

# Transitioning from RCS 2010 to CSR 2021

Changes impacting surveyors

Version 4.0

Office of the Surveyor General

## Revision history

Date	Version	Author	Description
30 April 2021	1.0	Toni Hill	Rules published
16 August 2021	2.0	Lyndon Telfer	Rules coming into force
7 October 2021	3.0	Lyndon Telfer	Transition arrangements updated
15 February 2022	4.0	Lyndon Telfer	Transition arrangements updated

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# 1. Purpose

This document identifies the key changes to the Rules for Cadastral Survey 2010 (RCS 2010) that will be implemented in the Cadastral Survey Rules 2021 (CSR 2021). The changes have been split into three categories, field, office, and boundary reinstatements. Within these categories we have identified whether the change is significant or minor.

It also describes the transition process (in the following section) and the work that would be required to change a Cadastral Survey Dataset (CSD) in terms of the RCS 2010 to CSR 2021 (in the final section).

# 2. Transitioning to the new rules

The CSR 2021 was published on the government legislation website on 6 May 2021 and came into effect on 30 August 2021. During this 4-month period surveyors were encouraged to start transitioning to the new rules by undertaking field work using the CSR 2021. Changes impacting field procedures have been identified in the fieldwork implications section below.

The transition plan is illustrated in the diagram below.

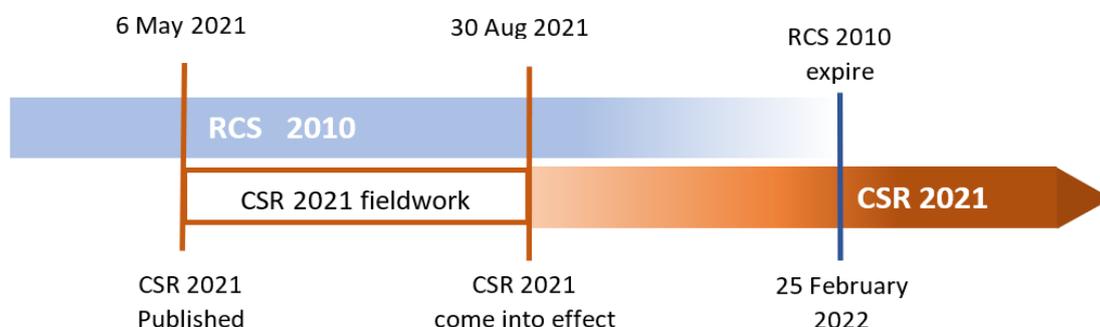


Figure 1 - Transition plan

There is a transitional arrangement for surveys commenced under the RCS 2010. Surveys commenced prior to 30 August 2021 may continue to be completed in accordance with the RCS 2010 until 25 February 2022. After that date CSDs can only be certified in terms of the CSR 2021.

At the end of the transition period CSDs lodged and certified under RCS 2010, but not yet validated, would continue to be processed under the RCS 2010.

Where a CSD is certified in terms of RCS 2010 and is requisitioned, it may continue to be certified under RCS 2010, provided it is returned from requisition within 20 working days.

Section 6 of this document has a [list of changes](#) you will need to make to convert your RCS 2010 CSD to CSR 2021.

## 2.1. Cadastral Survey Guidelines

After publication of the CSR 2021, new guidance material to support surveyors undertaking cadastral surveys and preparing CSDs will be progressively made available from the [LINZ website](#). A considerable effort has been put into developing centralised guidance material that will enable surveyors to meet CSR 2021 requirements as well as Landonline and legal requirements. Unlike previous guidance where information on a single topic may have been located in three different articles, we have created a one stop shop of information on key topics.

## 2.2. Education and Training

We will be rolling out a phased education programme to support the survey profession through the transition. More information about education, see the [LINZ website](#).

# 3. Fieldwork Implications

## 3.1. Field Information – significant change

Field information will be required to be submitted with the dataset, in a form that ensures permanent usability (r 71(e)). Field information should also include an accurate record of the position of any new water boundary (r 71(f)). The Rules do not specify the format of the information, but it must be in a form that ensures permanent usability. Surveyors that are not familiar with the measurement technology must be able to follow and interpret the field methodology.

For more information refer to section [4.1 Content of a CSD](#) below.

Fieldnotes currently need to be made available on request so this should not be an onerous requirement for surveyors.

## 3.2. Occupation diagram – minor change

The Rules now specifically require occupation information to be provided in graphic form (r 81(2)). In most instances surveyors will continue to use an occupation diagram, however the information could be added to the survey diagram. An occupation diagram must be saved as a supporting document with the type 'Occupation Diagram', so that it becomes part of the Record of Survey.

Occupation information is now required for all new boundary points (r 81(3)). Where there is no occupation a 'No Occupation' annotation must be recorded against the boundary point and related lines (r 81(4)).

## 3.3. Reference marks – significant change

Witness marks are no longer referred to and have been replaced by a stronger requirement for three Permanent Reference Marks (PRMs) (r 32). Each boundary point that is required to be referenced must have a PRM within the specified distance (150m for Class A, 500m for Class B and 1,000m for Class C). And each of the three PRMs must be within the applicable distance (150m for Class A, 500m for Class B and 1,000m for Class C) of a boundary point that is required to be referenced. Landonline business rules C682 and C681 will check whether a CSD contains a minimum of three PRMs and whether they are within the prescribed distances.

PRMs are expected to be placed to remain useable in the foreseeable future, to survive the longest possible time, but a 50-year term is no longer explicitly specified (r 33).

