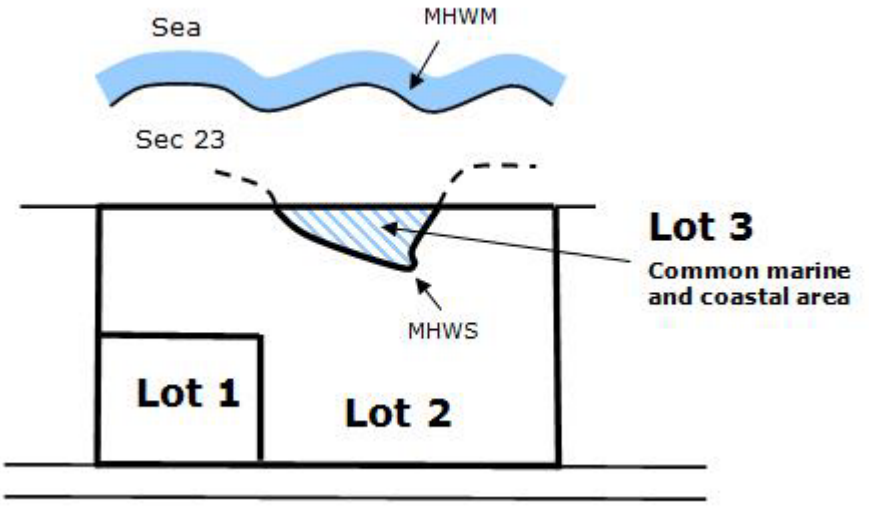


Figure 120: Where the parcel does not adjoin the sea

Where current MHWS is seaward of old MHWM because of accretion or avulsion

Where an existing primary parcel with a water boundary at MHWM is subdivided and the current MHWS is seaward from this parcel boundary because of accretion or avulsion, then one of the following two scenarios will apply.

In the case of avulsion or if not making a claim for accretion, there is no land in the parcel to become part of the common marine and coastal area and the old boundary of MHWM is retained ('defined by adoption' or 'accepted' as applicable and in some cases of avulsion, right lined in terms of rule 6.7). The CSD diagrams should depict:

- the annotation 'MHWM' along the water boundary, and
- enough information so that it is obvious that the MHWM title boundary is not coincident with MHWS and that MHWS is further out to sea.

Two simple methods of providing this information as part of the CSD diagram are by including an attached diagram or by adding an annotation to the diagram eg 'Current MHWS is approximately 20m seaward of the MHWM boundary'.

This is illustrated in the left hand diagram of Figure 121 below.

Note: rules 9.6.7(c) and 10.4.5(c) require the legal boundary to be described and s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. This notation and the additional information are one way of complying with s 237A or demonstrating that s 237A is not applicable whilst complying with the Rules.

If a claim is being made for accretion, the claim is to be made to the current MHWM and the land between current MHWM and current MHWS is to be identified as land that will become part of the common marine and coastal area. This is illustrated in the right hand diagram of Figure 121 below.

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

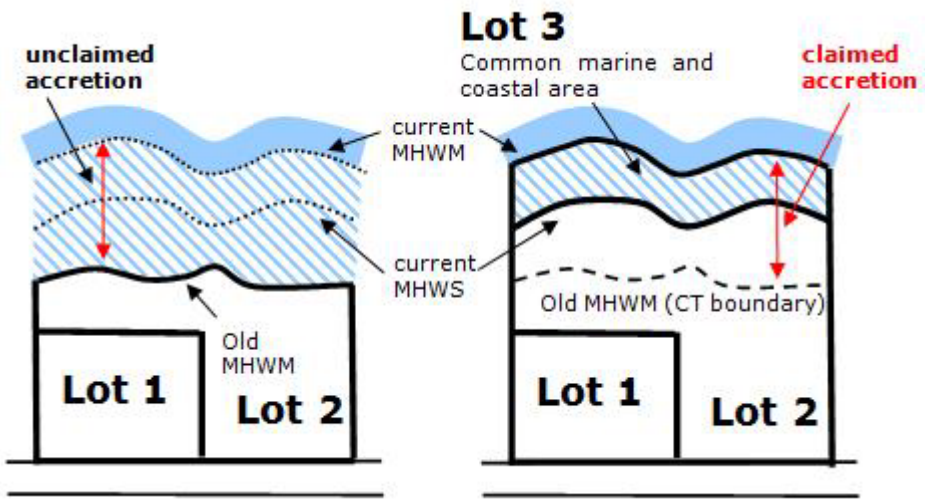


Figure 121: Where there is accretion

Where current MHWS is seaward of earlier poorly-defined MHWM

Where an existing parcel is being subdivided and the current MHWS appears to be seaward of the existing MHWM parcel boundary because the earlier MHWM survey fix was inaccurate, then there is land in the title to become part of the common marine and coastal area.

In this case, the CSD diagrams should depict:

- the new MHWS boundary, and
- a 'better fix' of MHWM seaward of the new MHWS. In theory, this boundary should reflect MHWM at the time of the original survey. However, given this is a disappearing boundary, the 'defined by survey' current MHWM boundary line may be, in terms of rule 3.4, an approximation. The old inaccurate MHWM is not shown, and
- the land between the current MHWS and the seaward new MHWM as a new primary parcel with an appellation, area and annotation 'common marine and coastal area'.

Notes:

- s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area. This notation, in conjunction with the new primary parcel, is one way of complying with s 237A,
- A 'better fix' implies that the historic MHWM boundary was not an accurate portrayal of the boundary as it was on the ground at the time of the original survey and that the later better fix is an accurate portrayal of that same boundary at that earlier time. In this case the later 'better fix' replaces the earlier fix and the earlier fix is not shown in the CSD diagrams. Evidence to support the use of the 'better fix' must be recorded in the survey report

For specific rule requirements see MACCA and land becoming common marine and coastal area under s 237A of the RMA.

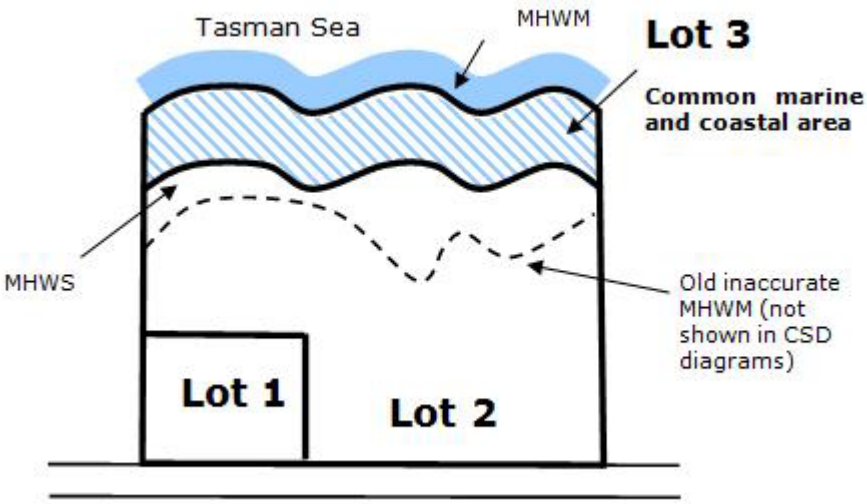


Figure 122: Where MHWS is seaward because of poor historic fix of MHWM

Where land is not being subdivided

Where a parcel of 'specified freehold land' is being defined by a survey but not subdivided in terms of the RMA, there is no requirement to identify land below MHWS as part of the common marine and coastal area. In this case, the parcel boundary, if defined in the title as being MHWM, may remain at MHWM.

Last Updated: 12 November 2018

Marine and Coastal Area Act (MACAA) and easements

The following information relates to dealing with proposed or existing easements over land that is to become common marine and coastal area upon subdivision.

Proposed easements

There is no mechanism to register a new easement against land in the common marine and coastal area because there is no owner capable of granting an easement.

Existing easements

Where land is being subdivided, the portion of an existing easement that overlaps land that is to become common marine and coastal area is to be surrendered (refer to page 15 of LINZG20726: Registration guideline for the Marine and Coastal Area (Takutai Moana) Act 2011)L. This surrendered portion is not normally depicted in the CSD diagrams.

In this case, the CSD diagrams must depict the extent of the existing easement that is to be retained.

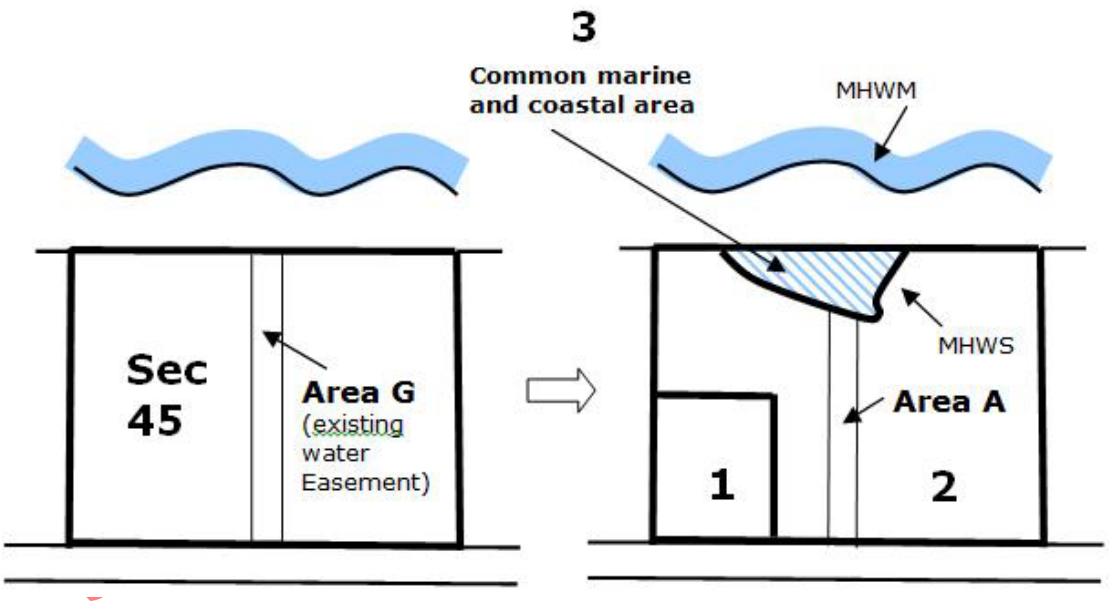


Figure 123: Where existing easement overlaps common marine area

Last Updated: 6 April 2017

Marine and Coastal Area Act (MACAA) where Crown or local authority owns land

The following information relates to the survey of land owned by the Crown or a local authority where part has become common marine and coastal area under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA).

Land below MHWS owned by the Crown or a Local authority became part of the common marine and coastal area at the time MACAA came into effect [s 11 MACAA]. In some cases this also affects unformed legal roads [s 14 MACAA]. Note, there are some exceptions (refer to s 9 MACAA definition of 'common marine and coastal area').

MACAA also requires Crown or local authority land previously above MHWS, but which is now below MHWS as a result of erosion or other natural occurrence, to be part of the common marine and coastal area [s 11(4) MACAA]. This change does not need to be gradual or imperceptible.

These requirements apply to parcels with fixed boundaries as well as parcels that do not adjoin the sea.

For the manner in which the impact of MACAA is recorded when an affected primary parcel is re-surveyed see:

- Where Crown or local authority land has or will have a record of title
- Where Crown or local authority land will not have a record of title

Where Crown or local authority land has or will have a record of title

Where land owned by the Crown or a local authority (note exceptions in legislation – refer to s 9 MACAA for definition of 'common marine and coastal area) is held, or will be held, in a record of title, land below MHWS is to be identified to reflect the divesting of a common marine and coastal area (refer to s 11(3) and s 23 MACAA).

The scenarios relating to differing MHWM and MHWS boundaries explained in Marine and Coastal Area Act (MACAA) and subdivisions also apply in these cases.

However, there is one key difference. For private land to become part of the common marine and coastal area it is to be depicted as a new primary parcel with appellation etc. Whereas for land owned by the Crown/local authority, because the land is already part of the common marine and coastal area, it is to be depicted as a residue parcel without appellation etc. In these cases, the residue parcel is only identified by the annotation 'common marine and coastal area'. This notation, clearly related to the new residue

parcel, is one way of demonstrating compliance with MACAA and rule 2 definition of residue parcel.

For specific rule requirements see MACAA and land already part of common marine and coastal area as residue parcel.

In Figure 124 below, the appellations of the primary parcels will be either Sections or Lots depending on the type of CSD.

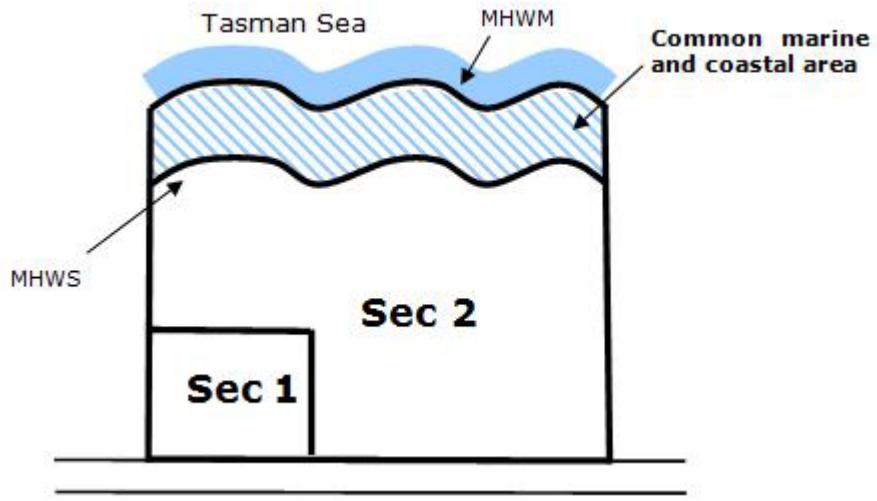


Figure 124: Where Crown or local authority land is in a record of title

Where Crown or local authority land will not have a record of title

Where land owned by the Crown or a local authority (note exceptions in legislation) is not held or will not be held in a record of title and **either**:

- is to be disposed of or is being identified for a legalisation action (including a public work or a statutory vesting), then the portion below MHWS is to be identified as a separate residue parcel. For specific rule requirements see MACAA and land already part of common marine and coastal area as residue parcel.

or

- will continue to be owned by the Crown or a local authority where its status will be unaffected by the legalisation or vesting, then there is no need to separately identify any portion below MHWS. Instead, where the boundary is MHWM, it is to be annotated 'boundary affected by Marine and Coastal Area Act 2011'.
  Note: because the divested common marine and coastal area (refer to s 11(3) and s 23 MACAA) has not been identified, the parcel as defined in the SO (survey office) CSD may not be suitable for a record of title to issue should this be required in the future.

In Figure 125 below the diagrams show land being disposed of or being identified for a legalisation action (eg to be set apart for road or vested as part of a treaty settlement) above MHWS as Sec 1 and below MHWS as 'common marine and coastal area'. In both cases, the ownership and status of Sec 2 is to remain unchanged and therefore the land below MHWS is not shown, but the boundary is annotated 'boundary affected by Marine and Coastal Area Act 2011'.

