

LANDONLINE PRE-VALIDATION REPORT EXPLANATION

**A summarised explanation of the items
in the pre-validation report
to assist interpretation**

**Revised to support the Rules for Cadastral
Survey 2010**

**Revised April 2010
Version 6.1**

Land Information New Zealand
Customer Services

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Introduction

Background During pre-validation of *e-surveys*, Landonline runs tests to check the cadastral survey dataset (CSD). The tests are designed to provide the Surveyor sufficient information to enable them to assess whether the CSD is compliant with the Surveyor-General's Rules for Cadastral Surveys. It also tests for information that is required by LINZ to enable integration.

Surveyors access the same automated business rules that LINZ staff use when an *e-survey* is being processed for approval.

This document provides a summarised explanation of the pre-validation report. It is aimed at surveyors who use Landonline *e-survey*.

Definition of report item categories

Fatal	This is an error or data deficiency so serious that Landonline cannot record the survey data in the database. This can be due to an error in the <i>e-survey</i> or can, in some cases, be due to a serious conflict with erroneous data in Landonline.
Conflict	This is a conflict within the <i>e-survey</i> or with data in Landonline that will need to be resolved before the <i>e-survey</i> can be approved. It may be that the <i>e-survey</i> is correct and Landonline is wrong or vice versa. Users are expected to provide additional information or detailed explanations where the item remains at submission.
Warning	This is a message drawing attention to a potential conflict that may or may not have to be corrected. Surveyors are expected to comment as to why the item remains at submission.
Information	This is a warning that Landonline was not able to fully check a data item. The item is provided solely for the user's information or gross error checking and users are not expected to comment.
Compliant	This is the remainder of the checks that have been run over the dataset, which had no issues to report and therefore no action is required on the part of the user.
Pass	This applies to the "Y" rules, "P" rules and "C041" sub rule, and is equivalent to compliant. That is, the requirements of Landonline have been met.

Structure of the Pre-validation Report

Overview

The Pre-validation report is divided into eight different sections. These are listed here and then explained in more detail.

1. Rules that will prevent the submission of the Survey Dataset
 2. Rules that indicate a conflict in the Survey Dataset or in Landonline that will need to be resolved before approval
 3. Topology Validations
 4. Rules that may indicate a discrepancy with the Survey Dataset that will need to be either corrected or covered in the Survey Report
 5. Rules that identify data that was unable to be fully tested or may indicate a deficiency in the Survey Dataset
 6. Rules indicating that the new dataset is compliant with Landonline data
 7. Adjustment Reports
 8. A list of Manual Rules that may be applied during validation by LINZ staff.
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1. Rules that will prevent the submission of the Survey Dataset

These items are listed in the report under the following statement,

**** The following rules are preventing the Submission of the Survey Dataset*

Items listed here are also called the "Y rules" and as stated, they need to be attended to in order that the dataset may be submitted.

Refer to Page 9 for the full list of 'Y' rules run at this stage.

2. Rules that indicate a conflict in the Survey Dataset or in Landonline that will need to be resolved before approval

These items are listed in the report under the following statement,

**** The following rules indicate a conflict in the Survey Dataset or in Landonline, which will need to be resolved before approval*

Items listed here will not prevent submission of the dataset but may lead to requisitions being generated if not resolved. The rules run at this stage are referred to as the "C rules".

Refer to page 18 for the full list of 'C' rules run at this stage.

3. Topology Validations

Here the Topology staging area is populated with the captured data. This is then used to perform "dummy runs" to see what will occur at Submit, Approval and Registration (Deposit) of the dataset.

The results are listed in terms of new parcels that overlap existing parcels (and vice versa) as well as new boundary lines (captured parcel boundary lines) that overlap existing boundary lines.

- *C41 - Submission Topology Validations*
- *C41 - Approval Topology Validation*
- *C41 - Registration Topology Validations*

C41 - Submission Topology Validations

In this section, Landonline is reporting that following submission the new data is going to cause a "spatial overlap" in the database. The term overlap here does not necessarily mean that the new dataset is going to cause "strips of land" to be created. In a spatial database, an overlap occurs when there are two lines that sit directly over one line.