The rules clarify the description information required for PRMs being the relationship to the ground level and its situation. For example, on a berm, carriageway, kerb, footpath. PRM descriptions must be recorded within the digital mark detail information rather than separate finder diagrams (r 80(8)).

At least two PRMs within the applicable distance (150m Class A and 500m Class B) must have reduced levels when referencing of a height-limited boundary point is required (r 34).

## 3.4. Accuracy standards – minor change

Now specified as a single tier, although requirements are not too dissimilar. The new standards should not require a change in survey practices under the RCS 2010. See [Table 1](#) for comparison of CSR 2021 standards with RCS 2010 standards.

Key changes are:

- A new vertical accuracy standard between a vertical control mark (VCM) and a height-limited boundary point applies to ensure an accurate relationship and provides for future re-establishment of the boundary.
- All vertical accuracy standards now apply to the slope distance between survey marks.
- All non-boundary accuracy standards are capped at 0.20m rather than the previous 0.50m.
- A reduced horizontal accuracy tolerance applies between a class A boundary point required to be referenced and all old and new non-boundary marks (rule 21).

Horizontal accuracy standards will be tested by Landonline internal consistency and network adjustments. Vertical accuracy will remain untested in Landonline with surveyors continuing to provide reduced levels as user added text.

**Table 1 - Comparison of CSR 2021 and RCS 2010 accuracy standards**

<b>Accuracy of non-boundary marks</b>	<b>CSR 2021 standard</b>	<b>RCS 2010 standard</b>
The horizontal accuracy between any 2 new or old non-boundary marks must not exceed	$0.025 + (\text{dist} \times 0.00005)$ m to a maximum of 0.20 m	$\sqrt{[0.025^2 + (\text{dist} \times 0.0001)^2]}$ m, at the 95 % confidence level
The vertical accuracy between any 2 new or old non-boundary marks must not exceed	$0.030 + (\text{dist} \times 0.0001)$ m to a maximum of 0.20 m	
<b>Accuracy of connection to control network</b>		
The horizontal accuracy between any adopted cadastral survey network mark and a new or an old non-boundary mark must not exceed	$0.025 + (\text{dist} \times 0.00015)$ m to a maximum of 0.20 m	$0.03 \text{ m} + \text{dist} \times 0.00015 \text{ m}$
The vertical accuracy between any vertical control mark and a new height limited boundary point must not exceed	$0.030 + (\text{dist} \times 0.0001)$ m to a maximum of 0.20 m	No equivalent
<b>Accuracy of boundary referencing</b>		
The horizontal accuracy between a Class A boundary point and all old and new non-boundary marks with 150 m must not exceed	0.03 m	0.04 m

### 3.5. Non-primary parcels – significant change

Where the underlying parcel is not being created by the survey, the Rules now provide for greater flexibility when defining non-primary parcels. Previously a non-primary parcel could only be defined in terms of the underlying primary parcel. Under rule 51(1)(a), a class B non-primary parcel may be defined in terms of the control network and PRMs, even where the underlying parcel meets the applicable accuracy standards. Where none of the underlying primary parcel boundaries meet the applicable accuracy standards, the non-primary parcel must be defined in terms of the control network and PRMs (r 51(1)(b)).

In both circumstances the rules require the relationship of a non-primary parcel to the underlying parcel to be 'inaccurately determined'. This allows an intersecting non-primary parcel boundary to be class D. Future surveyors will hold the bearing and recalculate the distance of the inaccurately determined vectors when the underlying parcel is redefined.

Inaccurately determined boundaries are also permitted for:

- an urban situation where the underlying parcel does not meet class A standards (r 51(1)(b)).
- a rural situation where the covenant or easement is permitted to be class C (r 53(1))

There are specific survey requirements where the relationship of the non-primary parcel to the underlying parcel is inaccurately determined:

- orientation must be in terms of an official geodetic projection
- must connect to two nearby cadastral survey network marks (CSNMs)
- CSNMs may be adopted
- three PRMs will be required within the applicable distance for the class (excluding class C boundaries)
- every boundary point that is not class D must be connected by one or more vectors to a PRM. Where class C applies, connection is required to a nearby CSNM.
- The horizontal accuracy between each boundary point that is not class D and an adopted CSNM must not exceed 0.60m (class C boundaries)

Class D boundaries on an existing non-primary parcel must be upgraded where the primary parcel is being created with class A boundaries. (r 51(5))

## 3.6. Boundary marking – minor change

The following boundary points have been clarified as requiring ground marking:

- all new boundary points on a Māori Land CSD (r 35(1)(b))
- an existing boundary only defined on a diagram on transfer (r 35(2)(c))
- an unmarked non-primary parcel that is converted to a primary parcel (r 35(2)(h))
- all affected primary parcel boundaries (r109(1))

The following boundary marks are clarified as not needing to be ground marked:

- new boundary points coinciding with water or water centre-line boundaries (r 35(1)(g))
- new boundary points on non-primary parcels (r 63)

While there is no requirement to mark a non-primary parcel, if there is a new or old mark on a class A or class B boundary point, the mark must comply with the number and distance of PRMs specified in rule 32 (r 64).

There is now no longer any provision to adopt boundary points and provide adjoining owners consent of a parcel whose limitation as to parcels is being removed. The current dispensation providing for the [Alternative process where limitations as to parcels are being uplifted](#) will expire when the Cadastral Survey Rules 2021 (CSR 2021) come into force on 30 August 2021.

Rule 37 specifically mentions disturbed boundary marks can be removed or driven below the ground. Disturbed survey marks must be treated as a new survey mark. Where a survey mark is removed, the disturbed position must be recorded in the record of survey and survey diagram along with an annotation to indicate the mark has been removed (rr 80(1), (2), (5), 82(a), (b), (c)).