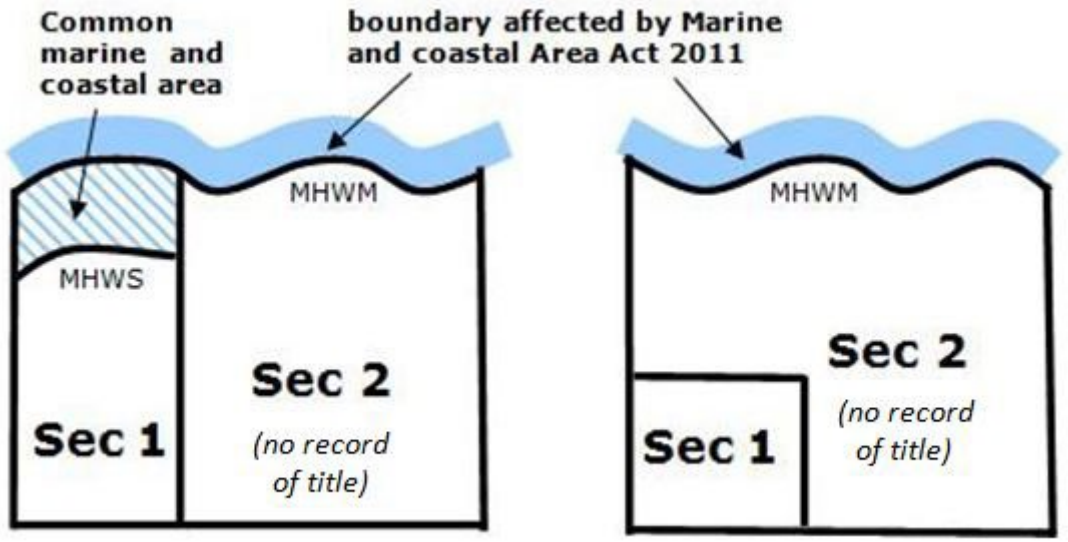


Figure 125: Crown or local authority land subject to legalisation or vesting

Last Updated: 12 November 2018

Marine and Coastal Area Act (MACAA) where land is being acquired by Crown or local authority

The following information relates to the survey of private land that is to be acquired by the Crown or local authority where part of the land is in the marine and coastal area.

Where the Crown or a local authority acquires privately owned land, any part of the acquired land below MHWS becomes part of the common marine and coastal area (refer s 17 MACAA). This includes land surveyed for legalisation purposes.

To understand what land is affected, it is necessary to consider the definitions of 'marine and coastal area', 'common marine and coastal area' and 'specified freehold land' in s 9 MACAA, and the definitions of 'coastal marine area' and 'mouth' (in relation to rivers) in s 2 Resource Management Act 1991.

The land below MHWS should be a new primary parcel with an appellation (eg Sec 3), area and an annotation 'common marine and coastal area'. In Landonline the parcel should be given the parcel intent 'hydro' so that it can be combined in Landonline with the adjoining sea.

In Figure 126 below, the diagrams show land being acquired above MHWS as Sec 1, and land being acquired below MHWS as 'Sec 3 Common marine and coastal area'. Sec 2 is to remain in private ownership. In the right hand diagram, no land is part of the common marine and coastal area because none of the land below MHWS is being acquired.

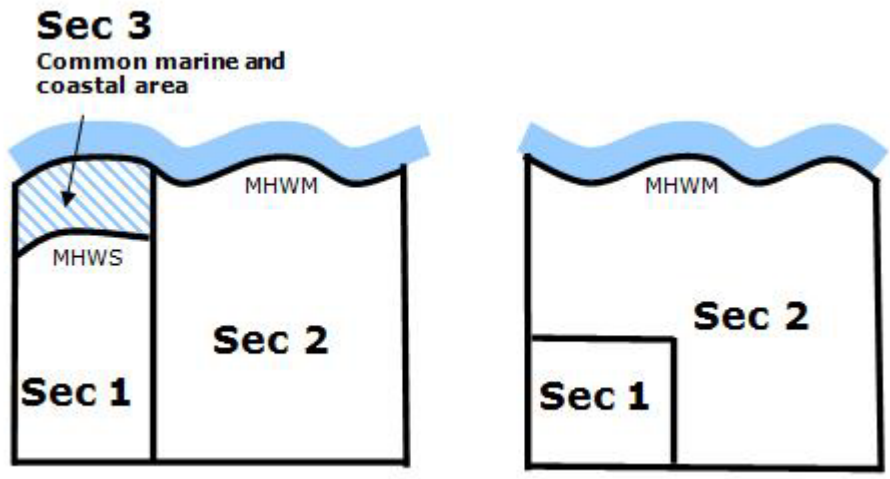


Figure 126: Private land subject to legalisation action

Last Updated: 6 April 2017

Marine and Coastal Area Act (MACAA) and recording common marine and coastal area in a CSD

The following information relates to recording land as part of the common marine and coastal area in a CSD where it has already become common marine and coastal area under MACAA or will become common marine and coastal area under s 237A RMA.

Note: all references to the Marine and Coastal Area (Takutai Moana) Act 2011 and the Resource Management Act 1991 are abbreviated as MACAA and RMA, respectively.

MACAA and land already part of common marine and coastal area as residue parcel

Where Crown or local authority land below MHWS has already become common marine and coastal area under MACAA, it is to be identified as a residue parcel.

Examples of situations where this will occur are:

- Where Crown or local authority land has or will have a record of title
- Where Crown or local authority land will not have a record of title

In these situations, the Diagram of Survey and Diagram of Parcels must depict the:

- old water boundary that is in common with the adjoining sea (the disappearing boundary) as an irregular accepted boundary in relationship to other boundaries [r 6.3(b), r 6.7(c), r 9.6.8, and r 10.4.6].
- new water boundary as an irregular line at a scale that clearly shows its shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)].
- legal description of the boundary 'MHWM' or 'MHWS' as applicable [r 9.6.7(c) and r 10.4.5(c)].
- name or simple description of the adjoining sea [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)].

In addition, the annotation 'common marine and coastal area' or, where applicable, 'erosion (common marine and coastal area)' should be depicted against the residue parcel [r 9.6.3(h)(iii), r 10.4.2(f)(iii), s 237A RMA and s 23 MACAA].

Note: Rules 9.6.3(h)(iii) and 10.4.2(f)(iii) require a description, s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area, and s 23 MACAA requires a survey plan for deposit. This notation is one way of complying with or demonstrating that s 237A or s23 are not applicable whilst complying with the Rules.

In Landonline the parcel must be given the parcel intent 'hydro' so that it can be combined in Landonline with the adjoining sea [r 10.1(e)].

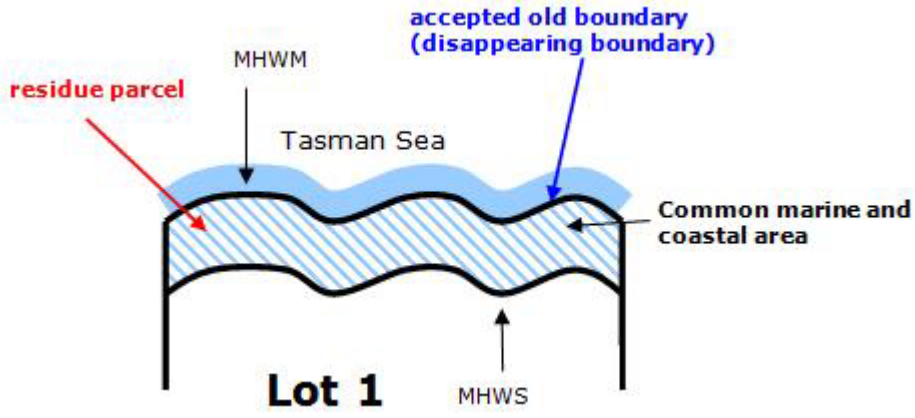


Figure 127: Common marine and coastal area as a residue parcel

MACAA and land becoming common marine and coastal area under s 237A of the RMA

Where a portion of land is to become part of the common marine and coastal area under s 237A RMA, the Diagram of Survey and Diagram of Parcels is to depict the:

- the land as a new primary parcel which must have an appellation and an area [r 9.6.3 and r 10.4.2(d)],
- old water boundary that is in common with the adjoining sea (the disappearing boundary) as an irregular accepted boundary in relationship to other boundaries [r 6.3(b), r 6.7(c), r 9.6.8, and r 10.4.6],
- new water boundary as an irregular line at a scale that clearly shows its shape and relationship to other boundaries [r 9.6.7(a)(i) and r 10.4.5(a)],
- legal description of the boundary 'MHWM' or 'MHWS' as applicable [r 9.6.7(c) and r 10.4.5(c)],
- name or simple description of the adjoining sea [r 9.6.3(h)(iv) and r 10.4.2(f)(iv)].

The parcel should be annotated 'common marine and coastal area' or where applicable 'Erosion (common marine and coastal area)' [r 9.6.3(h)(iii), r 10.4.2(f)(iii) and s 237A RMA].

Note: Rules 9.6.3(h)(iii) and 10.4.2(f)(iii) require a description and s 237A RMA requires the CSD to show any part of the allotment that is in the coastal marine area as part of the common marine and coastal area.

The parcel must be given the Landonline parcel intent 'common marine and coastal area [s 237A(1)(b) RMA r 10.1(e)].

Last Updated: 12 November 2018

Surveys of Customary Marine Title areas

The following information relates to survey requirements for customary marine titles under the Marine and Coastal Area (Takutai Moana) Act 2011 (MACAA).

Requirement for a survey plan

A survey plan (cadastral survey dataset) in terms of the Rules for Cadastral Survey 2010 is expected when defining the extent of a new customary marine title area.

Section 94 MACAA authorises a **protected customary right** or a **customary marine title** to be recognised by either an agreement made in accordance with that Act, or by an order of the High Court.

For a **customary marine title** by agreement, normally the Te Arawhiti - the Office for Māori Crown Relations on behalf of the Crown will ask the Surveyor-General to advise on the standard of survey.

For a customary marine title by an order of the High Court, after the Court has granted recognition the applicant is required to submit a draft order for approval by the Registrar of the Court. Section 109(4) MACAA requires the order to include a survey plan that sets out the extent of the area, to a standard of survey determined for the purpose by the Surveyor-General. In this case the applicant will need to engage a surveyor who will in turn contact the Surveyor-General. Advice on the standard of survey can be sought by submitting a "Survey_Survey Dispensation" e-request through Landonline.

Standard of survey required

The Surveyor-General has determined that the standard of survey to support an agreement or an order for a customary marine title is the Rules for Cadastral Survey 2010 (the Rules). However the Surveyor-General recognises that customary marine title surveys often involve unusual definition issues and the standard of survey for a particular customary marine title may include exceptions and variations to the Rules.

A customary marine title area is to be defined as a non-primary parcel in a CSD with a survey type of "SO", a survey purpose of "Legalisation" and a parcel intent of "Customary Marine Title".

Survey plan is not required for a protected customary right

There is no requirement for a survey plan to be included in a court order for a protected customary right under s109(4) MACAA.

Last Updated: 11 March 2019

Greater Christchurch Rules

This rule was added to the Rules for Cadastral Survey 2010 (the principal Rules) by the Cadastral Survey Amendment Rules 2017. The amending rules (effective from 24 April 2017) support the Canterbury Property Boundaries and Related Matters Act 2016 (the Act) which came into force on 30 August 2016.

Related Content

- Impact of the Canterbury Property Boundaries and Related Matters Act 2016 on survey and title
- 'Boundary marking only' surveys in greater Christchurch
- LINZ Operational requirements in greater Christchurch

Understanding the term 'affected boundary' – Rule 20.1

The term affected boundary is defined in Rule 20.1 as a boundary where earthquake movement has changed it in excess of the relevant accuracy tolerances and it has not already been redefined in terms of that earthquake movement and recorded in an approved CSD.

An approved CSD includes an approved interim survey approved before the Canterbury Property Boundaries and Related Matters Act 2016 came into force.

When an affected boundary is redefined, it is subject to the provisions set out in Rule 20. An affected boundary can be a primary or non-primary parcel boundary.

A boundary that has been redefined in terms of earthquake movement may subsequently become an affected boundary again if it is subject to further earthquake movement caused by a later earthquake (any earthquake in the period ending on 13 February 2022 - see s4 Canterbury Property Boundaries and Related Matters Act 2016).

Last Updated: 3 March 2017

Understanding the term 'disturbed' in greater Christchurch – Rule 20.1

For greater Christchurch, a disturbed survey mark excludes any change in position caused by earthquake movement.

For a survey mark to be called disturbed, it will need to be disturbed for reasons other than earthquake movement.

The term 'disturbed' is defined in Rule 20.1 but is different to that in Rule 2. The definition in Rule 20.1 applies to all cadastral surveys in greater Christchurch whereas surveys in all other areas of the country must apply the definition in Rule 2.

Last Updated: 1 March 2017

Certain rules do not apply to greater Christchurch – Rule 20.2

Rule 20.2 provides that rule 18 (Boundaries affected by ground movement) does not apply to a cadastral survey in greater Christchurch.

To comply with s 8 Canterbury Property Boundaries and Related Matters Act 2016, surveyors must consider movement of land caused by the Canterbury earthquakes (whether the movement was horizontal or vertical, or both), unless the movement was a landslip. The primary focus of rule 18(1) is deep-seated movement only which applies to all areas of the country except greater Christchurch.

The provisions set out in rule 18.2 relating to acceptance of a boundary affected by ground movement no longer apply to a cadastral survey in greater Christchurch. Requirements on when a boundary must be defined by survey or accepted are now set out in rule 20.3 (Defining by survey or acceptance of affected boundaries).

The provisions for unproven marks set out in rule 18.3 no longer apply to a cadastral survey in greater Christchurch. This means old marks recorded in a CSD will need to be determined as being either in their original position (including a change in position due to any earthquake movement) or disturbed.

Last Updated: 2 March 2017

Defining and referencing affected boundaries – Rule 20.4

The following information relates to rule 20.4 and the requirements that redefined affected boundaries must reflect earthquake movement, be referenced by witness marks and permanent reference marks, and the survey connected to an official datum.

Redefined affected boundary must reflect earthquake movement

Some affected boundaries may have changed orientation, been extended, compressed or changed shape (distorted) as a result of earthquake movement. When defining by survey, examples of redefining in terms of earthquake movement include the creation of new boundary points, new angles, arcs or bends in the case of an existing right line boundary, new bends in an irregular or water boundary, or showing a difference in the shape of a permanent structure boundary. In the following diagrams the:

- pecked black line represents the boundary accuracy tolerance where each accuracy tolerance formula between boundary points is made up by a 'constant' plus a 'distance factor' (refer to rule 3.3.1),
- pecked blue line represents the boundary in its pre-earthquake boundary location,
- solid blue line represents the old boundary in its post-earthquake boundary location.

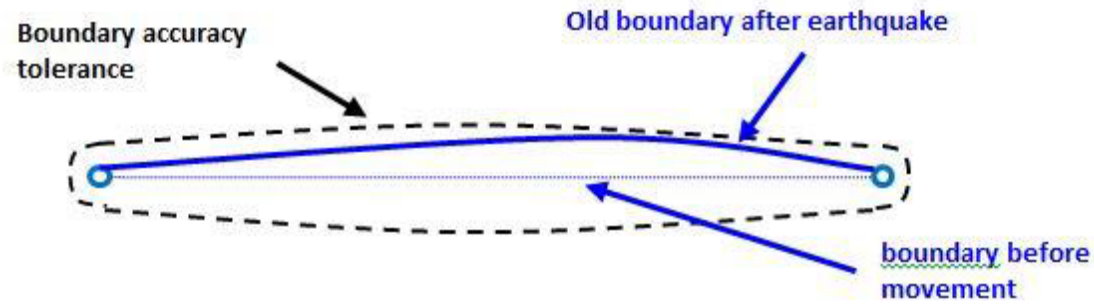


Figure 128: Diagram showing boundary

- The diagram below illustrates where the bend in the alignment of a right-line boundary is less than the accuracy tolerances which means it is not an affected boundary. In this example the pre-earthquake dimensions have been retained.