This is an expected message and should show the relationship between the new and extinguished parcels. Verify that the reported parcels are correct. One thing to look for here is that the correct underlying parcel (to be extinguished) has been added to the Parcel List.

C41 - Approval Topology Validations

Similar to the Submission Topology Validations with the further reporting of expected line replacements that will be performed once the dataset is approved. No user intervention required.

C41 - Registration Topology Validations

Similar output to the Approval Topology Validations Report. This is because the Topology staging area is not reinitialised after the Approval validations. The main check performed here is what will happen once the extinguished parcel is made historic. No user intervention required.

4. Rules that may indicate a discrepancy with the Survey Dataset that will need to be either corrected or covered in the Survey Report

These items are listed in the report under the following statement,

**** The following rules may indicate a discrepancy with the Survey Dataset, which will need to be either corrected or covered in the Survey Report*

The items reported in this section are flagged as possible issues and may not actually be errors. Each item reported needs to be looked at and confirmed as needing attention or not. It is not mandatory to comment on these items in the Survey Report. However, comments should be added where items in this section highlight either an error in Landonline or where the new definition differs significantly from Landonline.

5. Rules that identify data that was unable to be fully tested or may indicate a deficiency in the Survey Dataset

These items are listed in the report under the following statement,

**** The following rules identify data that was unable to be fully tested, or may indicate a deficiency in the Survey Dataset*

User needs to be confident that data entry is accurate for the items listed here as they were not able to be checked automatically.

6. Rules indicating that the new dataset is compliant with Landonline data

These items are listed in the report under the following statement,

**** The following rules are compliant with Landonline data*

This is the remainder of the checks that have been run over the dataset, for which there are no issues to report and therefore no action is required.

7. Adjustment Reports

This section provides a summary explanation of the adjustment report. For more detailed information and analysis, please read the document titled 'Landonline Pre-validation - Accuracy Rule Tests run during Pre-validation of Cadastral Survey Datasets'.

When pre-validation is performed, Landonline completes two least squares adjustments. The results of these adjustments are summarised under two of the following headings:

*** *Internal Consistency Adjustment* ***
*** *Network Adjustment (Full SDC/Partial SDC)* ***
****Underlying Survey****

Internal Consistency Adjustment

This adjustment tests the internal consistency of all survey observations, including boundaries and adoptions, supplied with the survey dataset (including any adopted boundaries or observations). This is similar to testing traverse and parcel closes.

The adjustment tests whether the observations meet the requirements of the Rules for Cadastral Survey 2010:

- Rule 3.1 Accuracy of non-boundary survey marks and
- Rule 3.3.1 Accuracy of boundary points and
- Rule 3.6 Accuracy of boundary witnessing

In addition, it verifies that boundary marks from the survey meet the distance requirements of :

- Rule 4.2 (Table 4) Distance for a boundary point connection to cadastral survey network mark.
- Rule 7.3.2(a) (Table 7) Distances between a boundary point and a witness mark.
- Rule 7.4.2(a) (Table 8) Distances between permanent reference marks and a boundary point

For more information on the Internal Consistency Adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C182 - Internal Consistency Check
- C182 - Internal Consistency Check Fails
- C182 - Internal Consistency Check Passes with High SEUW
- Misclose Tests
- Accuracy and Proximity Tests

Network Adjustment (Partial / Full SDC)

There are two possible checks that can be run as part of this adjustment, the Full SDC check and the Partial SDC check. Only one of these two checks will be run for any given survey dataset that is connected to at least one SDC mark.

If every existing Landonline mark in the submitted survey dataset has SDC status, then a full SDC check is run.

If only some of the existing Landonline marks have SDC status in the submitted survey dataset, then the partial SDC check is run. All SDC marks are held fixed in both checks.

This adjustment tests the compatibility of the new survey data with the underlying SDC data by testing whether the observations meet the requirements of the Rules for Cadastral Survey 2010:

- Rule 3.1 Accuracy of non-boundary survey marks and
- Rule 3.3.1 Accuracy of boundary points and
- Rule 3.6 Accuracy of boundary witnessing

The main difference between the full and partial SDC check is that the full SDC check uses only those observations submitted as part of the survey dataset. The partial SDC check uses the observations submitted as part of the survey dataset, but also brings in observations from survey datasets already accepted into Landonline which share at least two marks in common with the new survey dataset.