## 3.7. Datum connection – minor change

Horizontal connection needs to be made to a CSNM by adoption or measurement, regardless of how close a CSNM is to the site. If a CSNM is within 1,000m it must be connected to, however if there is not a CSNM within 1,000m then any CSNM can be connected to (r 17). There are no longer different distance requirements between class of boundary. Landonline business rule C640 will test compliance with this requirement.

Where a survey includes a height-limited boundary point a vertical control mark (VCM) must be included in the survey regardless of how close a VCM is to the site. If a VCM is within 1,000m it must be included in the survey, however if there is not a VCM within 1,000m then any VCM can be included (r 18). There are no longer different distance requirements between class of boundary. Note that a VCM only needs to be included in the CSD and might not need horizontal connections to be captured. Compliance can be

achieved by adding the annotation on the title diagram “Levels are in terms of [vertical datum], VCM [mark name and geodetic code], RL [Value].”

### 3.8. Vertical Datum – significant change

Heights must be in terms of an official vertical datum. Alternative or assumed datums are no longer permitted (r 18(1)). Where a unit development has commenced under previous regulations or rules the reduced levels must be in terms of the previously deposited plan. If an unofficial datum is used for an existing unit development, the VCM must be provided with a reduced level in terms of the unit title development (rule 62(2)).

### 3.9. Height-limited parcels – minor change

The term stratum boundary has been replaced with height-limited boundary (r 12). A height-limited boundary point on a primary or unit parcel must include at least 2 PRMs with reduced levels (r 34). Height-limited boundary points on easement, lease or covenant parcels no longer need reference marks (r 61(2)), although a VCM must be included in the survey (r 18(2) & (3)).

### 3.10. Ground movement – minor change

All provisions relating to ground movement have been brought together in one location. However, there are still rules that only apply in greater Christchurch. The definition of ‘affected’ now applies to all forms of ground movement (r 108). All affected boundaries must be defined by survey and ground marked (r 109(1)).

Deep-seated movement has been replaced with ‘fault zone’ movement – meaning movement on a fault caused by the deformation of bedrock (r 108).

When defining a non-primary parcel and the underlying parcel is affected by ground movement (other than Canterbury earthquake movement) the inaccurately determined provisions must be used unless a new primary parcel is first created (r 110(3)).

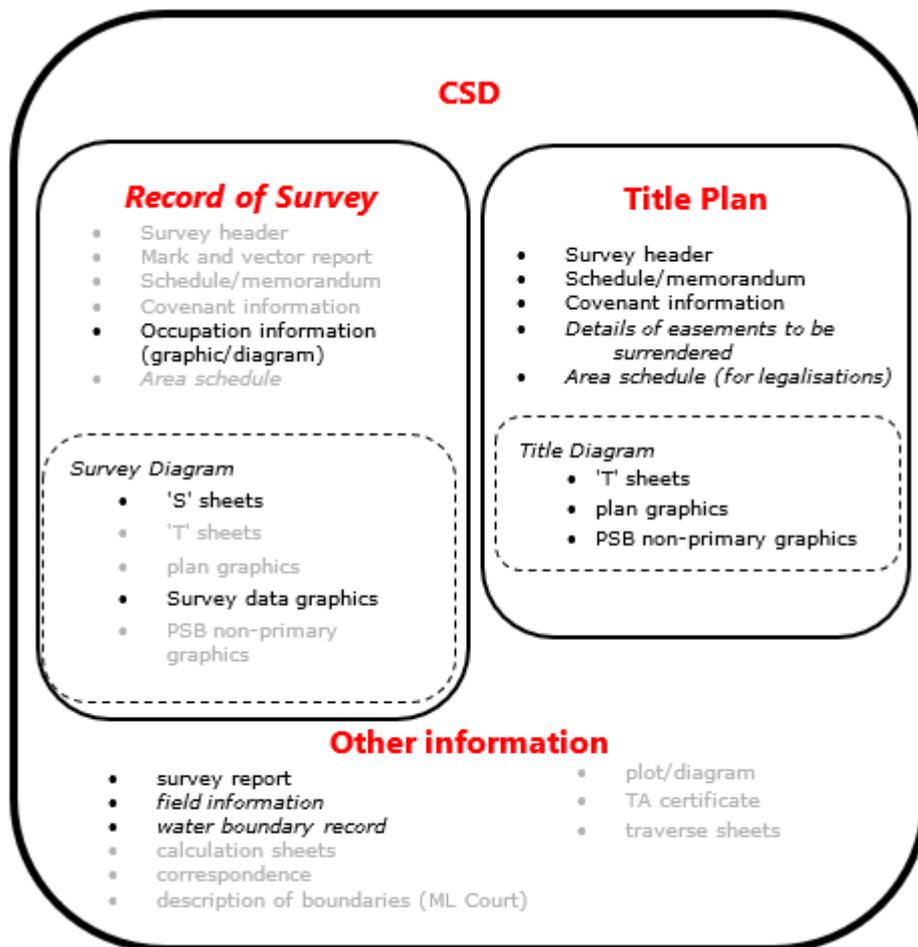
Mark conditions ‘disturbed’ and ‘reinstated’, with specific reference to ground movement, no longer apply. These marks have the same meaning as any other survey mark.

All annotations relating to ground movement have been included in the annotation tables for survey and title diagrams. (r 87, 88, 103 and 104)

The provisions in greater Christchurch are unchanged.