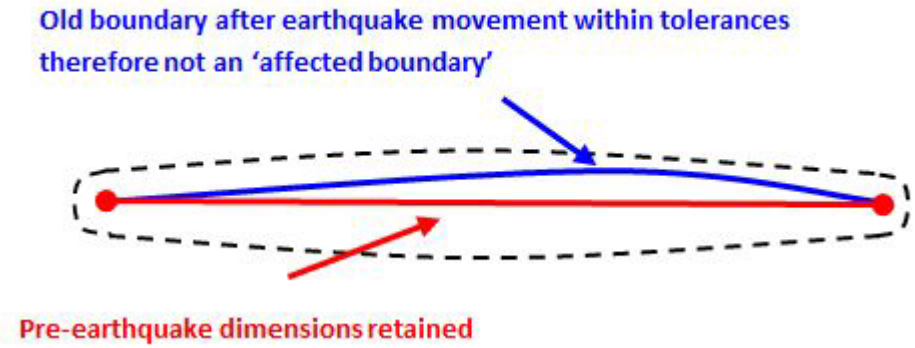


Figure 129: Diagram showing boundary not 'affected'

- The diagram below illustrates an affected boundary where the surveyor has addressed the issue by creating a new boundary angle to reflect the impact of the earthquake movement on the boundary.

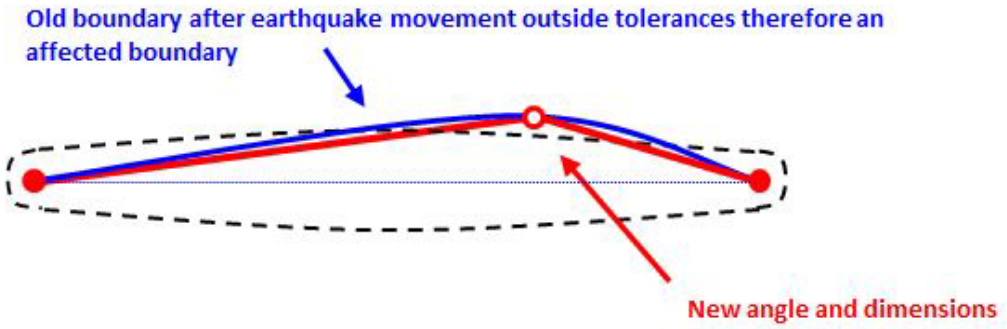


Figure 130: Diagram showing 'affected boundary'

- The diagram below illustrates where the surveyor has redefined an affected boundary to take into account stretching and rotation of the pre-earthquake boundary caused by movement of the old boundary mark at the eastern end of the boundary. The movement of an old boundary point outside accuracy tolerances will also affect other boundaries that connect to that point. This is illustrated by the change in shape and location of the two eastern boundaries that ran north and south of the original boundary position.

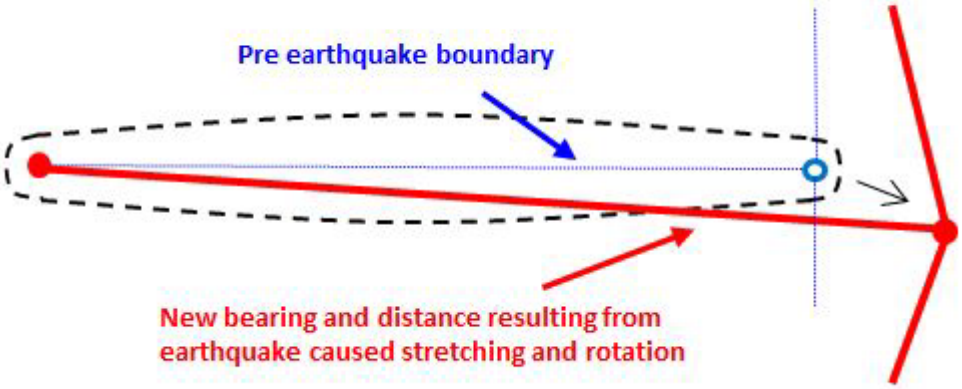


Figure 131: Diagram showing redefined 'affected boundary'

Orientation and connection

Rule 20.4(b) requires a redefined boundary on a primary parcel, stratum boundary or a lease parcel that is not a permanent structure boundary, to be orientated in terms of an

official datum [r 20.4(b)(i)], connected to a datum in specific cases [r 20.4(b)(ii)] and referenced by witness marks and PRMs [r 20.4(b)(iii) – (v)].

Witnessing

Rule 20.4(b)(iii) requires a boundary point to be witnessed as if this was a requirement set out in rule 7.3.1. This means principal rules that normally apply as a result of rule 7.3.1 being applied, also apply (including rules 7.3.2 – 7.3.4 (Witnessing of boundary points), r 7.4 (Permanent marks), r 7.5 Unique survey mark names), r 8 (Cadastral Survey Datasets), r 9 (CSD Plan) and r 12 (Diagram plan symbols and text)).

The reduced witness mark requirements for a boundary reinstatement survey or a Monumentation CSD set out in rules 7.3.2(d) and 11.2 cannot be used [rule 20.4(b)(iv)].

Use of monumentation CSDs

Where a survey redefines an affected boundary or associated boundary point a monumentation CSD must not be used [rule 20.4(c)]. This is important to note particularly where just a single boundary point is being redefined.

Last Updated: 21 April 2017

Occupation and physical features in diagram – Rule 20.5

Rule 20.5 requires occupation and physical features information relating to a redefined affected boundary and its associated boundary points to be recorded in a diagram.

The requirement applies to the entire length of a redefined affected boundary and its associated boundary points which is different to the 'normal' requirements in rule 9.5(b) which apply only to boundary points.

The information must include the nature and age of the physical feature, the physical features relationship to the defined boundary and boundary points, and any details of unofficial boundary marks found about the boundary as set out in rule 9.5(a) [r 20.5]. An example of this information that has become important in greater Christchurch is the inclusion of offsets, as recorded in pre-earthquake CSDs or field books, to buildings and structures that survived the earthquakes.

Last Updated: 1 March 2017

Easements and other non-primary rights – Rule 20.6

The following relates to all non-primary land rights where boundaries have been affected by earthquake movement.

Where the purpose of the right is for a unit in a unit title development see Unit title developments – Rule 20.6 or a lease in a cross lease development see Cross lease developments – Rule 20.6.

Underlying affected boundary must be defined by survey

An affected boundary on an underlying parcel that is class A or B must be defined by survey if a new non-primary parcel boundary coincides with or intersects it [r 20.6(a)].

Redefinition may be recorded in non-primary LT CSD

For registration under the Land Transfer Act, the redefinition of an affected underlying primary parcel boundary would normally require a CSD defining the full extent of the underlying parcel and the issue of a new computer register. Rule 20.6(d) provides a concession where an affected underlying boundary redefined as a consequence of Rule 20.6(a), or already redefined in terms of earthquake movement on an approved CSD (including an approved SO CSD), may be recorded in the LT CSD that creates the new non-primary parcel. The deposit of this CSD will create a record of survey of the redefined underlying boundary in the register (the Registrar-General of Land will update the existing computer register to refer to the partial redefinition of the underlying parcel). For example, a LT CSD may record a new easement parcel as well as the redefinition of an intersected or coincident underlying affected primary parcel boundary. Similar concepts apply to land under the tenure of the Crown and the Māori Land Court.

Information on Diagram of Parcels

To ensure users of the CSD are made aware of the two purposes of the survey (the redefined boundary and the new non-primary parcel), Rule 20.6(e) requires information in the CSD Diagram of Parcels that makes it clear to users of the Title Plan that the CSD is also recording the partial redefinition of the underlying parcel. The two purposes must also be recorded in the survey report (Rule 8.2(a)(i)) and the dataset description panel.

The example below shows new easement A together with the new redefinition of the affected northern boundary of Lot 1 DP 388041 and the prior redefinition of the affected eastern boundary of lot 1 recorded on SO 435687.

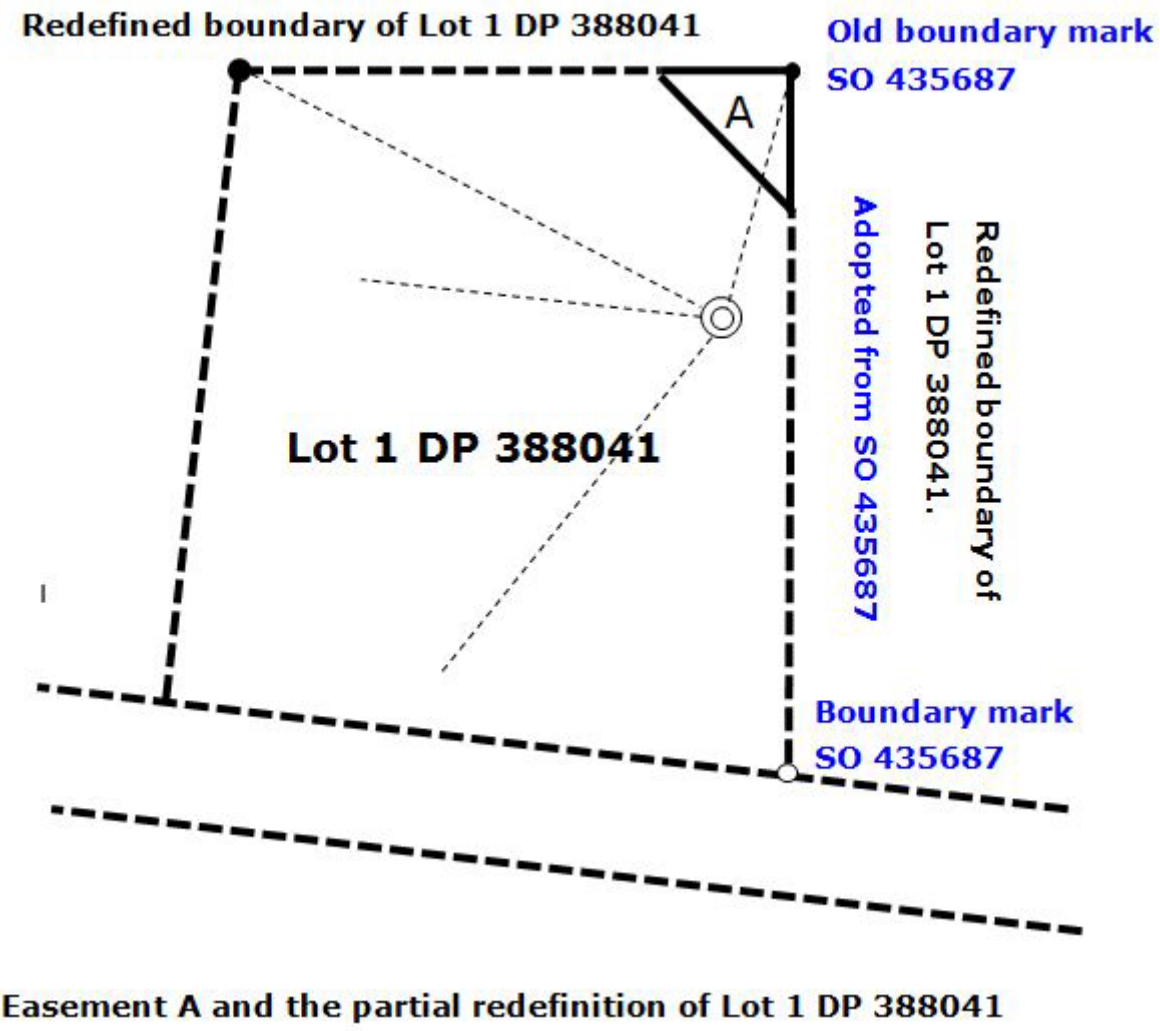


Figure 132: Example

New underlying parcel where all boundaries affected

The concession in Rule 20.6(d) does not apply where all of the boundaries of the underlying parcel were affected by earthquake movement and are required to be redefined or have been redefined and not recorded in the tenure system (see r 20.6(d)(ii)). In this case a CSD of the underlying land would need to deposit and a new computer register issued.

Last Updated: 1 March 2017

Cross lease developments – Rule 20.6

The following information relates to a non-primary lease parcel in a cross lease development where boundaries have been affected by earthquake movement.

For units see Unit title developments - Rule 20.6 and for other types of non-primary rights see Easements and other non-primary rights - Rule 20.6.

New cross lease developments

Where there is a new cross lease development, every affected boundary on the underlying parcel must be defined by survey [r 20.6(b)(i)]. A new development can be interpreted as where there are no existing leases or where all leases have been cancelled. An update to one cross lease area where there are other remaining cross leases on the land is not a new development.

If an underlying boundary is redefined as a result of rule 20.6(b)(i), a new underlying parcel must be created [r 20.6(b)(ii)]. A new underlying parcel must also be created where any of the underlying boundaries was an affected boundary but has been redefined but not recorded in the tenure system [r 20.6(b)(ii)]. An example of this is an affected boundary redefined in a boundary marking Survey Office (SO) CSD.

For registration under the Land Transfer Act, creating a new underlying parcel requires the deposit of a LT CSD defining the full extent of the underlying parcel. This CSD may also define the new cross lease areas.

Existing cross lease developments

Where there is an existing lease on the underlying parcel and a new non-primary parcel lease area or other non-primary right is being added or changed, only the affected underlying boundaries that are coincident with or intersected by the new non-primary parcel boundaries need to be redefined [r20.6(a)].

Under the Land Transfer Act, the redefinition of an affected underlying primary parcel boundary would normally require a CSD defining the full extent of the underlying parcel and the issue of a new computer register. Rule 20.6(d) provides a concession where an affected underlying boundary redefined as a consequence of Rule 20.6(a), or already redefined in terms of earthquake movement on an approved CSD (including an approved SO CSD) may be recorded in the LT CSD that creates the new non-primary parcel. The deposit of this CSD will create a record of survey of the redefined underlying boundary in the register (the Registrar-General of Land will update the existing computer register to refer to the partial redefinition of the underlying parcel). For example, a LT CSD may record a new cross lease parcel as well as the redefinition of an intersected or coincident underlying affected primary parcel boundary.

To ensure users of the CSD are made aware of the two purposes of the survey (the redefined boundary and the new non-primary parcel), Rule 20.6(e) requires information in the CSD Diagram of Parcels that makes it clear to users of the Title Plan that the CSD is also recording the partial redefinition of the underlying parcel. The two purposes must be recorded in the survey report (Rule 8.2(a)(i)) and the dataset description panel.

The example below shows new cross lease area 2, new covenant area A together with the new redefinition of the affected northern boundary of Lot 1 DP 388041 (in red) and the prior redefinition of the affected eastern boundary of lot 1 recorded on SO 435687 (in blue). The other boundaries of lot 1 are not affected.