A failure in this adjustment may indicate a need to assess the underlying data, particularly if the dataset has passed the internal consistency adjustment.

For more information on the full or partial SDC adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C184 - Full/Partial SDC Check
- C184 - Full/Partial SDC Check Fails
- Misclose Tests

Underlying Survey Consistency Adjustment:

Sometimes a full or partial SDC check cannot be carried out because the survey dataset does not connect to any SDC marks. When this situation occurs, an underlying survey adjustment is performed.

This adjustment is created by using the observations submitted as part of the survey dataset, as well as the observations from all survey datasets already accepted into Landonline which share at least two marks in common with the new survey dataset. One mark is held fixed in this adjustment.

For more information on the underlying survey adjustment see the following sections of the 'Accuracy Rules Tests' document.

- C185 - Underlying Survey Check
- C185 - Underlying Survey Check fails
- Misclose Tests

Standard Error of Unit Weight (SEUW)

The Standard Error of Unit Weight gives an overall measure of the accuracy of the observations. In the pre-validation report, a SEUW of 1.00 indicates that the observations are as good as we expect them to be. A value less than 1.00 indicates that the observations are better than expected and a value greater than 1.00 indicates they are worse. Ideally this number should be less than or near 1.00.

For surveys with full traverse and boundary data the SEUW is often less than 1.00 and for rural surveys, particularly those that incorporate very old adoptions, the figure may be more than 1.00.

Surveyors should use the equipment type of "Old Adoption" to identify adopted observations that are known to have a low accuracy. This should lower the SEUW but may also have an impact on the related boundary accuracy tests. It will set a larger estimate of the errors, which enables LINZ to take this into account when the CSD is integrated into the Cadastre. Surveyors are encouraged to detail this in the survey report.

Adjustment error and warning messages

When an adjustment has been run, various error and warning messages may occur in the pre-validation report.

For more information on error and warning messages, see the following section of the 'Accuracy Rules Tests' document.

- Adjustment Errors and Warnings
-

Y (Cadastral Survey Integrity) rules

Notes:

- If Y rules 014, 021, 023 or 024 fail, Landonline will still validate the *e-survey* against the Cadastral *e-survey* business rules (C rules) as long as all other Y rules are compliant.
- If Y rule 021 fails, but C rules run, then the Plan Layout validation rules, (P rules) will not run.
- Where a 4 letter code appears at the front of Checklist Descriptions, this code is the requisition code.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y001		Ensure mark details are populated	***Fatal***	
		Y001 (0)	All required mark details have been populated.	Pass	
		Y001 (1)	The following marks referenced by this survey dataset have incomplete details supplied.	Fatal	Check data in the Mark Details screen for each of the marks reported.
2002/2010	Y002		Ensure observation details are populated	***Fatal***	
		Y002 (0)	All required observation details have been populated.	Pass	
		Y002 (1)	The following observations referenced by this survey dataset have incomplete details supplied.	Fatal	Check the reported observations in the Traverse Boundary Capture screen for missing data such as Survey Class. If observations are listed here with "Adoption Distance Factor" as the error then doesn't need to delete data, just need to ensure the correct information is entered into the field. Just edit the field.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y003		Ensure parcel details populated	***Fatal***	
		Y003 (0)	All required parcel details have been populated.	Pass	
		Y003 (1)	The following parcels referenced by this survey dataset have incomplete details supplied.	Fatal	Check data in the Parcel Details screen for each parcel reported. Sometimes third party software generates parcels with incomplete details. Check for these if dataset has been created from an imported xml file. If so delete from the Parcel List screen and recreate. Not just confined to XML files imported, this can also occur manually if the user doesn't create the parcel correctly. This should not just focus on XML files.
2002/2010	Y004		Ensure all mandatory missed marks have been included.	***Fatal***	
		Y004 (0)	There are no mandatory missed marks to include in the survey.	Pass	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		Y004 (1)	The following mandatory missed marks must be included in the survey.	Fatal	It is important for surveyors to review these entries. Situations where this occurs: <ol style="list-style-type: none"> 1) Upon importing an XML file, this is one of the most common rules that fail. In order for the mandatory missed marks to be included in capture, go to Spatial capture and re-link one primary parcel. The missed marks will appear for selecting. 2) Manually capture plans, if these are not included the first time you link your parcels (you selected the red x). To include, re-link one primary parcel. The missed marks will appear for selecting. 3) When the subject parcel has not been extinguished, the mandatory missed marks will not appear – always extinguish the subject parcel before linking parcels. Once the subject parcel is extinguished when a primary parcel is re-linked the mandatory missed marks will appear for selecting. 4) Ensure that the correct subject parcel has been extinguished. If the wrong parcels are extinguished missed marks will appear outside your survey. 5) If mandatory missed marks are being reported for marks that appear to have been correctly linked, then unlink and re-link the new marks over the reported mandatory missed marks. One primary parcel should always be re-linked after carrying out re-linking of marks.
2002/2010	Y005		Ensure that if Extinguished parcels exist, that there are Created parcels as well	***Fatal***	
		Y005 (0)	New parcels and existing parcels are recorded by this survey dataset.	Pass	
		Y005 (1)	*[Failure] No new parcels have been created to replace the existing parcels that are extinguished by this dataset	Fatal	If no new parcels exist then they need to be created and linked to the spatial line work. Check that the correct parcel(s) have been extinguished.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y006		Check all existing parcels in the survey have been referenced to parcels in Landonline.	***Fatal***	
		Y006 (0)	All existing parcels referenced by the survey dataset are registered in Landonline.	Pass	
		Y006 (1)	The following parcels must reference underlying parcels in Landonline. Ensure that parcel action is correct and link the parcel to the appropriate underlying parcel in Landonline.	Fatal	Ensure that the correct parcel(s) have been extinguished.
2002/2010	Y007		Check all created parcels requiring parcel topology have been linked.	***Fatal***	
		Y007 (0)	All parcels with topology definition referenced by the survey dataset have boundary definitions.	Pass	
		Y007 (1)	The following new parcels do not have boundary definitions. Ensure that all parcel boundary observations for this survey have been captured and parcel linking has been performed.	Fatal	It is possible that there are unlinked parcels in the Parcel List. The other thing to consider is that there may be parcels in the Parcel List that have the wrong topology class.
2002/2010	Y008		Check all marks have a coordinate	***Fatal***	
		Y008 (0)	All marks referenced by the survey dataset have coordinates.	Pass	
		Y008 (1)	The following marks referenced by this survey do not have coordinates.	Fatal	Confirm if reported marks are required. If so, they need to vectors to/from them.. If not, delete from the Mark List
2002/2010	Y009		Check parcel linking is unique	***Fatal***	
		Y009 (0)	All new parcels referenced by the survey dataset have been appropriately linked.	Pass	
		Y009 (1)	The following new parcels have not been appropriately linked to Landonline. Re-perform parcel linking and ensure all parcels are linked appropriately.	Fatal	Unlink reported parcels, delete the lines off the captured parcel boundary lines layer and delete the reported parcels from the Parcel List. Delete the extinguished parcels. Recreate the new parcels into the Parcel List and re-link. Add the extinguished parcels again.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y010		Check parcel dimensions are included in parcel boundaries.	***Fatal***	
		Y010 (0)	All boundary observations referenced by the survey dataset have been included in the definition of new parcel boundaries.	Pass	
		Y010 (1)	The following boundary observations do not form part of a new parcel boundary. Ensure that all boundary observations referenced by the survey dataset have been captured and parcel linking has been performed.	Fatal	Check that no non-boundary observations have been captured as boundary lines. Check that parcel linking has been completed for all new parcels. A line has been captured but does not form topology to any parcel – e.g. a total distance was captured between two linked marks (Peg A to Peg C is Primary) but also an intermediate distance was captured (Peg A to Peg B is Primary/Secondary and Peg B to Peg C is Primary). Delete the total distance captured between Peg A to Peg C.