## 4. Office/Other Implications

### 4.1. Content of a CSD – minor change



*Italics* = new requirement of CSR 2021

grey font = non mandatory information included by Landonline,

standard font = no change from RCS 2010

Figure 2 – CSD format in Landonline

A CSD must now include [field information](#) (r 71(e)) and an [accurate record](#) of the position of a water boundary (r 71(f)).

Two new supporting document types have been added to Landonline to support the requirement to include all relevant field information and an accurate record of the water boundary in a CSD. These two supporting document types are 'Field Information' and 'Water Boundary Record'.

When either of these 2 supporting document types are chosen you can attach a machine readable colour PDF. The machine readability and colour is retained after lodgement. Readability also allows future users to search and copy text to other applications.

It is also required to include a dataset description (r 71(c)), which is existing Landonline functionality and previously required by the Standard for lodgement of cadastral survey datasets. There have also been some minor terminology changes:

- CSD Plan will now be called Record of Survey. The record of survey as produced by Landonline will continue to include the tenure system information such as schedules and title diagrams.
- Diagram of survey renamed 'Survey Diagram'.
- Diagram of parcels renamed 'Title Diagram'.

The Title Plan must now also include details of [easements to be surrendered and covenants to be revoked](#) (r 92(h)).

[Area schedule](#) will now be included in the Title Plan for legalisation CSDs where previously it sat out in other information (r 96).

## **Title Diagram**

Rule 105(1) now requires bearings be shown on the Title Diagram which is something that has been shown for a long time already. Height-limited boundary information must now be included in the Title Diagram (r 102).

## **Record of Survey**

A few items that have always been part of Landonline functionality have now been included in the Rules. This includes:

- The date the survey was completed (r 76(c))
- The dataset description (r 76(e))
- CSD number and sheet numbers on each page (r 76(f)).

## **4.2. Appellations – minor change**

Unit appellations may now be a letter followed by a number (r 45). If a proposed unit was created under former survey regulations, then it must retain its appellation (r 42(3)).

Where a parcel (Lot, Section or Area) is restricted in height it must be given a 'Height-Limited' prefix (r 43).

## **4.3. Annotations – minor change**

All annotations required on the survey and title diagrams have been moved to rules 87, 88, 103 and 104. Note that there are now additional annotations relating to non-primary

parcels, accepted boundaries, and water boundaries. Surveyors can use these annotation tables as a check list for their CSDs.

## 4.4. Boundaries – minor change

### Defined by survey

Defined by survey is now linked to the requirement to mark a boundary point (r 13(c)). The requirement to define by survey a class A boundary point on a parcel less than 0.4ha has been removed.

### Defined by adoption

'Defined by Adoption' is no longer referred to, but a boundary may still be adopted.

Clarification that adoption includes the ability to incorporate information from a CSD that was lodged for recording purposes only, if verified as complying with these rules (r 14(c)).

There are no longer any requirements to set the Landonline mark purposes as 'Defined by Survey', 'Defined by adoption' or 'Accepted'. These have been replaced by the mark purpose 'Boundary'.

### Permanent structure boundaries (PSB)

A PSB may be used to define a covenant as well as an easement (r 56(1)(d)). There are simplified methods for defining the location of permanent structure boundaries (r 56(2)) and the accuracies of those boundaries (r 57).

### Height-limited

Simplified rules regarding how height-limited boundaries are described (r 86) and clarifying that the vertical extent of all parcels must be shown (r 83(a)).

## 4.5. Non-primary parcels – significant change

Bearings and distances for non-primary parcels are not required to be shown on the Title Plan if they are from an existing approved CSD (105(2)(a)). Where bearings and distances are not shown the easement must be annotated 'Parcel adopted from [CSD number]' (r 103 Table 7).

Existing non-primary parcel boundaries may be accepted where they are within a new primary parcel over 100 ha that has accepted boundaries (r 54)

### Non-primary parcels crossing boundaries

A non-primary parcel may cross a primary parcel boundary but must not cross an estate boundary (r 47). Where this occurs the schedule of easements must show all the

appellations of the burdened land. The Landonline automatic easement schedule allows more than one appellation to be added.

### Centre-line easements

Where the width of a centre-line easement is known it must be represented as a polygon (r 49). There are no longer provisions for it to remain as a centre-line where it is completely within a single underlying parcel.

### Form of a boundary

The form of a boundary must be the same as the underlying primary parcel (r 46(3)). An existing irregular boundary on a non-primary parcel may remain irregular (r 46(6)).

### Easement schedule

Easements to be surrendered or covenants to be revoked will now need to be detailed in the Title Plan, including the creating document reference (r 92(h)). Note only covenants that have been previously defined on an approved CSD should be identified as revoked in the CSD. The Landonline automatic easement schedule provides functionality to record the surrender of easements and revocation of covenants recorded on the underlying title. Surveyors are encouraged to use this functionality, as it ensures the correct creating document number is pulled through from the underlying title and makes the cancellation process more efficient. Where there is a partial surrender as a result of a road to vest or legalisation action, the portion being surrendered does not need to be identified in the CSD. Other partial surrenders can be included in the notes section of the automatic easement schedule.

Land Registration District	Survey Number
<b>Canterbury</b>	<b>LT 430909</b>
Territorial Authority (the Council)	
<b>Far North District, Selwyn District, Christchurch City</b>	

#### Schedule of Existing Easements to be Surrendered

Last Edited: 26 Nov 2020 08:13:38

<u>Purpose</u>	<u>Shown</u>	<u>Servient Tenement (Burdened Land)</u>	<u>Creating Document Reference</u>
Right to convey electricity	Marked A DP 407637	Lot 2 DP 407637	E 7975781.7

#### Notes

Last Edited: 02 Dec 2020 08:44:56

The right to convey water created by E1 12345 is to be partially surrendered in so far as it relates to Lot 2 hereon.