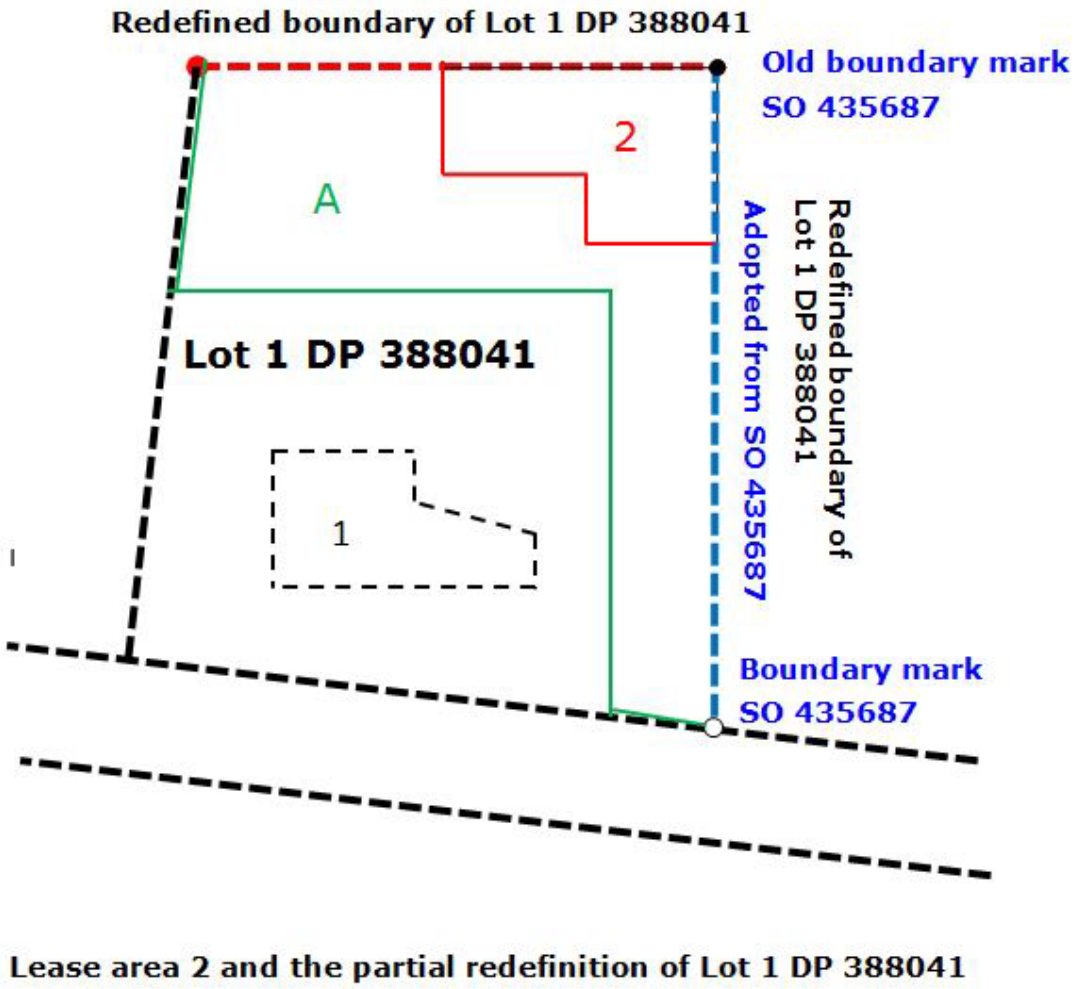


Figure 133: Example

Last Updated: 3 March 2017

Unit title developments – Rule 20.6

The following information relates to a unit development where boundaries have been affected by earthquake movement.

For cross leases see Cross lease developments - Rule 20.6 and for other types of non-primary rights see Easements and other non-primary rights -Rule 20.6.

New unit developments

Where there is a new unit title development every affected boundary on the underlying parcel must be defined by survey [r 20.6(b)(i)]. A new development can be interpreted as where there is no existing unit title development or where an existing development has been cancelled.

If an underlying boundary is redefined as a result of rule 20.6(b)(i), a new underlying parcel must be created [r 20.6(b)(ii)]. A new underlying parcel must also be created where any of the affected boundaries of the underlying parcel have already been redefined but not recorded in the tenure system [r 20.6(b)(ii)]. An example of this is an affected boundary redefined in a boundary marking Survey Office (SO) CSD.

For registration under the Land Transfer Act, creating a new underlying parcel requires a LT CSD defining the full extent of the underlying parcel. This CSD will need to precede the unit title CSD.

Existing unit developments

Where there is part of an existing unit development on the underlying parcel and a new unit or other non-primary parcel is being defined as part of this development, only the affected underlying boundaries that are coincident with or intersected by the non-primary parcel boundaries need be redefined [r20.6(a)].

Under the Land Transfer Act, the redefinition of an affected underlying primary parcel boundary would normally require a CSD defining the full extent of the underlying parcel and the issue of a new computer register. Rule 20.6(d) provides a concession where an underlying boundary redefined as a consequence of Rule 20.6(a), or already redefined in terms of earthquake movement on an approved CSD (including an approved SO CSD), may be recorded in the LT CSD that creates the new non-primary parcel. The deposit of this CSD will create a record of survey of the redefined underlying boundary in the register (the Registrar-General of Land will update the existing computer register to refer to the partial redefinition of the underlying parcel). For example, a LT CSD may record a new unit parcel as well as the redefinition of an intersected or coincident affected underlying primary parcel boundary.

To ensure users of the CSD are made aware of the two purposes of the survey (the redefined boundary and the new non-primary parcel), Rule 20.6(e) requires information in the CSD Diagram of Parcels that makes it clear to users of the Title Plan that the CSD is also recording the partial redefinition of the underlying parcel. The two purposes must be recorded in the survey report (Rule 8.2(a)(i)) and the dataset description panel.

Affected underlying boundaries that are non-coincident or not intersected may be accepted and be class D [r 20.6(c)(i)].

The example below shows new unit parcel 5 (in red) together with existing units 1 – 4. It also shows the redefinition of the affected northern boundary of Lot 1 DP 388041 (in red) and the prior redefinition of the affected eastern boundary of lot 1 recorded on SO 435687 (in blue). The western and southern boundaries are also affected boundaries and have been accepted as class D. They show the annotations required by rule 20.6(c)(ii).

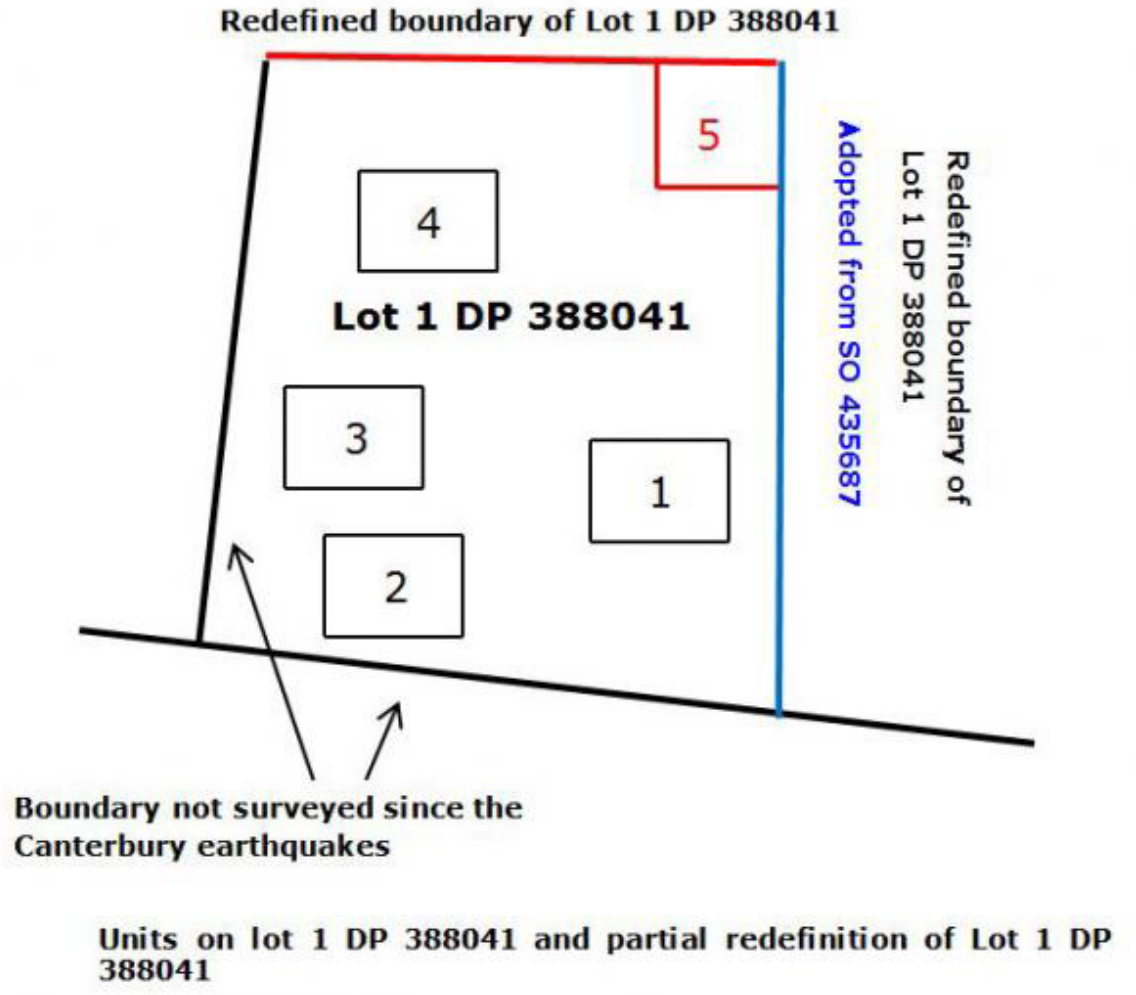


Figure 134: Diagram showing units on lot 1 DP 388041 and partial redefinition of lot 1 DP 388041

Last Updated: 3 March 2017

Boundaries to be marked – Rule 20.7

Rule 20.7 requires, where practicable, each boundary point on an affected primary parcel boundary that is defined by survey to be marked.

However the rule provides for exceptions where a reliable boundary mark already exists [r 20.7(a)], where any of the conditions set out in rule 7.1(a)(i) – (vi) apply [r 20.7(b)], and in the case of limited titles [r 20.7(c)]. Rule 20.7(c) acts in the same manner as rule 7.1(b)(ii).

Last Updated: 1 March 2017

Removing boundary marks – Rule 20.8

The following information relates to the application of rule 20.8 and the removal, or driving below ground, of an old boundary mark that no longer marks a boundary point.

The rule is an enabling provision and not a requirement.

Rule 20.8(a) provides an authority to remove, or to drive below the ground surface, a boundary mark that no longer marks a boundary point. This action may only be carried out where there is no boundary conflict. Boundary conflict is defined in s9 Canterbury Property Boundaries and Related Matters Act 2016).

Defining a boundary in terms of earthquake movement may not in itself remove boundary conflict with an approved interim survey that did not define the same boundary in terms of earthquake movement. The resolution of boundary conflict must take into account other factors including the interests of the party who commissioned the approved interim survey. Before a boundary mark is removed or driven below ground, it is recommended LINZ advice is sought using the Landonline e-request type 'Survey_Earthquake Complex'.

A disturbed boundary mark may be removed or driven below ground under the provisions of this rule.

Last Updated: 21 April 2017

Water body centreline boundaries – Rule 20.9

The following information relates to rule 20.9 and the retention, and in some circumstances the acceptance, of an existing irregular water body centreline boundary.

Recent research carried out by the Office of the Surveyor-General has not identified any enactment or rule of law that supports the view an irregular boundary that follows the centreline of a water body is a fixed boundary.

Irregular centreline boundary may be retained

Rule 20.9 enables an irregular boundary following the centreline of a water body to be retained as an irregular boundary, rather than be right-lined under rule 6.6 [r 20.9(a)]. This may be applied irrespective of the boundary being redefined or adopted. The boundary must be annotated as following the centreline [r 20.9(b)].

Irregular centreline boundary where accretion

Rule 20.9(c), which refers to accretion, allows for the possibility of an irregular boundary following the centreline of a water body to move due to accretion to the water margin of the water body. Where an entitlement due to movement resulting from accretion is not being claimed, the boundary may continue to be depicted as it was defined prior to the earthquakes [r 20.9(c)]. In this case it must be accepted, be class D and noted on the CSD diagrams 'Boundary not surveyed since the Canterbury earthquakes' [r 20.9(d)].

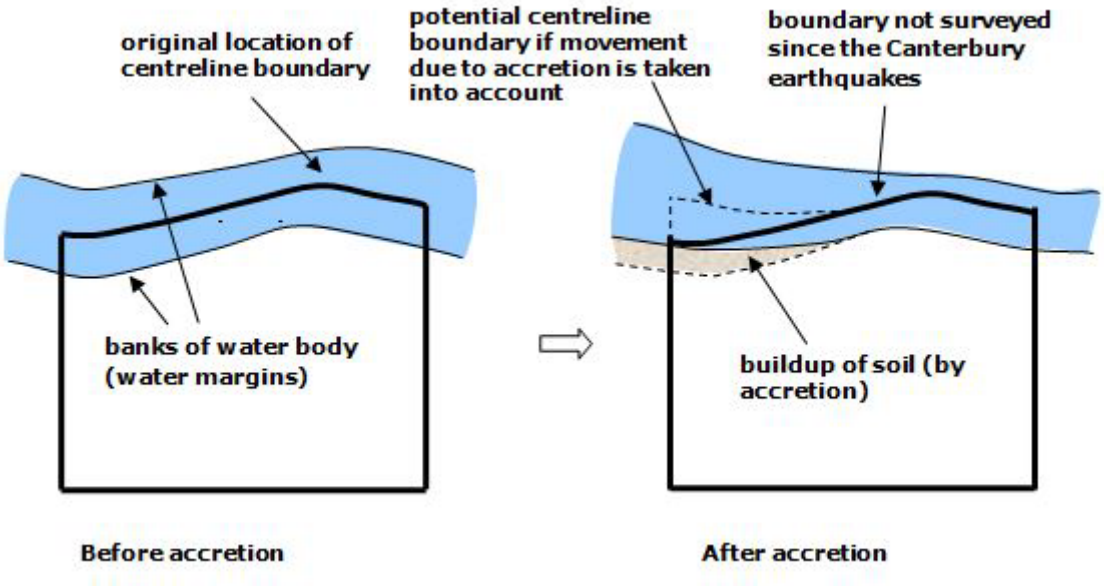


Figure 135: Centreline of water boundary moved due to accretion

Where the evidence points to a centreline boundary being a boundary fixed in location the boundary may be right lined.

Last Updated: 26 April 2017

Reduced level for unaffected stratum boundaries – Rule 20.10

Rule 20.10 requires any pre-earthquake reduced level (RL) defining a stratum boundary that is not an affected boundary to be corrected to be in terms of earthquake movement and recorded on the Diagram of Survey [r 20.10(a) which refers to r 9.6.10].

The survey report must also record the basis for determining any change in RL [r 20.10(b)].

The term 'affected boundary' is defined in Rule 20.1 as a boundary where earthquake movement has changed it in excess of the relevant accuracy tolerances and it has not already been redefined in terms of that earthquake movement and recorded in an approved CSD. This means a stratum boundary, where there has been uniform uplift or subsidence of the ground surface over the full horizontal extent of the stratum boundary, is not an affected boundary. However in terms of the Act, the boundary will have moved either upwards or downwards with the ground movement and any pre-earthquake RL defining the stratum boundary will no longer be correct. Rule 20.10 requires it to be corrected (refer to 'Understanding the term 'affected boundary - Rule 20.1').

When considering the application of rule 20.10:

- because the stratum boundary is not an affected boundary, it is not required to be defined by survey in terms of rule 20.3 and therefore the principal rules apply. In some cases the boundary will be able to be adopted or accepted (with a corrected RL value),
- a stratum boundary may remain unaffected even where it has moved in a vertical direction that is different to vertical movement affecting related witness marks or bench marks.
- where a stratum boundary was defined by a RL in terms of an assumed datum, the RL will not need to be corrected if it has maintained the same vertical relationship to its related witness marks or bench marks that defined the datum.

Last Updated: 1 March 2017

Appendix A – Capture of connections to water or irregular boundaries

A water boundary or irregular boundary in Landonline is recorded as an irregular line (a series of coordinated vertices) between two end points (nodes).