2002/2010	Y011		Check survey date	***Fatal***	
		Y011 (0)	A survey date has been specified for this survey dataset.	Pass	
		Y011 (1)	A survey date has not been specified for this survey dataset.	Fatal	Enter a date in the Survey Finish Date field in the Survey Header screen
2002/2010	Y012		Check at least 2 marks are linked to Landonline	***Fatal***	
		Y012 (0)	At least two marks have been linked to Landonline marks.	Pass	
		Y012 (1)	The survey dataset must be linked to two or more Landonline marks. Perform mark linking to ensure the marks from the survey correctly reference underlying marks in Landonline.	Fatal	Check the coordinate system of the dataset. If it is an OCD datum then two marks have to be linked to Landonline marks in order to open the spatial window. If this message is coming up for geodetic datasets then pre-validation has possibly been done too early.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y013		Check mark linking is unique	***Fatal***	
		Y013 (0)	All marks in Landonline have been appropriately linked.	Pass	
		Y013 (1)	The following marks have not been appropriately linked in Landonline. Verify which of the survey marks has been incorrectly linked and re-link if appropriate.	Fatal	If this message appears, unlink the reported marks and re-link.
2002/2010	Y014		Check the number of the survey reference points that have been added.	***Fatal***	
		Y014 (0)	The number of plan reference points for this survey dataset is between 1 and 20.	Pass	
		Y014 (1)	The number of plan reference points for this survey dataset is out of range. Ensure the number of plans reference points is between 1 and 20.	Fatal	Either add a Survey Reference (plan reference) or delete some. The range is 1 - 20.
2002/2010	Y015		Check to see if the survey has been modified since parcel linking.	***Fatal***	
		Y015 (0)	All new parcels have been appropriately linked.	Pass	
		Y015 (1)	Survey data has been modified that could affect the definition of parcel boundaries. At least one parcel needs to be re-linked to confirm the boundary definition of the survey, and Plan Generation needs to be re-performed if a CSD plan is required for this survey.	Fatal	At least one parcel needs to be re-linked to confirm the boundary definition and re run the business rules across the dataset.
2002/2010	Y016		Check for orphan marks (marks that are not connected to any other survey data).	***Fatal***	
		Y016 (0)	All the marks in the survey dataset are linked to an observation, boundary dimension or boundary line.	Pass	
		Y016 (1)	The following marks in the survey dataset are not linked to an observation, boundary dimension, or boundary line.	Fatal	Confirm that the reported marks are not required and delete them from the Mark List screen. If they are required then they will need to have connecting non -boundary vectors or incorporated into parcel boundaries.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y017		Check that all marks are spatially defined (are able to have a coordinate generated for them).	***Fatal***	
		Y017 (0)	All the marks in the survey dataset are linked to coordinated points.	Pass	
		Y017 (1)	The following marks in the survey dataset are not connected through observation to a mark linked to a Landonline mark.	Fatal	Check for orphaned marks. They may be listed in the Mark List screen with no coordinates. Check mark linking.
2002/2010	Y018		Check that all boundary lines are incorporated in defined parcel boundaries.	***Fatal***	
		Y018 (0)	All boundary dimensions and boundary lines in the survey dataset have been linked to the boundaries of parcels created or defined in this survey dataset.	Pass	
		Y018 (1)	The following boundary dimensions or boundary lines in this survey dataset, have not been linked to the boundaries of parcels created or defined by this survey. This may be due to incomplete definition of parcels or due to a dimension of an abutting parcel (not defined in this survey) having been specified as being in a boundary layer.	Fatal	Check for duplicate observations and delete.
2002/2010	Y019		Check that all marks that define the subject boundary of a redefined parcel are included as part of the new boundary definition of the redefined parcel.	***Fatal***	
		Y019 (0)	All boundary marks that are included in the parcel boundary definition of the reference parcel(s) have been included in the new parcel boundary definition of the reference parcel(s).	Pass	
		Y019 (1)	The following marks that were included in the parcel boundary definition of the reference parcel(s) have not been included in the new parcel boundary definition of the reference parcel(s).	***Fatal***	Mandatory missed marks have not been included at parcel linking. Ensure the correct subject parcel is extinguished and re-link one primary parcel for the mandatory missed marks to be selected.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	Y020		Check all newly created parcels are not linked to an existing parcel.	***Fatal***	
		Y020 (0)	All newly created parcels are not linked to an existing parcel	Pass	
		Y020 (1)	The following newly created parcels are linked to an existing parcel. Ensure that all newly created parcels are not linked to an existing underlying parcel.	Fatal	Usually occurs on stage unit plans where parcels have been searched and parcel intent changed, Parcels need to be created as new. Edit the parcel and change the action to affected and back to Created (this will clear fields) and re-enter the FDU's or delete the created FDU and re- 'Add' parcel from new. FDU's need to be created as new parcels not searched from PUD's
2002/2010	Y021		Check that a Landonline Diagram has been generated for the survey or that a Plan Graphic supporting document has been attached appropriately.	***Fatal***	
		Y021 (0)	A Landonline Diagram has been generated for this survey and/or a Plan Graphic support document has been attached.		
		Y021 (1)	A graphic of this survey has not been generated/attached. Either generate a Landonline Diagram or attach an appropriate Plan Graphic supporting document.		
		Y021 (2)	A graphic of this survey has not been generated. Ensure a Diagram is generated.		
2002/2010	Y022		Check all disturbed and renewed mark details are correct	***Fatal***	Renewed or disturbed marks have not been linked to the marks in LOL (via searching the Node or Mark ID) to associate it with the disturbed or renewed mark in mark capture.
		Y022 (0)	Disturbed and Renewed mark details are correct.		
		Y022 (1)	The following marks are being renewed by other marks in the survey as indicated. Remove the marks that are being renewed from the Survey Mark List.		