Figure 3 - Surrender of an easement using Landonline automatic easement schedule functionality

The required information could also be recorded on a scanned easement schedule attached to the CSD. The information must not be recorded on the title diagram.

Note that easement schedules should now refer to burdened (r 93(2)(d)) and benefited land (r 93(2)(e)) to reflect the Land Transfer Act 2017. Due to the requirements of s 243 Resource Management Act 1991 the easement schedule template must continue to reference the servient and dominant tenement.

<b>Memorandum of Easements</b> (Pursuant to s243 Resource Management Act 1991)			
<b>Purpose</b>	<b>Shown</b>	<b>Burdened Land (Servient Tenement)</b>	<b>Benefited Land (Dominant Tenement)</b>

Figure 4 - Example of an updated easement schedule template. Note that burdened will now come before servient and benefited before dominant

### Partial surrender for non-primary CSDs

Where the underlying parcel is not being created and part of an easement or covenant is to be partially surrendered then, both the portion to remain and the portion to be surrendered must be defined (r 48). Two new parcel intents 'Easement to be surrendered' and 'Covenant to be revoked' have been added to Landonline to record the portion being surrendered or revoked.

## 4.6. Unit Titles – minor change

Unit appellations may now be a letter followed by a number (r 45). However, if a unit was created under former survey regulations then the existing appellation must be retained (r 42(3)).

Height-limited boundary points on a unit parcel must reference a PRM (within 150m for Class A, 500m for Class B [standard reference mark distance r 32]). The survey must include 2 PRMs with reduced levels.

Parcel information for unit and cross lease developments is no longer required to be depicted on the survey diagram. However, given this information is exclusively recorded on a plan graphic it will still be included in the record of survey.

A CSD deposited in substitution for a previously deposited CSD, must retain the same CSD number (r 59).

Reduced levels in subsequent stages of a unit development must continue to be in terms of the previously deposited CSD (r 62(1)). If an unofficial datum is used for an existing unit development, then a reduced level is required on the VCM (r 62(2)).

The underlying exterior of a parcel boundary for a unit title development must be a thick line style. There is a new line style specified for proposed unit developments (Schedule 7 table 10).

## 4.7. Water / water centre-line / irregular boundaries

### Accuracy class not required for water / water centre-line / irregular boundaries – minor change

An accuracy class is no longer required for these types of boundaries (r 29). The boundary will still need to be determined to a sufficient level of accuracy once relevant factors are considered (such as the risk of overlap, nature of the physical feature, value of the land etc). The ability to record class in the Landonline CSC\_S05 line layer capture screen will be removed.

### Location of a water boundary – significant change

An accurate record of the position of any new water boundary is required to be included in the CSD (r 71(f)). This may be in the form of radiations from a known point, or traditional fieldnotes showing ties to the new boundary position. See [Content of a CSD](#) for how to include this information in the CSD.

Survey of an existing boundary must account for any erosion unless the boundary is able to be accepted (r 10(2)(a)). This is an existing requirement that has been codified into the rules. Erosion parcels must have a parcel intent of 'Erosion' and not 'Hydro'.

Where a water body has moved by avulsion or artificial diversion/reclamation the surveyor now has a choice whether to adopt the former water boundary position as an irregular boundary or to convert the boundary into one or more right line boundaries (r 10(3)). There are standard annotations for clearly indicating where the parcel boundary and water's edge are not coincident (r 104).

Water or water centre-line boundaries may be accepted if they are part of a parcel that is to retain its limited or interim status. (r 15(2)(c)(iv)).

### Areas – minor change

An area must be assigned to each portion of land claimed as dry stream bed or adverse possession (r 41(3)). This should be user added text on the plan face.

### Boundary intersections – significant change

Where a right-lined boundary intersects with a water, water centre-line or irregular boundary, the class of the boundary will be different for the bearing and distance. The bearing will have the class (A, B or C) as appropriate. The distance must match the accuracy of the water, water centre-line or irregular boundary as determined under rule 29 and will be class D (r 30). As Landonline does not provide for the individual capture of bearing and distance classes these vectors must be captured as class AD, BD or CD in Landonline (the first letter represents the bearing class and the second the distance class).

Landonline will assign appropriate classes to the individual components of the vector when checking the accuracy standards.

Each end of water, water centre-line or irregular boundary must have at least one vector (r 89e), rather than two, and Landonline automatic business rule C470 will be turned off.

### **Water Centre-line boundary – minor change**

A previous irregular boundary that followed the centre-line of a water body is now considered a water centre-line boundary (r 11). A new water centre-line boundary is not permitted. Water centre-line boundaries have been added to Landonline as an irregular line type. In CSC\_S05 line layer capture screen, surveyors must select the correct form of boundary from either water, water centre-line or irregular.

### **Non-Primary parcels over water – minor change**

Part 6, subpart 8 provides for the creation of marine reserves and customary marine titles as non-primary parcels. While new, the number of surveys expected to relate to these rules is small and, it is considered a minor change.

Key concepts are:

- boundaries may be class C in the common marine and coastal area (r 66).
- can accept existing water boundaries irrespective of accuracy or relationship to physical water position (r 67).
- new boundaries at MHWS or MLWS may be offset from an accepted water boundary without determining the true relationship between the boundaries (r 68)
- where a right line-boundary intersects a water boundary the bearing must be class A, B or C and the distance must be class D (r 69). As with rule 30 these vectors must be captured as class AD, BD or CD in Landonline.
- the provisions for positioning non-primary parcels over water are the same as they are for inaccurately determined non-primary parcels (r 70).