Some surveyors are capturing ties to intermediate points along water or irregular boundaries in their CSDs. Although survey work may have been undertaken to fix points along these boundaries, these intermediate points are not required to be captured in a CSD. Neither the Rules nor Landonline require them.

In some cases, especially in non-SDC areas, the underlying water or irregular boundary depicted in Landonline will be inaccurate. Adopting such a boundary in a new CSD may require capture (digitisation) from an existing plan. It may involve the capture of ties or offsets to intermediate points. Once again, while these ties may be valuable for the accurate adoption of the boundary, they do not need to be included in the CSD.

In both cases, the new and more accurate irregular boundary lines will replace the lines that are in Landonline when the CSD is registered. Before linking in a non-SDC area, surveyors may need to invoke the exception process to better position any inaccurate Landonline nodes.

Capturing two vectors to each end point of the irregular line will be sufficient to enable the boundary to be accurately depicted on the Diagram of Survey [to comply with rules 9.6.7 & 9.6.8] and the Diagram of Parcels [to comply with rules 10.4.2(d), 10.4.5 & 10.4.6], as well as in Landonline.

If, however, connections to intermediate boundary points are captured in the CSD, those intermediate points need to have a minimum of two vectors connected to them [rules 8.1(d) and (e)]. One way of achieving this is by calculating vectors between adjacent points. In addition, separate irregular boundary lines should be created between adjacent intermediate points, rather than having a single line that passes over them.

Future surveyors will be able to re-establish the position of these boundaries using the positions of the end points (as defined by the vectors) and the irregular line recorded between those points. This irregular line data can be obtained by loading a LandXML file extracted from Landonline into surveying software. Only data that is reliably defined in an e-survey can be confidently used in this manner.

Surveyors can include additional details of the survey fixes to water boundaries in a supporting document if they wish.

The survey report should include details of the accuracy of water boundaries or irregular boundaries and the method used to define them [refer to rules 8.2(a)(iv) & (xii), and 3.4].

Landwrap Issue #94, Date 201212

Appendix B – Capturing remote trig observations

This article contains information about capturing remote trig observations.

The Standard for Lodgement of Cadastral Survey Datasets (section 4.2) requires you to capture and include in the CSD all vectors and arcs required by the RCS 2010. The exceptions are for boundary marking, Unit Title and Flat/cross-lease CSDs as described in 4.2.1 and 4.2.2.

If a survey includes trig observations that are some distance away from the actual area of subdivision, the Spatial window (Plan Generation/Define Diagram) may take some time to load.

How do I include remote trig observations?

Follow these steps:

1. Do not capture trig shots initially. Remove these if already captured.
2. Capture all other survey data as normal.
3. Run Pre-validation to ensure that all Y Fatal rules pass.
4. Open Plan Generation/Define Diagram and create all user defined diagrams that will be required for Layout Sheets.
5. Return to capture and capture the trig observation(s).
6. Re-link one parcel.
7. Re run Pre-validation to ensure all Y Fatal rules pass.
8. Open Plan Generation/Layout Sheets. Note: do not re-open the Define Diagrams as the trig observations will now be included.
9. In Layout Sheet/Survey Sheet remove the 'system generated survey traverse diagram' off the 'Survey' Layout Sheet.
10. Layout out the new 'user defined survey traverse diagram'. The trig observations will appear as truncated lines.
11. Layout all other diagrams.

If further user defined diagrams are required after capturing the trig shots, you have two options

- Repeat steps 1 to 11, or
- Leave the trig shots captured and wait for the spatial window in Define Diagrams to open. (**Warning** – depending on how long the trig shots are this may take some time.)

Appendix C – Marks - capturing and linking tips

The Standard for lodgement of cadastral survey datasets requires you to:

- capture all survey marks and boundary points required by the RCS 2010 (section 4.1)
- link all captured existing survey marks and boundary points to the corresponding node in Landonline (section 5).

For new marks

Label the plan number as DP, not LT.

You cannot use LT in the Plan Ref in the Mark Details screen as it does not get updated. However, you can use LT in the Survey Header for referenced plans and in the Traverse/Observation screen for adopted observations (these fields are updated automatically when the plan deposits).

For adopted marks

If an adopted mark has an existing unique identifier, you need to include this on the new survey. (Using a new unique identifier will create conflict in the Validation Report.)

Example: Peg 1 DP 12345 should be captured as Peg 1 DP 12345, or better still, adopted spatially in order to retain the unique identifier.

Use standard abbreviations in the Mark Type field.

Example: You can capture an unmarked point as Mark Type Abbrev 'UNMK'; a Mark Type of 'Unmarked' in full is also acceptable (If you enter either of these into the Mark Type abbrev field it will default to 'Unmarked'.)

1. Complete the Mark Type Abbreviation field as well as the Mark Type field.
2. Label non-boundary marks with the correct mark name and number.

Adopted marks should have a 'Condition' of 'Reliably Placed/Found'. The ideal is that you adopt and work from reliably placed/found marks.

Marks with the 'Condition' of 'Not Found' means that the surveyor went out into the field to look for that mark but could not find it.

Want more help with capturing? See Related Content below.

Related Content

- Capturing Reinstated Marks

- Capturing disturbed marks
- Capturing Renewed Marks
- Capturing Unproven Marks

Appendix D – Capturing renewed marks

This process records a mark that has been placed in the same position as an old mark that has been physically located.

Use this process where you renew a mark that is previously recorded in Landonline. This information covers both boundary and non-boundary marks.

How do I capture a renewed non-boundary mark?

Follow these steps:

1. Enter the fields in Mark Details:
   - **Mark Name:** IT 4 DP 4*****.
   - **Mark State:** Old.
   - **Mark Purpose:** Non-boundary, PRM, etc as the case may be.
   - **Description:** Renews IT SO 12345. This mark description will be added automatically to the diagrams when you generate your plans.

     Note: Even though this is a new mark in the ground, set the Mark State to 'Old'.

     Only use the 'Renewed' functionality (steps 2-6) if the original mark exists in Landonline and has mark details recorded (e.g. IT II DP 12345). If these two criteria do not apply, capture the mark the conventional way using 'Original' functionality.
2. Enter the fields in **Mark Details**:
3. Select 'Renewed' in the **Mark Reliability Details** area of the screen.
4. Enter the date the mark was replaced, if the default date is incorrect.
5. Select **New Search** to search Landonline for the original mark. Alternatively, select the existing mark in the Landonline Spatial window and note the node id.
6. Enter the mark name of the new renewed mark in the **Annotation** field.

How do I capture a renewed boundary mark?

Follow these steps:

1. Enter the fields in **Mark Details:**

- **Mark Name:** Peg DP 12345 (original name) or Peg DP 4*****(new name)
- **Mark State:** Old
- **Mark Purpose:** Defined by Survey (RC 2010 or boundary (CSR 2021)
- **Description:** Renewed (if original name used) or Peg DP 12345 renewed (if new name used). This mark description will be added automatically to the diagrams when you generate your plans.

Note: Even though this is a new mark in the ground, the mark state should be set to 'Old'.

Only use the 'Renewed' functionality (steps 2-5) if the original mark exists in Landonline and has mark details recorded (e.g. PEG I DP 12345). If these two criteria do not apply, capture the mark the conventional way using 'Original' functionality.

2. Select 'Renewed' in the **Mark Reliability Details** area of the screen.
3. Enter the date the mark was replaced, if the default date is incorrect.
4. Select **New Search** to search Landonline for the original mark.
5. Alternatively, select the existing mark in the **Landonline Spatial** window and note the node id.

Please see Recording marks and points for more information.

Want more help capturing marks? See related content below.

Last Updated: 8 July 2021

Related Content

- Capturing Reinstated Marks
- Capturing disturbed marks
- Capturing Unproven Marks
- Marks - capturing and linking tips
- Recording marks and points

Appendix E – Capturing disturbed marks

Use this process to record details of a disturbed mark that has previously been recorded in Landonline as undisturbed.

This mark physically exists but is not in its original position as defined by previous surveys. The mark is not disturbed if its change in position is due to deep-seated movement (r2, RCS 2010), fault zone movement (r108, CSR 2021) or due to Canterbury earthquake movement (r20.1 RCS 2010, r108 CSR 2021).

How do I capture a disturbed non boundary mark?

This mark must be treated as a new mark in your survey

Follow these steps:

1. Enter the fields in **Mark Details:**
   - Mark Name: IT 4 DP 4*****
   - Mark State: New
   - Mark Purpose: Non-boundary/PRM
   - Mark Description: IT III SO 12345 disturbed. This mark description will be added automatically to the diagrams when you generate your plans.

     Only use the Disturbed functionality (steps 2-6 if the original mark exists in Landonline and has mark details recorded (e.g. IT I DP 12345). If these two criteria do not apply, capture the mark the conventional way using 'Original' functionality.
2. Select **Disturbed** in the **Mark Reliability Details** area of the screen
3. Enter the date the mark was found disturbed, if the default date is incorrect.
4. Select **New Search** to search Landonline for the original mark.
5. Alternatively, select the existing mark in the Landonline Spatial window and note the node id. Enter the node id into the **Search** screen.
6. Enter the mark name of the new mark in the **Annotation** field.

Ensure that you have a second vector to the disturbed position

Original adopted position of the mark

You can choose whether or not to capture this position.

Follow these steps to capture:

1. Enter the fields in **Mark Details:**
   - Mark Name: IT III SO 12345
   - Mark State: Adopted
   - Mark Purpose: Non-boundary

2. Link this mark to the existing mark in Landonline using the conventional linking method.

How do I capture a disturbed boundary mark?

This mark must be treated as a new mark in your survey

1. Enter the fields in **Mark Details:**

- Mark Name: Peg * DP 4***** [using the old mark type, unique id, with your new CSD number]
- Mark State: New
- Mark Purpose: Non-boundary (because it no longer marks a boundary point)
- Mark Description: Peg 3 DP 55010 Disturbed. This mark description will be added automatically to the diagrams when you generate your plans.

  Only use the Disturbed functionality (steps 2 - 6 if the original mark exists in Landonline and has mark details recorded (e.g. Peg 3 DP 55010). If these two criteria do not apply, capture the mark the conventional way using 'Original' functionality

2. Select **Disturbed** in the **Mark Reliability Details** area of the screen.
3. Enter the date the mark was found disturbed if the default date is incorrect.
4. Select **New Search**... to search Landonline for the original mark.
5. Alternatively, select the existing mark in the Landonline spatial window and note the node id. Enter the node id into the **Search** screen.
6. Enter the mark name of the new mark in the **Annotation** field

Ensure that you have a second vector to the disturbed position

Original position of the mark

You may also need to capture the original mark i.e. if it is relevant to your survey. Follow these steps:

1. Enter the fields in **Mark Details:**
   - Mark Name: Peg 3 DP 55010
   - Mark State: Adopted
   - Mark Purpose: Defined by survey' (RCS 2010) or 'Boundary' (CSR 2021)
2. Link this mark to the existing mark in Landonline using the conventional linking method.

More information

Please see these guides for more information:

- Disturbed marks to be treated as new
- Recording disturbed marks on the Diagram of Survey

Want to know more about capturing marks? See related content below.

Last Updated: 29 November 2021

Related Content

- Capturing Reinstated Marks
- Marks - capturing and linking tips
- Capturing Renewed Marks
- Recording marks and points

Appendix F – Capturing reinstated marks

This process defines what a reinstated mark is and how to capture it in Landonline.

A reinstated mark is a new mark placed in the ground in the position of a previous mark that has not been found.

How do I capture a reinstated boundary or non boundary mark?

Follow these steps:

1. Record the mark as a new mark with a new name because it now replaces an existing mark.
2. Enter the fields in Mark Details:
   - **Mark Name:** IT 4 DP 4*****
   - **Mark State:** New
   - **Mark Purpose:** (As appropriate)
   - **Description:** (old mark name) reinstated. This mark description will be added automatically to the diagrams when you generate your plans.

NOTE: Do not use the 'Renewed' functionality for reinstated marks. Link the new mark to the appropriate Landonline mark, if one exists.

Record conflicts in a Pre-validation Report

Reinstated marks linked to existing Landonline marks may cause a mark name / type conflict item. This must be reported on in the pre-validation section of the Survey Report.

You need to comment on the mark reinstatement in the Survey Report.

Want to know more about capturing marks? See related content below.

Last Updated: 12 February 2019

Related Content

- Marks - capturing and linking tips
- Capturing disturbed marks
- Capturing Renewed Marks
- Recording marks and points

Appendix G – Capturing unproven marks

Use this process to record an old mark that has been affected by ground movement, but has not been determined as disturbed or undisturbed, and is not being used to define a boundary (See rule 18.3 of the Rules for Cadastral Survey 2010).

You must not include unproven marks in CSDs where survey marks and parcel boundaries have not been affected by ground movement.

Treat old marks that have been previously captured as unproven and are to be used as evidence for re-establishing a boundary as either reliable or disturbed.

Advice for different capture scenarios is listed below:

New Unproven Boundary, Non-boundary or Geodetic Mark

If you locate an old survey mark that is not determined as disturbed or undisturbed and is not being used to re-establish a boundary, capture it as an unproven mark.

Do not capture adoptions indicating that the unproven mark is not in its original position.

Enter the fields in Mark Details:

- **Mark Name:** Existing mark name (Mark Type Abbrev, Mark No, Mark Plan Ref)
- **Mark Plan Ref:** add the suffix '(UNPROVEN)' after CSD number
- **Mark State:** Old
- **Mark Purpose:** Non-boundary, PRM, Witness, etc for non-boundary mark; or 'defined by survey' for boundary mark
  Do not link the unproven mark to an existing mark node.

Unproven mark found and proven to be disturbed

If you find an old survey mark that was labelled 'Unproven' on a prior CSD, and prove this to be disturbed, capture it as a disturbed mark.

Do not label it as 'Unproven'. See Capturing Disturbed Marks (see related content below)

Finding unproven marks that prove to be reliable

If you find an old survey mark that was labelled 'Unproven' on a prior CSD, and it proves reliable on a subsequent survey:

1. Capture the mark with its original mark name.
2. Remove the suffix 'Unproven' from the Mark Plan Reference.

If you find an old geodetic mark that was labelled 'Unproven' on a prior CSD, and it proves to be reliable, submit a request to the National Geodetic Office for the mark name to be amended:

1. Search for the geodetic mark in the Geodetic Database (see Related External Content below)
2. Select **User feedback/unproven status** under the header 'Detailed Information'
3. Select **Submit feedback on this mark**
4. Complete the feedback fields and select **Submit feedback**

Linking the nodes

If only one node exists in Landonline, you must link to it. If both the unproven and original nodes exist in Landonline, link to the original node and report this in section 17 Survey System Maintenance of the Survey Report Template Guide (see related content below) requesting that the nodes be merged.

Finding unproven marks that are to be retained

If you find an old survey mark that was labelled 'Unproven' on a prior CSD and it is to remain unproven, link it to its existing unproven node in Landonline.

Do not capture adoptions indicating that the unproven mark is not in its original position.

Adopting unproven survey marks

If it is necessary to adopt an unproven survey mark as well as adopting the original position of the mark:

1. Capture both marks.
2. Retain their respective names with reference in the Mark Description field to 'As adopted from …' / 'As found on …'.
   Until a mark is found and proved to be disturbed, it cannot be treated or labelled as a disturbed mark.
3. Link the original adopted position to its existing original mark node, if available in Landonline.
4. Link the adopted unproven mark to its existing unproven mark node.
   If the unproven mark has already been linked to the original adopted node, link to this node and report this in section 17 Survey System Maintenance of the Survey Report Template Guide (see related content below).