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		Y022 (2)	The following marks are the disturbed position of existing marks and cannot be used to form parcel boundaries. Change all observations referencing these marks to Traverse and relink..		
2002/2010	Y023		Ensure new Landonline Plans are generated	***Fatal***	Regenerate plan layout and select the Complete button to complete plan capture.
		Y023 (0)	A Landonline Diagram has been regenerated for this survey.		
		Y023 (1)	A graphic of this survey has been changed but not been regenerated. Ensure a Landonline Diagram is regenerated.		
2002/2010	Y024		Report LOL marks within close proximity to captured marks	***Fatal***	An incorrect mark has been captured. Check marks that are close together, as it may have been linked to the incorrect mark or check any disturbed or replaced marks have not been linked spatially as these may need to be done in the mark capture screen.
		Y024 (0)	No unlinked marks created on this survey have been identified as possibly matching marks already in Landonline.		
		Y024 (1)	The following marks could possibly be duplicate occurrences of other marks already in Landonline.		
2002/2010	Y025		Check to ensure a Territorial Authority has been specified		
		Y025 (0)	A Territorial Authority has been specified for this survey.		
		Y025 (1)	A Territorial Authority must be specified for this survey.		

C (Cadastral e-survey) rules

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	C003		C003 Surveyor Authorised to Practice		
		C003 (0)	C003 The surveyor has a current Cadastral Survey License	Pass	
		C003 (1)	C003 Landonline has no record of the Surveyor signing the survey dataset having a Cadastral Survey License	Conflict	LINZ has no record that the surveyor is entitled to sign CSDS. The i. e he Cadastral Survey Licensing Board (CSLB) has either not advised LINZ that the Surveyor now has a Cadastral Survey License, or the CSLB has advised LINZ that the Surveyor no longer holds a Cadastral Survey License. The surveyor needs to approach the CSLB to obtain a Licence or have another Surveyor (with a Licence) submit the CSD.
2002/2010	C006		C200 Subject parcels specified.		
		C006 (0)	C200 Subject parcels have been specified	Pass	
		C006 (1)	C200 New primary parcels are being created but subject parcels have not been specified. Subject parcels can be identified by associating them with the action of "Extinguished"	Conflict	Check Parcel List screen to ensure that subject parcel/s have been extinguished or referenced
2002/2010	C007		C007 Subject (extinguished and Referenced) or adjoining affected parcels exist as live parcel's).		
		C007 (0)	C007 All subject parcels are registered in Landonline	Pass	
		C007 (1)	C007 (1) The following subject parcels that are being referenced, extinguished or affected by the survey are currently only at the approved stage. Deposit of this survey will not be possible until these parcels have been registered;	Warning	Check the approved parcels are correctly entered into parcel capture. Note: This is only a warning and it may not affect the survey if the parcels on a earlier approved plan are being extinguished.
		C007 (2)	C007 (2) The following subject parcels that are being referenced, extinguished or affected by the survey do not currently exist as live parcels (approved or registered) in Landonline;	Conflict	Dataset needs to be put on hold until parcels on an earlier plan are at least in the approved layer.
2002	C010		C009 New Appellations unique to the Dataset.		