## **4.8. Survey Report – minor change**

There is a new [survey report template](#) (including digitally in Landonline). Items required to be covered are not considered a significant change, but the structure and order will change. Key changes are:

- Detailed information on the purpose of the survey including reference to the statutory provisions where it's not otherwise clear. Situations where detailed reporting would be required include, where the purpose of the survey is to remove the limited or interim status of a title, an adverse possession, an accretion, a dry stream bed claim, or legalisation (r 72(a)). This reporting assists LINZ validation determine whether the CSD will achieve the desired outcome.

- an explanation as to why a CSD for a Crown subdivision does not include a certificate under s223 of the RMA 1991. (Was in Standard for lodgement of cadastral survey datasets) (r 72(b))
- no longer need to report reasons for accepting a boundary.
- no specific reporting for ground movement as covered under generic definition decisions (r 72(i)).
- new reporting requirement for water boundaries that have been adopted and the physical margin has moved (r 72(l)).

## 4.9. Marks – significant change

### Mark attributes

Survey mark information must be recorded as digital information in the record of survey. Specifically, the record of survey must record via the mark reliability field whether a survey mark is disturbed or renewed (r 80(5)). A record of survey must also identify by the mark condition field whether a mark is 'removed', 'searched for and not found' or 'destroyed' (rr 80 (5) & (7)). Where this information cannot be recorded in the record of survey it must be included in the survey report (r 72(h)).

Where a boundary point is 'impracticable to mark' the Landonline mark condition field must be set to 'impracticable to mark' (r 80(6)).

Information about PRMs previously recorded in the finder diagrams must now be recorded electronically in the mark description field (r 80(8)).

### Unique Mark names

Unique survey mark name requirements applying to non-boundary marks have been extended to boundary marks (r 80(2)).

Existing survey marks with a name that is not unique may be made unique within the CSD by adding a unique numeric identifier within rounded brackets before the CSD number (r 80(3)). This is common practice for many surveyors already.

### Symbology

There has been a small change in how marks in posts will be presented. A mark in a post will have a circle symbol to reflect the mark in the post rather than the post itself being the marker. The symbol for a boundary post remains a square (Schedule 7 table 9).

## 4.10. Vectors – significant change

The requirements for vectors are now specified exclusively in the survey diagram (r 89). To ensure the required vectors are included in the survey diagram they must be captured in the record of survey. There are specific requirements for:

- a measured vector to be included to every new or old survey mark (r 89(a)). Most surveyors show this information.
- measured vectors to at least 2 other non-boundary marks for every new non-boundary mark (r 89(b))
- a chain of measured vectors between new or old boundary marks and a PRM (r 89(c)). In most cases this is a pegging tie.
- adopted vectors for boundary definition (r 89(d))
- at least one vector to each end point of a water, water centre-line or irregular boundary (r 89(e))
- non-primary parcels need to connect to at least 2 underlying primary parcel points either through being coincident or vectors (unless inaccurately determined). (r 89(g))
- Boundary dimensions are no longer required as they are required on the title diagram.

Landonline business rules C620, C621, C622 and C623 will test whether the required vectors have been captured in the record of Survey.

### **Adoption Source**

Adoption source has been clarified as being the CSD that measured or calculated the value, or for water, water centre-line or irregular boundaries, the CSD that measured or defined that boundary (r 75).

## **4.11. Survey and Title Diagrams – minor change**

### **Symbology**

There is a new triangle symbol for a CSNM or VCM (Schedule 7 table 9). This will be generated automatically in Plan Generation when the mark purpose is set to CSNM/VCM in the mark purpose field of Landonline.

### **Accepted vectors**

A title diagram no longer needs to include accepted boundary dimensions (rule 105(2)(b)). Where boundary dimensions are not shown the boundary must be annotated 'Boundary accepted from [CSD number]' (r 104 Table 8). This will allow for the use of the 'Process Balance Parcel Boundaries' functionality when the spatial representation in Landonline is correct.

### **Line style**

Reinstated boundaries must be shown as a solid thick line (Schedule 7 table 10).

The underlying exterior of a parcel boundary for unit title or cross lease developments are now specified as having the thick primary line. There is also a new line style for proposed

unit developments. Both these changes reflect common practice many surveyors already use (Schedule 7 table 10).

Schedule 7 table 10 also shows a new line style for territorial authority boundaries. Previous rules required the territorial authority boundary to be depicted but never specified a line style.

## 4.12. Area Schedule – minor change

A title plan for legislation purposes must include an area schedule (r 96), it needs to be in a table and include:

- a heading 'Schedule of Areas'
- each parcel type and identifier
- the intended action for all areas, for example land to be taken or acquired, severances and road to be stopped
- the current appellation of the land in each parcel,
- estate record
- area of each primary or lease parcel

<b>SCHEDULE OF AREAS</b>			
[Intended action, such as 'LAND TO BE ACQUIRED FOR ROAD']			
<u>Shown</u>	<u>Description</u>	<u>Estate Record</u>	<u>Area</u>
Section 1	Part Lot 1 DP 6843	RT WN4B/140	3571 m <sup>2</sup>
<b>EASEMENT TO BE ACQUIRED</b>			
<u>Shown</u>	<u>Description</u>	<u>Estate Record</u>	
A	Part Lot 1 DP 6843	RT WN4B/140	

Figure 5 - Example of area schedule for legalisation surveys (acquiring)

A slightly different format is required for road to be stopped, referencing instead the appellation and estate reference of the adjoining land.