Removing the 'Unproven' status

When an old unproven mark is deemed reliable or disturbed, you need to remove the unproven status and treat the mark according to its new determination.

When an unproven mark is subsequently proven to be reliable, it must remain proven unless further ground movement or disturbance occurs.

To be considered unproven, an old survey mark must have been affected by ground movement.

Mark Protection and 5th Order Geodetic Mark Surveys

A minimum of two reliable survey marks are required to be linked in Landonline for you to submit your survey.

Want to know more about capturing marks? See related content below.

Related Content

- Capturing Reinstated Marks
- Capturing disturbed marks
- Capturing Renewed Marks

Appendix H – Movable marginal strips – capturing in Landonline

The government requires that all Crown agencies that dispose of Crown land require the marginal strips to be included as part of the survey and be included in the resultant CSD.

Surveys of land for the purpose of disposal by the Crown are recorded in either SO or LT datasets – most commonly the former. Marginal Strips are captured as non-primary parcels.

If land that the Crown is disposing of is already adequately defined, new marginal strip parcels are most appropriately represented in an SO dataset prepared specifically for that purpose.

You need to also consider whether the beds of water bodies are to be excluded from the Crown disposal. If they are, you should identify them as hydro parcels in the CSD.

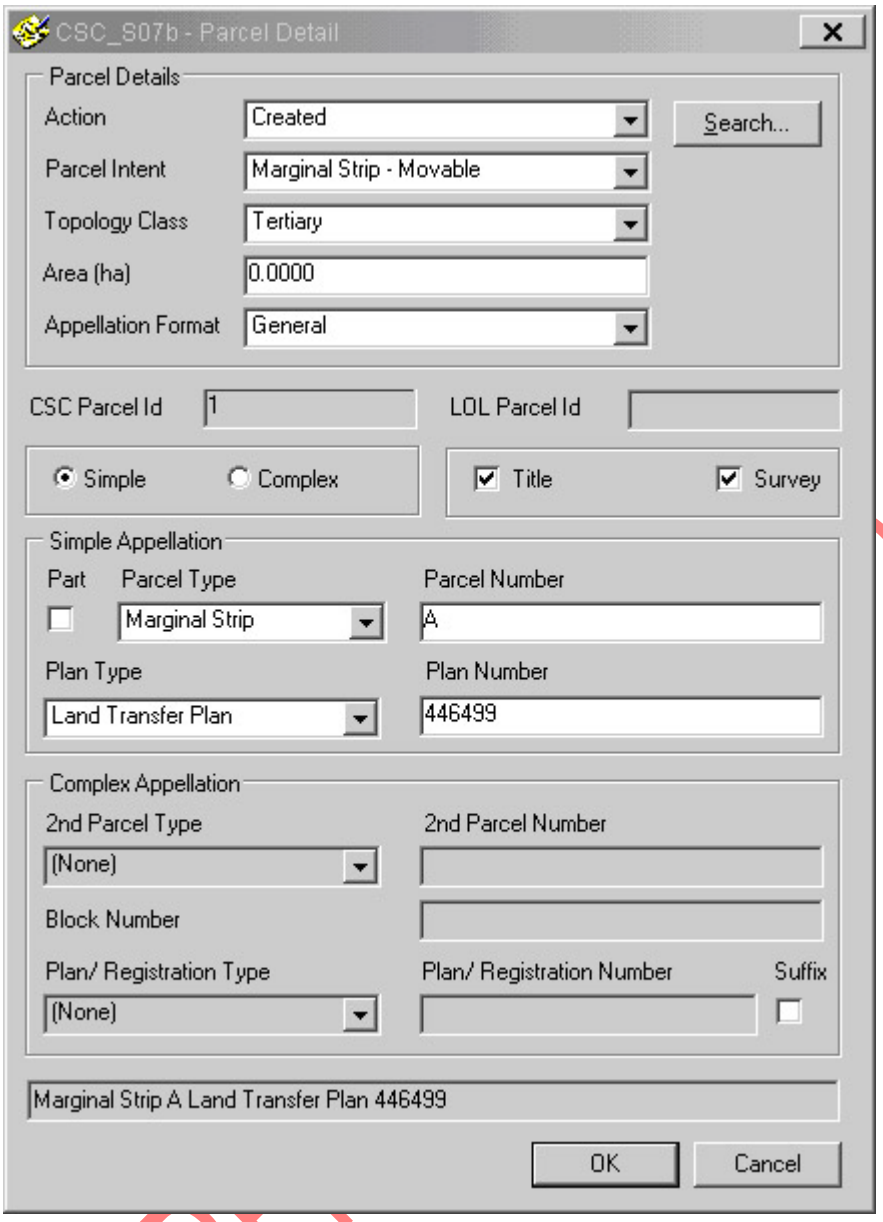
How do I represent marginal strips in a CSD?

Use the following details.

Survey Purpose
Survey Purpose = 'Crown Subdivision' or Survey Purpose = 'LT Subdivision' or
Survey Purpose = 'Statutory Easement/Right'

Marginal Strip parcels
Topology Class = 'Tertiary'
Parcel Intent = 'Marginal Strip - Moveable'
Parcel Type = 'Marginal Strip'

Parcel Area = <not required>
Parcel Value = <not applicable>



While you must depict the moveable marginal strip on a Diagram of Parcels, do not show a separate area for the marginal strip parcel. You need to include the area of the strip in its associated primary parcel.

Last Updated: 1 July 2019

Related Content

- Recording movable marginal strip and esplanade strip parcels

Appendix I – Depicting changes to Units and Common Property in the CSD diagrams

Where a redevelopment is changing the shape of an existing unit or Common Property, the CSD diagrams must clearly depict the spatial relationship between the estate interests being cancelled (associated with existing unit(s) or Common Property undergoing change), and new interests being create.

This means that the CSD diagrams must show the referenced estate boundaries of the cancelled titles where they do not coincide with the new titles. This requirement is set out in rules 9.6.3(h)(i) and 10.4.2(f)(i) of the Rules for Cadastral Survey 2010. Two examples are illustrated below:

Land from PU2 being added to PU1 (plan view)

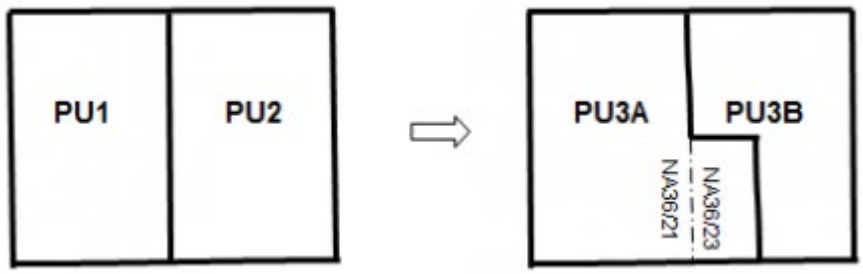


Diagram 1: Land from PU2 being added to PU1 (plan view)

Land from PU1 being added to Common Property (elevation)

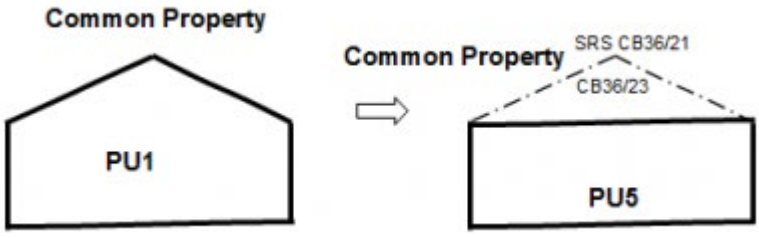


Diagram 2: Land from PU1 being added to Common Property (elevation)

Converting a stratum boundary to a permanent structure boundary

Where an existing unit boundary is being converted from a stratum boundary to a permanent structure boundary with the intention that the boundary is the same boundary then this fact must be made obvious to the CSD user. Reporting this information in the survey report or annotations on the CSD diagrams are two ways of addressing this issue.

This item appeared in Landwrap August 2014

Appendix J – Automated Survey Report

A survey report can be included in a CSD using the automated survey report functionality in Landonline.

The automated survey report is available in Landonline on the Survey Report tab in the CSL_S02 Manage Survey Transaction screen.

This functionality is provided to assist both the surveyor to complete the Survey Report and LINZ to approve the CSD.

Alternatively, a survey report can be scanned and attached as a supporting document (SUD).

How the Automated Survey Report works

Landonline populates a number of header fields in the Survey Report from the data entered in the Survey Header screen. This will remove the chance of incorrect information being carried forward from previous reports and will also eliminate the chance of inconsistencies between the CSD and the Survey Report.

Landonline also does some analysis of the data contained in the CSD and assists the surveyor to respond to the appropriate questions within the Survey Report.

A series of questions have been added to the Survey Report tab page and the surveyor is expected to respond either "Y" or "N" to these. Depending on the Y/N response a "No Comment" an "Optional Comment" or "Mandatory Comment" is required.

Some of the questions are system answered (by analysing the data in the CSD) and comments are able to be added if required. Comments can be copied and pasted from other applications into the Comments field.

The data analysis performed in the automated Survey Report also assists LINZ to assess the complexity of the CSD and workflow it to appropriate staff who are able to process that type of dataset.

When the CSD is submitted the information on the Survey Report tab page is converted to an image and automatically attached as a Survey Report supporting document.

There can only be one certified survey report associated to the CSD. This will either be the one attached as a SUD by the surveyor or the one attached by Landonline when the surveyor has used the Automated Survey Report process. When the automated process is used the Survey Report is created and attached during the 'Submit' process. If the surveyor uses the automated process and also attaches a copy as a SUD, Landonline will discard the automated survey report in favour of the attached copy.

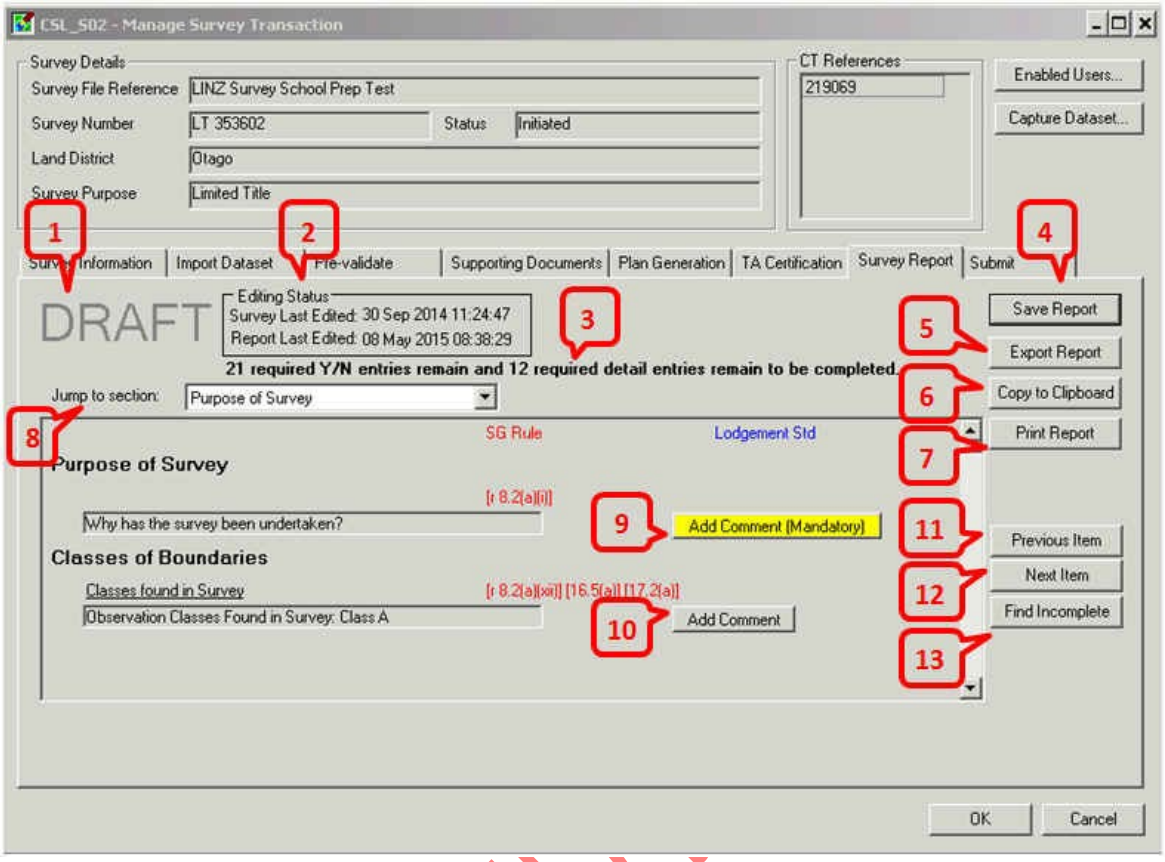
Surveyors are encouraged to try the automated survey report. Provide feedback now to customersupport@linz.govt.nz using 'Automated Survey Report Feedback' in the subject line.

The Survey Report tab

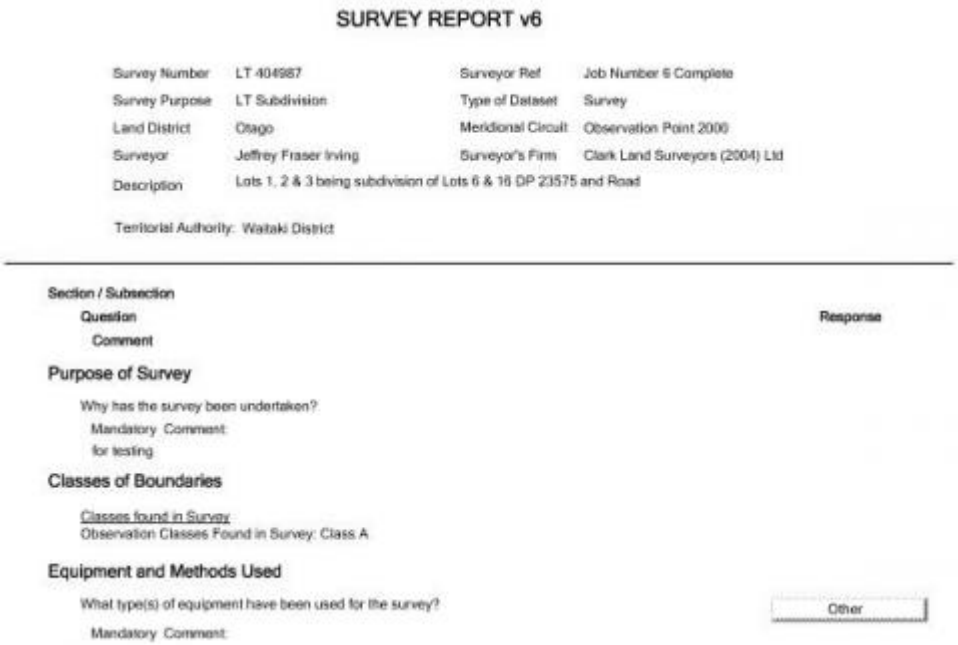
Tip: To navigate through the questions of the survey report we recommend using the 'Tab' key to go from one question to the next. If you use the scroll bar or page down you run the risk of missing sections of the report to fill out.