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C010 (0)	C009 All new parcels have unique appellations	Pass	
		C010 (1)	C009 The following new parcels have duplicated appellations	Warning	<p>Confirm that all created parcels in the Parcel List have correct and unique appellation details.</p> <p>While the message implies that only created parcels are checked, it would appear that new parcel appellations are not only checked for uniqueness among themselves but also against extinguished (and referenced / affected) parcels.</p> <p>Exceptions can occur for complex appellations such as Maori parcels and balance parcel that need to be created with the same appellation as the parcel being extinguished.</p>
2002/2010	C011		C201 New Appellations appropriate		
		C011 (0)	C201 All new parcels have standard appellations	Pass	
		C011 (1)	C201 The following parcels have non-standard appellations	Warning	This item could indicate an incorrectly constructed appellation. Check parcel details
2002/2010	C012		C011 Mandatory supporting document (survey report) attached	***Fatal***	
		C012 (0)	C011 The survey report is included as part of the survey dataset	Pass	
		C012 (1)	C011 The survey report has not been attached to the survey dataset.	Conflict	Attach a survey report to the Supporting Documents tab in the Manage Survey Transaction screen.
2002/2010	C016		C202 Valid Survey date supplied (i.e. not after lodgement date).		
		C016 (0)	C202 The survey date is valid	Pass	
		C016 (1)	C202 The survey date is after today.	Warning	Refers to the Survey Finish Date field in the Survey Header screen
		C016 (2)	C202 The survey date is after the date of lodgement	Warning	Refers to the Survey Finish Date
2002	C019		C203 Existing references to tenure documents that land is comprised in must link to existing primary parcels.		

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C019 (0)	C203 All of the "Comprised in" references link to registered parcels in Landonline	Pass	
		C019 (1)	C203 The following "Comprised in" references do not link to registered parcels in Landonline	Conflict	CT references listed here will most likely not be linked to a spatial parcel in Landonline. Check that CT ref entered is correct, and that pre-Landonline references are <u>prefixed</u> correctly and uppercase letters are used.
2002/2010	C023		C175 Parcels are entirely within the specified Territorial Authorities		
		C023 (0)	C175 All new parcels are within the boundaries of the Territorial Authorities specified		
		C023 (1)	C175 There are no Territorial Authorities linked to this survey therefore a validation to ensure all new parcels are within Territorial Authority boundaries was not undertaken.	To Note	
		C023 (2)	C175 Landonline records the following new parcels as being outside the boundaries of the Territorial Authorities specified.	Conflict	Check that the correct TA name has been entered into the Survey Header screen.
2002	C024		C026 Each survey must be referenced by 3 or more old marks		
		C024 (0)	C026 The minimum number of old marks have been connected to the survey	Pass	
		C024 (1)	C026 The minimum number of old marks (X) have not been included in or identified in the survey.	Warning	This warning currently appears for compiled and computed datasets but its main purpose is to check for connection to the existing survey network. Check the mark state for existing marks captured into the new dataset.
2002/2010	C029		C039 Details for existing marks compatible with data in Landonline		