<b>SCHEDULE OF AREAS</b>			
ROAD TO BE STOPPED			
<u>Shown</u>	<u>Adjoining</u>	<u>Estate Record</u>	<u>Area</u>
Section 1	Lot 2 DP 7546	RT WN6B/138	4798 m <sup>2</sup>

Figure 6 - Example of area schedule for legalisation surveys (stopping)

With this rule change, Landonline will now bundle this document into the Title Plan.

## 5. Boundary Reinstatements

### Significant change

Boundary Marking Monumentation, Reinstatement and Full CSD (conflict) are replaced with Simple and Complex boundary reinstatement CSDs. Landonline survey purposes will also be named Simple Boundary Reinstatement and Complex Boundary Reinstatement.

The rules clarify that a boundary point is not able to be reinstated on a:

- water, water centre-line or irregular boundary (r 114(1)(a))
- boundary held in a limited as to parcels title (r 114(1)(b))
- Māori Land CSD annotated 'computed plan – areas and boundaries not defined by survey' (r 114(1)(c))

A Complex boundary reinstatement survey is required (r 114(2)) where any boundary point is:

- subject to conflict (r 114(2)(a))
- on an affected boundary (r 114(2)(b))
- insufficiently defined (r 114(2)(c))
- defined on a diagram on transfer (r 114(2)(d))

Where a complex boundary reinstatement survey is undertaken the requirements are the same as for a full Land Transfer survey, but without a Title Plan. The survey must comply with rules 16, 18 to 37 and the CSD with rules 71 to 91.

There are reduced survey requirements for simple reinstatement surveys. Bearings do not have to be orientated in terms of an official geodetic projection (rule 115(1)) and PRMs are not required (r 116). There are also reduced reporting requirements with a [simplified survey report template](#) created (r 118). The automated survey report within Landonline is not tailored to the reduced requirements, however, is still able to be used.

Reinstated boundaries must be shown as a solid thick line (Schedule 7 table 10). These vectors will need to be captured in Landonline using the layer "Nbdy" and given a bearing

and distance type of "Rein Adopted" or "Rein Calculated". "Rein Calculated" is used where the boundary vector has been recalculated and "Rein Adopted" is used where the boundary vector is adopted. The vector must also be assigned an appropriate survey class.

These reinstated boundary lines will be tested by Landonline to the correct accuracy standard and display with a thick line width in plan generation.

The screenshot shows a software window with two main sections: "Vector Details" and "Mark Information".

**Vector Details:**

- Bear Type: Rein Adopted
- Source: (None)
- Bear Source: [Empty]
- Bear Correction: 0.000000
- Layer: 0 - Nbdy
- Dist Type: Rein Adopted
- Source: DP 11261
- Dist Source: [Empty]
- Survey Class: Class A
- Equip: Unknown

**Mark Information:**

- Name: PEG 1 SO 4000006
- Purpose: Boundary
- Mark State: 1 - New
- Linked:
- Mark Type: Peg
- Condition: Reliably Placed
- Mark Disturbed:
- Mark Renewed:
- Description: [Empty]

Buttons at the bottom: Apply, Hide Details, OK, Cancel.

Figure 7 - Landonline CSC\_S04 Vector capture showing the new bearing and distance type.

The reinstatement diagram does not need to show the same level of information as a Survey Diagram. There is no need to show bearings or distances (r 120).