Here are the fields (refer to the diagram below):

1. DRAFT appears on this tab until the survey report has been fully completed and saved
2. Editing Status – tells you when the Survey was last edited and when the Report was last edited
3. Number of entries to be completed – this will automatically count down as you enter data. At the completion of the report it will indicate that 'All items complete'
4. Save Report button – saves the work you have done up to that point on the screen. If you exit without saving the report, you will loose data in the report
5. Export Report button – exports the report to your chosen location on your PC in .tiff format
6. Copy to Clipboard button – allows you to copy and then paste into a word document
7. Print Report button – prints your report
8. Jump to section – allows you to go to any one of the sections in the report
9. Add Comment buttons highlighted yellow are mandatory and must be answered
10. Add Comment buttons not highlighted yellow are optional
11. Previous Item Button – will find the previous item on the list
12. Next Item button – will find the next item on the list
13. Find Incomplete button – to check if any mandatory item in the form has not been completed.



Automated survey report example:



SURVEY REPORT v6

Survey Number	LT 404987	Surveyor Ref	Job Number 6 Complete
Survey Purpose	LT Subdivision	Type of Dataset	Survey
Land District	Otago	Meridional Circuit	Observation Point 2000
Surveyor	Jeffrey Fraser Irving	Surveyor's Firm	Clark Land Surveyors (2004) Ltd
Description	Lots 1, 2 & 3 being subdivision of Lots 6 & 16 DP 23575 and Road		

Territorial Authority: Waitaki District

Section / Subsection
Question
Comment
Response

Purpose of Survey

Why has the survey been undertaken?
Mandatory Comment:
for testing

Classes of Boundaries

Classes found in Survey
Observation Classes Found in Survey: Class A

Equipment and Methods Used

What type(s) of equipment have been used for the survey? Other
Mandatory Comment:

YouTube: [Landonline Features – Survey Report]

Last Updated: 6 January 2021

Appendix K – Survey Report Tips for compliance with rule 8.2 (RCS 2010)

The survey report is a critical part of a Cadastral Survey Dataset and should contain all of the elements required by rule 8.2 and lodgement standard 7.

Incorrect or incomplete reporting accounts for almost 10% of requisitions – this article contains tips to help you avoid common reporting non-compliance.

Some key points

- Rule 8.2(a) sets out 16 requirements (i-xvi) that must be addressed in the survey report.
- Rules 8.2(b) (i) and (ii) provide for situations where the required information is either located elsewhere in the CSD (this must be stated in the report) or is not required.
- Where information is required, it should provide the right level of detail. The requirements include providing the "basis", "details", "reasons", "assessment" and "decisions" pertaining to the survey. Very high-level or general comments may be adequate on simple surveys, but are generally not sufficient. For example, 'All boundaries and intersections with existing boundaries have been defined by survey' does not provide enough information.

Detail to include

The information you include should provide enough detail to support the decisions made. For example:

Purpose of the survey

Explain the outcome the survey is intended to achieve. Reference to relevant legislation is often helpful, particularly for Survey Office (SO) CSDs. For instance:

- To define parcels to be acquired for road and road stopping under Part 8 of the Public Works Act; or
- To create 3 primary parcels using the subdivision provisions of the RMA 1991; or
- To define a portion of deeds land to be brought under the Land Transfer Act 2017

Orientation and adjustments

Explain the basis for determining the orientation of bearings and any bearing or scale adjustment applied.

Read about obtaining and proving orientation.

Read about applying bearing adjustments.

If a prior survey has applied an adjustment, and your survey does not, the report should explain why.

Conflict

Give details of any boundary conflict (see definition of 'conflict' in rule 2) that has been found and how this was resolved. If this is included in the section of the report on definition, the information doesn't have to be repeated in the conflict section.

Old survey marks

Explain the reasons for not relying on an old survey mark, list those marks searched for and not located, and explain why any relevant marks were not searched for. Include an assessment of the adequacy of the number and location of old survey marks used to define boundaries.

Existing boundaries defined by survey

Give reasons for and details of decisions made regarding each existing boundary defined by survey, and the information considered in order to reach those decisions. Relevant evidence could include whether adjoining titles have been respected, occupation that has been considered etc. In complex cases you may like to attach and refer to a calculation sheet/diagram etc.

Water and irregular boundaries

Information about the accuracy of determination of any water boundary or irregular boundary and the factors taken into account, as specified in rule 3.4. Relevant information includes whether the boundary has been adopted/accepted or fixed, and the rules/evidence considered to make these decisions.

Rules 16, 17 and 18 requirements

Note the additional reporting requirements for Class C covenant parcels (rule 16.5), non-primary parcels where the underlying parcel boundaries are not accurate (rule 17.2) and for boundaries affected by ground movement (rule 18.4).

Pre-validation reporting

Actions taken to address the C-rule conflicts and warning messages, and all adjustment report test failures and warning messages (Lodgement Standard 7), i.e. where they are material to the survey and haven't been reported elsewhere in the survey report.

Automated Survey Report

The optional automated survey report is automatically populated with some information from your captured data. You are then required to provide a comment, which in some instances is mandatory and in others optional. In providing your comment you should

include sufficient explanation and justification for the decisions made and answers given. This may simply be 'Not applicable' eg. in cases where no bearing swing has been applied or where there are no existing easements. More detail, explanation and justification is needed in cases where the rules specifically require it.

Watch and read about the automated survey report

LReplacement SUD for Automated Survey Report

In some situations, we may contact you to request an amended report rather than sending the CSD back on requisition. If the optional automated survey report has been used, it is possible for you to do the amendments without us sending the CSD back, provided the amendments are to the comments only and don't require changes to the yes/no answers of the radio buttons. You can access the Survey Report tab in Manage Survey Transaction even after having submitted the CSD. To do this, simply make the amendments, export the amended survey report as a TIFF image or print as a PDF, and email it to the Property Rights Analyst (PRA) processing the CSD. These changes cannot be saved within the CSD.

Last Updated: 11 January 2019

This item appeared in Landwrap February 2016

File Attachments

- Survey Report template (v7 - April 2015)DOCX | 57.72 KB

Related Content

- Standard for lodgement of cadastral survey datasets - LINZS70000
- Rules for Cadastral Survey 2010
- Automated Survey Report
- Horizontal Datum - orientation
- Survey report

Appendix L – Common marine and coastal area considerations for surveyors

Where a CSD is being prepared for a parcel that has some land below MHWS, consideration needs to be given to whether this land needs to be identified as being or becoming common marine and coastal area.

Determining whether a parcel of land includes common marine and coastal area

The Marine and Coastal Area (Takutai Moana) Act impacts differently on land held in fee simple estate by a private owner than it does on land held by the Crown or a Local Authority (LA). To understand which land is affected, it is necessary to understand the definitions of some key terms:

- marine and coastal area
- common marine and coastal area
- specified freehold land.

from section 9 of the Marine and Coastal Area (Takutai Moana) Act 2011

and

- coastal marine area

from section 2 of the Resource Management Act (RMA) 1991.

Land that meets the definition of both 'marine and coastal area' and 'common marine and coastal area' became part of the common marine and coastal area when the act came into force. When such land is being dealt with on a plan that is not a subdivision, (e.g, road taking), the common marine and coastal area needs to be considered/and possibly identified.

Specified freehold land (or part thereof) that is in the coastal marine area is only required to be shown as part of the common marine and coastal area upon subdivision.
View s237A of the Resource Management Act 1991

Note that for rivers:

- Only certain parts of the beds of tidal rivers are part of the marine and coastal area (see coastal marine area definition), and this largely depends on the position of the river mouth.
- The term 'mouth' is defined in section 2 of the RMA. Investigation of Regional Council websites/coastal plans and other related information may be necessary to determine the position of the river mouth in order to determine the extent of the

coastal marine area, as river mouth positions. These positions have been determined by regional and local authorities and the Department of Conservation. In some cases the extent of the coastal marine area is also specified.

Depicting Common Marine and Coastal Area

LINZ has published the 'Interim guideline to sea boundaries and the Marine and Coastal Area (Takutai Moana) Act 2011 (LINZG65705)'.

The purpose of this guideline is to:

- facilitate the correct interpretation of the Rules for Cadastral Survey 2010 in regard to the survey of land affected by Marine and Coastal Area (Takutai Moana) Act 2011
- outline requirements for showing common marine and coastal area in a cadastral survey dataset (CSD).

It shows various examples of different situations that may arise.

Reporting

Please be sure to report thoroughly on how the Marine and Coastal Area (Takutai Moana) Act 2011 has affected the survey and depiction of parcels in the CSD.

Last Updated: 17 July 2017

Appendix M – 'Boundary marking only' surveys in Greater Christchurch

A Survey Office (SO) boundary marking CSD may be used to record the redefinition of an affected boundary in greater Christchurch.

Rule 20 was added to the Rules for Cadastral Survey 2010 (the principal Rules) by the Cadastral Survey Amendment Rules 2017. The amending rules (effective from 24 April 2017) support the Canterbury Property Boundaries and Related Matters Act 2016 (the Act) which came into force on 30 August 2016.

In greater Christchurch and similarly for all of the country, where the purpose of a cadastral survey is to redefine an existing 'title' boundary, a new primary parcel may be created to enable the update of the related title. However, this is not a legal requirement even in those cases where the redefinition determines that the boundary has a different extent and shape to that already recorded in the 'title' survey.

If a boundary mark is placed, rule 8.5 requires the lodgement of a CSD recording the mark placement. The survey may be recorded in a Survey office (SO) boundary marking CSD. For recording the redefinition of an affected boundary in greater Christchurch LINZ requires the SO CSD to have the survey purpose in Landonline of 'Boundary Marking – Full CSD(conflict)'.

Last Updated: 3 March 2020

Related Content

- Rule 20 Cadastral survey rules for greater Christchurch
- Impact of the Canterbury Property Boundaries and Related Matters Act 2016 on survey and title
- LINZ Operational requirements in greater Christchurch
- Guidance for surveyors on boundary conflicts in greater Christchurch

Appendix N – Impact of the Canterbury Property boundaries and Related Matters Act 2016 on survey and title

Understanding the impact of the Canterbury Property Boundaries and Related Matters Act 2016 and the 'boundaries moved' principle on survey practise and title to land.

Impact on title to land

Under the Land Transfer Act (LTA) a title describes the land in a way that directly or indirectly refers to a Deposited Plan (DP) CSD. The DP shows information enabling the owner (or a surveyor on behalf of the owner) to locate the land on the ground, including:

- the land parcel in a scale diagram with an area,
- where the boundary markers have been placed (commonly wooden pegs),
- the distances and directions between those markers.

When a land transfer (LT) CSD is 'approved' as to survey, the Registrar-General of Land (RGL) is assured that the CSD correctly shows the extent of the land in relation to previous definitions of the land, and adjacent land. Based on this assurance, the RGL creates a new title and registers dealings in regard to the land without fear that any of the owner's land has been omitted or the title inappropriately overlaps with property rights in another person's land. Under the LTA the Crown guarantees ownership of the land as marked out on the ground as recorded by this DP. There is no Crown guarantee associated with a boundary defined in a survey office (SO) CSD unless the definition of the boundary from the SO is recorded in the land transfer register (examples are where the SO boundary definition has been subsequently recorded in a DP CSD or where a SO legalisation CSD has resulted in a new record of title).

Under the Canterbury Property Boundaries and Related Matters Act 2016 (the Act), boundaries are deemed to have moved with the movement of land caused by the Canterbury earthquakes (unless it is a landslip). This does not affect the validity of title for land registered under the Land Transfer Act. The land in a title will still be the land defined by undisturbed marks placed by the pre-earthquake survey and recorded on the pre-earthquake DP CSD— although the law recognises that where the marks have moved with earthquake movement, the boundaries will have moved accordingly.

The land might be of a different shape and area as a consequence of the movement of land and boundary marks. However, the Act makes it clear the movement will not have created new overlaps or gaps that reduce certainty in the boundaries of interests in land and their relation to surrounding interests. In this regard title is still reliable.

As an example, Figure 1 shows the shape of Lot 1 DP 38048 is different as a result of earthquake movement (reflected by the change in location of the boundary points). The land (as moved) continues to be the same land (Lot 1 DP 38048) and affected by the same interests that existed before the movement. The title CB5B/261 continues as the record of ownership and interests. If further survey work is being undertaken, and the owner of Lot 1 DP 38048 wants a title that reflects the post–earthquake location of their boundaries, they will need to request a new title in terms of a deposited dataset prepared in line with the boundaries moved principle.

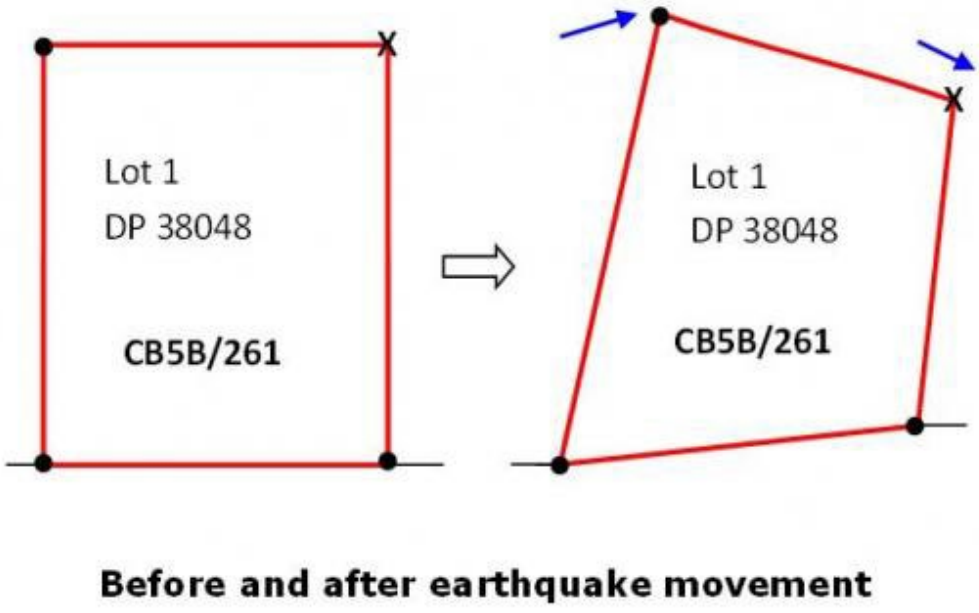


Figure 1: Example parcel of land before and after earthquake movement (note movement is exaggerated for illustrative purposes)

Impact on survey practice

When defining by survey, Rule 6.1 Rules for Cadastral Survey 2010 requires the surveyor to interpret evidence in accordance with relevant enactments and rules of law. For greater Christchurch this requires the surveyor to have correctly located boundaries (and have dealt with any earthquake movement) as at the date they certify the CSD as being accurate and correct.

All boundaries must be defined in terms of the 'boundaries moved' principle. This includes existing primary and non-primary parcel boundaries, as well as new non-primary parcel boundaries that are coincident with or intersect an existing primary parcel boundary.

Surveyors will need to gather and document additional evidence, relating to the impact of earthquake movement on a boundary affected by earthquake movement. They must consider all earthquake induced land movement when locating a boundary.

Where a new non-primary parcel boundary coincides with or intersects an existing underlying parcel boundary, that underlying parcel boundary must be in terms of the 'boundaries moved' principle. This is of particular relevance for a CSD that is creating a new non-primary parcel, but not creating a new primary parcel underlying it (for example, an easement only CSD).

Last Updated: 3 March 2020

Related Content

- Rule 20 Cadastral survey rules for greater Christchurch
- 'Boundary marking only' surveys in greater Christchurch
- LINZ Operational requirements in greater Christchurch
- Guidance for surveyors on boundary conflicts in greater Christchurch

Appendix O – Directing and Certifying Cadastral Surveys

This article relates to the responsibilities and liabilities around certification of datasets by licensed surveyors, which are often misunderstood. It was first published in the December 2008 Survey Quarterly and remains unchanged apart from references to the current Rules for Cadastral Survey.