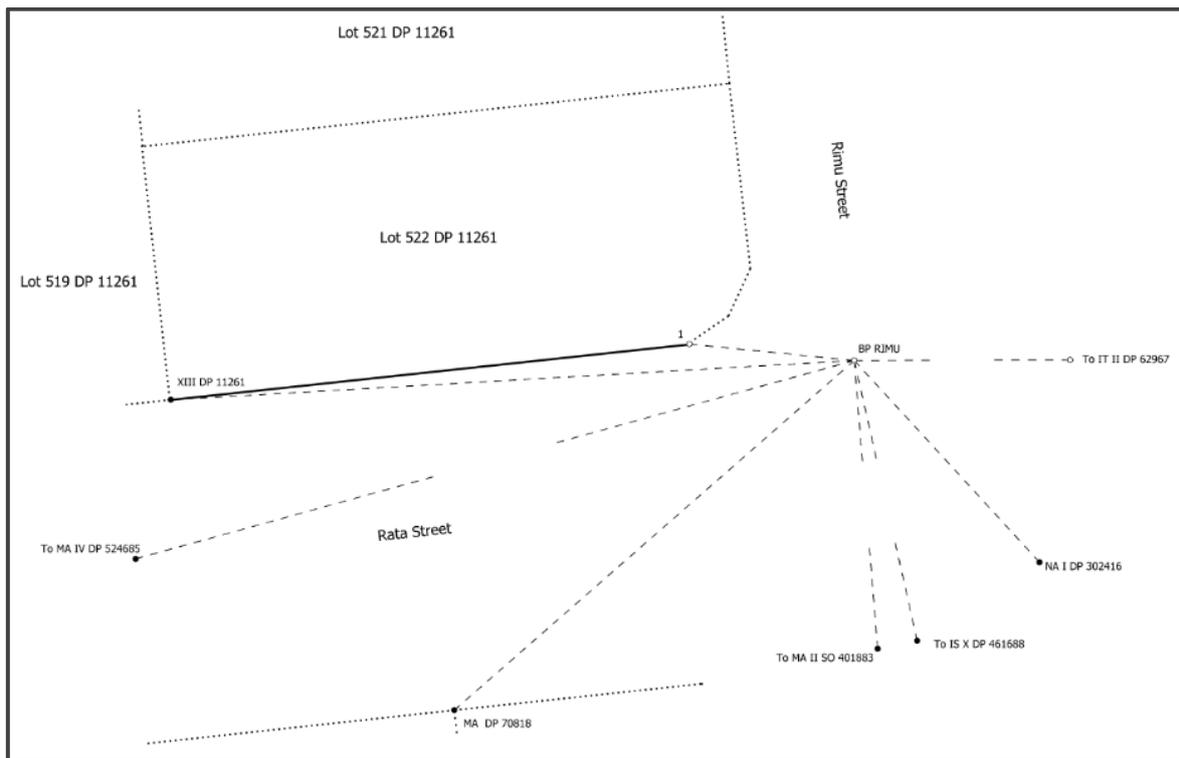


Figure 8 - Simple Boundary Reinstatement Example

## 6. Converting a 2010 CSD to 2021 in Landonline

### Transition

From 30 August 2021 Landonline has the option to capture, pre-validate and lodge a CSD using either the RCS 2010 or CSR 2021. In the Landonline pre-validation screen the surveyor can select either RCS 2010 or CSR 2021 (See Figure 7 below). Where a dataset has been created prior to 30 August 2021 the option will default to RCS 2010. Where a decision is made to convert an existing dataset to CSR 2021 the CSR 2021 radio button must be selected. This will run the appropriate business rules, update the survey report template, and provide relevant capture options. At the end of the transition period the option to select the rules version will be removed and Landonline will default to CSR 2021.

Note when you change versions, data will need repopulating. You should never go from RCS 2010 to CSR 2021 and back as the original data fields from RCS 2010 will be lost.

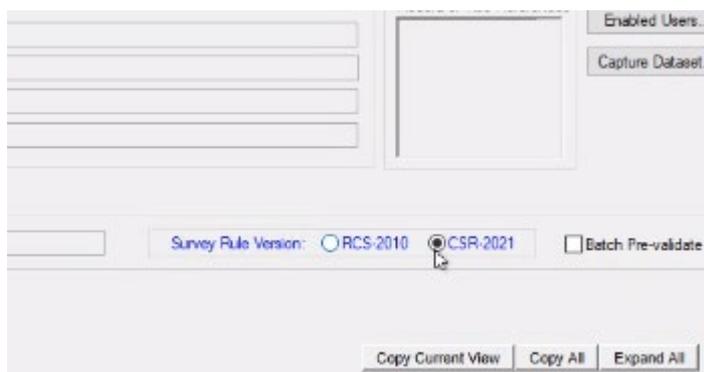


Figure 9 - Landonline Pre-validation showing rule version options

### Converting a CSD to CSR 2021

The following is a summary of Landonline edits for CSDs in Landonline prepared under the RCS 2010 which require certification under CSR 2021. The fieldwork and office implications detailed above will also need to be considered.

### Mark Capture

- Mark Purpose – boundary marks that were Defined by survey, Defined by adoption or Accepted will need to change to Boundary. Witness marks will need to change to PRM (if they meet the criteria) or non-boundary.
- Mark Condition – ensure any marks identified as removed, impractical to mark, searched for and not found, destroyed are recorded correctly.

- Mark Type – any marks in a post are to no longer have mark type post and must be depicted with a circle symbol.
- Ensure that where a CSNM or VCM is included the correct mark purpose is used. If the mark is also a PRM the PRM symbology must be used (Schedule 7 rule 2(2)).

## Vector Capture

- Pegging ties or a chain of measured vectors to boundary marks must be included from a PRM.
- Reinstated boundary vectors on Simple and Complex reinstatement surveys changed from adopted or calculated to “Rein Adopted or Rein Calculated”
- Remove class of water and irregular boundaries from CSC\_S05 line layer capture
- Convert irregular boundaries to water centre-line where they follow the centre-line of a water body
- Assign class AD, BD or CD for right line vectors intersecting water, water centre-line or irregular boundaries

## Parcel Capture

- Where the survey includes height-limited parcels ensure the prefix ‘Height-Limited’ is added in the Landonline parcel detail screen CSC\_S07.
- Ensure areas of erosion have a parcel intent of ‘Erosion’ and not ‘Hydro’
- Parts of easements to be surrendered and covenants to be revoked must use the parcel intents of ‘Easements to be surrendered’ and ‘Covenants to be revoked’
- A CSD defining parts of an existing reserve for classification or reclassification purposes should have a survey purpose of ‘Legalisation’, and the portions to be classified should be non-primary parcels, with a parcel intent of “Reserve reclassification”.

## Plan Generation

- Ensure annotations required by rules 87, 88, 103 and 104 are added to the Survey and Title Diagrams.
- Make sure plans are regenerated.

## Supporting Documents

- Easements to be surrendered/Covenants to be revoked to be included in Schedule/Memorandum.
- Field information included as a supporting document
- Where a new water boundary is being created (or better fix) include an accurate record of the water boundary.
- Survey Report covers everything required – the new [template](#) is recommended. Where the Landonline automated survey report has been used for a survey commenced under the RCS 2010 and the survey is to be certified under the CSR

2021 key reporting requirements such as definition will be retained. Other reporting information that changes under CSR 2021 will need to be repopulated. Also ensure pre-validation reporting is updated.

- Area schedule included for all legalisation CSDs.

### **Survey purpose**

- The survey purpose for 'Boundary Marking – Monumentation CSD' and 'Boundary Marking – Reinstatement CSD' surveys must be updated to 'Simple Boundary Reinstatement CSD'
- The survey purpose for 'Boundary Marking - Full CSD (Conflict)' must be updated to 'Complex boundary reinstatement CSD'

### **Datum Connection**

- Ensure that the survey connects to a CSNM where one is available within 1000m. If no CSNM is available within 1000m any CSNM must be included in the CSD.