Introduction

The excellent article by Ralph Jorgenson in the September 2008 Survey Quarterly "Certification – Get it right!" is very timely as there have been several recent cases where the certification of cadastral surveys has been questionable – perhaps as a result of misunderstanding by the certifying surveyor. One such area of misunderstanding appears to be over the meaning of the word "direction" which is used in the Cadastral Survey Act 2002 and the Rules for Cadastral Survey 2010 – including the certificate signed for each survey.

Direction of a Cadastral Survey

Note the following dictionary definitions.

direction *n. 1. directing, aiming, guiding managing (usu in pl) instruction what to do, order (7th Ed, Concise Oxford Dictionary)*

and also:

direct *v.t. 2. control, govern movements of; guide as advisor, principle; order (person) to do, thing to be done; supervise acting etc (of film, play, etc); give orders; (7th Ed, Concise Oxford Dictionary)*

In order to provide direction for some activity, for something to be done, an essential element appears to be that the "director" knew about the activity before it took place and provided instructions on how that activity should be performed by others. Can a surveyor claim to have directed some activity (for example survey field work) if they had no knowledge of that activity when it took place?

In an ideal world where surveyors do all the work themselves or personally direct their employees to do the work, there should be no problem. However there are a number of scenarios where this ideal is difficult to achieve and then surveyors must be very careful. Consider the following scenarios:

1. The surveyor who carried out or directed the survey is unavailable (perhaps they are on leave, overseas, ill, or have died) at the time it is ready to be lodged and certified. Another surveyor in the same firm is asked to certify it.
2. The surveyor who carried out or directed some of the field work leaves the firm and the survey is taken over and completed by another surveyor in the same firm.
3. A surveyor who is unfamiliar with e-survey carries out or directs a survey but then engages another surveyor experienced in e-survey to capture, lodge **and certify** the survey into Landonline.
4. A technician-based survey firm that does not have a licensed cadastral surveyor, completes the fieldwork and calculations but then engages (sub-contracts) the checking, lodging and certifying activity to a cadastral surveyor outside the firm.
5. A survey is returned on requisition and the original certifying surveyor is unavailable, so another surveyor attends to the requisitions. In order to return the survey to LINZ, they have to re-certify it. This new certification covers the correctness of **all** of the survey – not just the matters raised in the requisitions.

In all these cases, what does the certifying surveyor need to do, to be able to claim that they directed the entire survey?

Does it matter?

Yes it does matter. Section 47(1) of the Cadastral Survey Act 2002 **General duties in relation to cadastral surveys** requires a cadastral survey to be *"conducted by a cadastral surveyor or a person acting under the direction of a cadastral surveyor"*. Also Schedule 2, clause 1(b) states as one of the grounds for a cadastral surveyor to be found guilty of professional misconduct:

(b) to have certified to the accuracy of any cadastral survey or cadastral survey dataset without having **personally carried out or directed** the cadastral survey **and the related field operations**.

Performing any of the scenarios outlined above raises questions about whether the certifying surveyor directed the survey – particularly *"the related field operations"*.

In a recent case, the Cadastral Surveyors Licensing Board noted that a large red flag should be raised in the mind of a surveyor invited to belatedly certify a survey. Extreme caution is required and further field work by or under the direction of the certifying surveyor – including personal checks in the field – may be required. Without this, if **any** error is later found, the certifying surveyor is likely to fall foul of the provisions in Schedule 2 and thus become guilty of professional misconduct.

What is required?

Advice I give in lectures to final year surveying students is that probably the best few minutes they can spend through their career is to carefully read every word of every certification they make and ask themselves "Is this true? Am I sure about this?"

I (Name), being a licensed cadastral surveyor, ***certify*** *that:*

(a) This dataset provided by me and its related survey are ***accurate****, correct and in accordance with the Cadastral Survey Act 2002 and the Rules for Cadastral Survey 2010, and*

(b) the survey was ***undertaken by me*** *or* ***under my personal direction****.*

Risky scenarios

I listed 5 scenarios above where the question of direction is doubtful. Reviewing these again:

1. Certifying the work of another surveyor who unexpectedly becomes unavailable is very risky. If a senior partner in the firm watches over and exercises direction and oversight of more junior cadastral surveyors, or if there is a thorough and well documented system of field and office processes, peer review and audit, including field audit, then a surveyor might be able to satisfy themselves (and the Board if there proves to be an error) that they exercised direction over that survey from the start. If not, then additional field and office checks should be considered to manage the significant risk that arises to the surveyor's licence and reputation.
2. The surveyor who takes over the work of another surveyor part-way through should consider including some well documented checks, including field checks, of work already undertaken, so that they can claim to have provided a reasonable level of direction of the whole survey (and to minimise the chance of there being an error).
3. Capturing a survey and running validation checks of the data before lodging it is not, by itself, likely to be considered "direction ... of the related field operations" by the Licensing Board. Any surveyor who does this is taking a significant risk. If there is any error in the survey, the lack of direction is likely to become apparent and may result in a complaint to the Board.
4. If a licensed cadastral surveyor is sub-contracting to a firm with field staff but with no licensed surveyors, the licensed surveyor, in establishing the business relationship, should make sure they will be able to demonstrate in the future, if required, that they exercised direction over the surveys.
5. Surveyors should not assume that all errors in a survey will be identified and requisitioned by LINZ – especially not field errors. If a surveyor attends to requisitions of another surveyor and re-certifies the survey, then at the very least they may be required to correct any errors made by the original surveyor that

come to light later. But to reduce the risk of professional misconduct, they also need to carefully consider the extent to which it is reasonable for them to rely on the original surveyor's certification – especially in light of the fact that the survey has been found by LINZ to not be as accurate as it was certified to be.

Simple Rules

I suggest the following simple rules to licensed surveyors to reduce the risk of being found guilty of professional misconduct:

- Wherever possible, get involved before the survey work starts so you can demonstrate that you exercised appropriate direction over it.
- Decide on the level of trust you can reasonably have in the people carrying out the work under your direction. Complete trust in others is risky and seems incompatible with the requirement to provide direction.
- Read the certification. You are not just certifying that the dataset has been properly prepared. You are also certifying that all of the **survey** itself is correct – including field work.
- Document the instructions, orders, expectations and directions that you set for other staff for the conduct of the survey.
- For any survey that you certify, be able to show that your level of direction was reasonable in the circumstances.
- Permanently retain all documentation of the direction that you exercised. Note that survey mistakes often do not arise for decades, and giving up your licence does not release you from your responsibility for the accuracy of your surveys.

Don Grant
Surveyor-General
April 2004 - February 2014

Last Updated: 23 January 2018

Appendix P – Capturing referenced surveys and bearing corrections in a CSD

Rules relating to referenced CSDs and bearing corrections

The RCS 2010 require that a CSD ***must*** include:

- a list of CSDs used in the determination of the survey. Rule 9.1(a).
- any bearing adjustments ***applied*** to each CSD from which a bearing was adopted in the CSD. Rule 9.3(b).
- a survey report that contains the ***basis*** for any bearing adjustment applied to an adopted bearing. Rule 8.2(a)(iii).

The term 'bearing correction' as used in the Landonline survey header and vector capture of a CSD means the same as 'bearing adjustment' in RCS 2010.

Listing the bearing corrections applied to referenced surveys in the survey header and reporting on the basis of any bearing corrections applied to adopted vectors provides confidence that the orientation of the adopted work is in terms of the projection selected for the survey. Rule 4.1.

Practical Application

Bearing corrections in the survey header

It is a requirement to list in the survey header all referenced surveys used in the determination of a CSD. This typically includes all existing approved CSDs that have been used as an adoption source but can include other relevant CSDs.

The requirement to show a bearing correction in the survey header, under Rule 9.3(b), relates to referenced surveys that have had a bearing correction applied to adopted vectors sourced from those surveys.

It is not necessary to capture a bearing correction in the survey header for referenced surveys that have not had bearings adopted from them. In this instance leaving the bearing correction field blank in the survey header is acceptable.

Showing a bearing correction of 0°00'00" for a referenced survey in the survey header should be avoided if the referenced survey has not been assessed for bearing corrections. This could give the false impression that the orientation of the referenced survey has been considered and is in terms of Rule 4.1(c) when it may not have been evaluated. In this instance showing a 'blank' value for the bearing correction is preferable.

Bearing corrections in vector capture

The functionality to capture bearing corrections applied to individual vectors has always been in the Landonline data schema for vectors.

When capturing bearing corrections applied to individual adopted vectors the correction values must agree with the value shown in survey header for the referenced survey unless the differences are adequately explained in the survey report.

A valid reason where a bearing correction for individual vectors may differ from the survey header is when a surveyor has determined differing correction values are required to be applied to separate sets of vectors from the same source CSD. In this rare situation a value that matches the majority of the applied bearing corrections should be shown in the survey header with any different values shown in the mark and vector report. Full justification for the differing corrections is required in the survey report.

Reporting on the basis for bearing corrections applied

The application of Rule 8.2(a)(iii) requires that the survey report must include a clear description of the basis for determining a bearing adjustment, rather than just a statement that a bearing correction has been applied. Any differences between the bearing correction shown in the survey header and the mark and vector report must also be adequately explained.

Whenever reviewing an existing CSD for bearing corrections, it is prudent to independently verify any bearing corrections shown by referring to the survey report for the CSD or by comparison to other source information.

Last Updated: 16 September 2020

Appendix Q – Dispensation / exemption

A guide on how to apply for a dispensation from the Rules or the Lodgement Standard.

Dispensation requests are made to seek an exemption from the requirements of the Rules for Cadastral Survey 2010 (the Rules) and the Standard for Lodgement of Cadastral Survey Datasets - LINZS70000 (the Lodgement Standard).

Both applications are made using 'Survey_Survey Dispensation' request in Landonline. Your application must be clear as to whether your request relates to the Rules or the Lodgement Standard, as the applications are dealt with by different teams within LINZ.

What to include as part of a dispensation request

A request for a dispensation should include the following information:

- The rule/s or standard/s you are seeking exemption from.
- the reasons that the surveyor signing the dataset considers the requirements of the rule/s or standard/s are impractical or unreasonable,
- a diagram of the full extent of the land under survey showing the proposed new parcels, approximate areas, title references, any amalgamation details and relevant abuttals (examples are a scheme plan or draft CSD diagram).
  Note that:
  1) LINZ is not able to view your spatial view and can only view plan diagrams once the 'complete' button has been pushed in Plan Generation.
  2) colour images must be uploaded to Landonline in JPEG format.
- The purpose of the survey (particularly where it is not an LT subdivision).

Some tips:

- Where the dispensation relates to boundary accuracies, please include analysis in terms of rule accuracy classes, as opposed to miscloses and RFs. Sometimes colour coding a diagram with boundaries highlighted specific colours based on the accuracy class that can be achieved is useful.
- If the dispensation relates to witnessing/referencing, please include the distances to the nearest witness/reference marks from the relevant boundary points.

Exemptions from the Rules

Section 47(5) of the Cadastral Survey Act 2002 permits the Surveyor-General to grant a licensed cadastral surveyor an exemption from one or more of the requirements of the Rules for Cadastral Survey 2010 (Rules), or specify alternative requirements in situations, where compliance is considered impractical or unreasonable.

The granting of an exemption or specification of alternative requirements is commonly referred to as a survey dispensation. The dispensation becomes part of the rules for the purpose of the surveyor's certification for that survey [s 47(6) of the Cadastral Survey Act 2002]. The surveyor must either fully comply with the terms of the granted dispensation or with the normal rule(s).

Applications are treated on a case-by-case basis so a previous decision may provide some guidance but does not set a precedent. The approval of a dispensation is based on information provided by the surveyor prior to carrying out a cadastral survey. The decision depends on whether compliance with a rule requirement is impractical or unreasonable. Factors taken onto account include:

- the impact on the cadastre and the affected land tenure . Where necessary the tenure manager (e.g., Registrar-General of Land or Māori Land Court) will be consulted.
- the risks to the Crown and future landowners (amongst other things). In this respect, the nature of any new land right is a fundamental consideration rather than the purpose of the survey.

Exemptions from the Lodgement Standard

Item 3(b) of the Standard for lodgement of cadastral survey datasets - LINZS70000 states that:

> *If the Chief Executive considers that compliance with (a) is impractical or unreasonable, the Chief Executive may:*
>
> *(i) grant an exemption from the requirements, or*
> *(ii) specify alternative requirements.*

As with a dispensation from the Rules, applications are considered on a case by case basis.

How to apply for a dispensation

- dispensation requests should be made as a Landonline request using the 'Survey_Survey Dispensation' option. Details of the request can be captured directly into the Notes/Comments dialogue box or attached as a supporting document. Note that the dialogue box has a limited space to capture text (less than half an A4 page). It is therefore recommended that an attached supporting document outlining the request is used to avoid the risk of running out of space.
- If the request is complex with a lot of supporting documentation it may exceed the Landonline upload limits. In this instance, please include a note in your request stating that you have further information and the LINZ staff member processing your request can contact you to arrange the data to be sent by email or drop box.

Rules for Cadastral Survey exemption patterns

While applications are treated on a case-by-case basis some patterns have emerged since the introduction of the Rules:

- Rule 3.4 (accuracy of water boundaries and irregular boundaries). The determination of whether the current position of a water boundary represents (within the accuracy standards of rule 3.4) the original fix is sometimes mistakenly considered too onerous. In rural situations this can usually be confirmed from suitable imagery – fieldwork is often not needed. In these cases a dispensation to reduce the class of accuracy is not approved.
- Rule 6.2 (boundaries to be defined by survey). Exemptions have been granted in urban and rural areas enabling boundaries to be defined by adoption rather than defined by survey. This can be where existing boundaries are associated with a very recent survey and the surveyor has been able to confirm the current accuracy standards are able to be met and sufficient reliable witness marks still remain in place.
- Rule 6.3 (acceptance of a boundary). There have been cases where an existing boundary has been permitted to be accepted rather than be defined by adoption where the new parcel size is very close to the threshold of 80% or 20 ha criteria set out in Rule 6.3(a)(i) or 100ha criteria set out in 6.3(c).
- Rule 6.6 (irregular boundary). Surveyors are encouraged to apply for a dispensation from rule 6.6(a) allowing an existing irregular boundary that follows the centreline of a stream or river to remain an irregular boundary. This is consistent with the application of rule 20.9 (water body centreline boundaries) which only applies to surveys in greater Christchurch. Also, where a new non-primary parcel boundary is intended to be coincident with a boundary of an underlying primary parcel that is not being created by the survey, an exemption from rule 6.6(a) must be requested.
- Rule 7.1 (boundaries to be marked). Dispensation from boundary marking is commonly applied for where it is impracticable to mark a boundary point. Surveyors can save time in these situations by making their own decisions in terms of rule 7.1. In addition surveyors can make their own interpretation of the words 'where practicable' in the opening sentence of rule 7.1, as this allows for boundary points to not be marked where this is not practicable. Note that where there is a health and safety risk it can be considered impracticable to ground mark.
  In both cases it is important that the reasons for not marking a boundary are clearly documented in the Survey Report (refer to rules 8.2(a)(xiii) and (xiv)). This should include a reference to the applicable clause under 7.1(a) in the case of an exemption.
- Rules 7.3 (witnessing of boundary points) and 7.4 (permanent marks). Seldom are the witnessing or permanent reference mark requirements fully exempted, however there have been circumstances where the distances of these marks to boundary points set out in rule 7.3.2 and 7.4.2 have been extended. Also, please note that

rule 7.3.1 requires non-primary parcel boundary points to be witnessed when they are ground marked, stratum points or for the purposes of a lease. Other non-primary parcel boundary points are not required to be witnessed.

Last Updated: 30 November 2018