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C029 (0)	C039 All of the mark names supplied for existing marks on the survey are compatible with the mark names in Landonline	Pass	
		C029 (1)	C039 All of the mark types supplied for existing marks on the survey are compatible with the mark names in Landonline	Pass	
		C029 (2)	C039 The following marks have names that differ from the mark name recorded in Landonline	Warning	These need to be checked carefully. The report is stating that a newly captured mark has been linked to a mark in Landonline that has a different mark name. The mark name in brackets is the new captured mark. Check... 1) that marks have been correctly linked, and 2) If the new mark is replacing a Landonline mark, check that the renewed functionality has been correctly applied in the Mark Details screen. It needs to be remembered that Landonline retains the existing name of a mark unless the renewed functionality has been used.
		C029 (3)	C039 The following marks have types that differ from the mark TYPES recorded in Landonline	Warning	May need to be amended - though not crucial. Landonline also retains existing mark type details unless the renewed functionality has been used
2002	C030		C040 New Boundary nodes ground marked		
		C030 (0)	C040 All new boundary marks have been ground marked	Pass	
		C030 (1)	C040 The following new boundary points have not been ground marked	Warning	
2002	C040		C205 Horizontal coordinate system Appropriate		
		C040 (0)	C205 This survey uses an appropriate coordinate system	Pass	
		C040 (1)	C205 This survey is within Xm of a NZGD2000 mark of 6th order or better and should use the associated 2000 circuit coordinate system	Warning	Xm is currently set to 500m in terms of SG Ruling 2004/1

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	C041		C173 New parcels are located within the boundaries of the specified underlying parcel or parcels, or the exterior lines of the new set of parcels matches the exterior lines of the subject parcel or parcels.		Non primary parcels cannot cross underlying primary parcels. The topology tests ensure that this does not happen in the Tertiary layer.
		C41B (0)	C173 (B) All parcels affected by the new parcel topology identified for this survey have appropriate geometry.	Pass	
		C41B (1)	C173 (B1)The following parcels have been specified as not having a topological definition (Topology Class = None), but topology has been provided. Either modify the topology class or unlink the parcel .	Fatal	Either modify the Topology Class of the parcels to something other than No Topology or remove the topological definition by unlinking the parcels in the Parcel List screen.
		C41B (2)	C173 (B2) The following line parcels do not consist of exactly one line segment Link centreline easement parcels to the correct line sequence. Modify the topological definition of these parcels as appropriate from Plan Capture	Fatal	Ensure that centre-line easement parcels have been linked to the correct line sequence
		C41B (3)	C173 (B3) The following line parcels have been defined as a closed ring. Either they should not be a closed ring or should not be line parcels. Modify the topological definition, Parcel Intent or Topology Class of these parcels.	Fatal	Check that... 1) the parcel identified has not been linked to a closed polygon and / or 2) the parcel intent and topology class are correct
		C41B (4)	C173 (B4) The following parcels have been specified as of a type that has a topological definition but the topology has not been supplied. Modify the topological definition of these parcels as appropriate from Plan Capture. Either link to topology, amend Topology Class or delete parcel from the parcel list.	Fatal	The reported parcels should be either... 1) linked to a shape 2) have the topology class amended to the correct topology or 3) deleted from the Parcel List
		C41B (5)	C173 (B5) The inner rings of the following donut parcels do not form a closed ring. Modify the topological definition of these parcels as appropriate from Plan Capture. Extinguish and recreate the inner parcel. Link the inner parcel before the outer parcel.	Fatal	The parcel at the centre of the "donut" (i.e. forming the hole in the outer parcel) may need to be extinguished and recreated in the Parcel List. This parcel must be linked <u>before</u> the outer parcel.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C41B (6)	C173 (B6) The outer rings of the following parcels do not form a closed ring. There are gaps in the topological definition of these parcels.	Fatal	Check for holes in the parcel definition.
		C41B (7)	C173 (B7) The inner rings of the following donut parcels are not inside their associated outer parcel rings. Modify the topological definition of these parcels as appropriate from Plan Capture	Fatal	Check that the smaller (inner) parcel and the parcel that encompasses it (outer) are linked to the correct parcels in the Parcel List.
		C41B (8)	C173 (B8) The following parcels intersect other parcels. Modify the topological definition of these parcels as appropriate from Plan Capture	Fatal	Parcels need to be checked to ensure that existing lines are split correctly. Underlying parcels sometimes need to have topology reformed (log call to BAs)
		C41C (0)	C173 (C) All parcels affected by the new parcel topology identified for this survey have appropriate status flows.	Pass	
		C41C (1)	C173 (C1) The following parcels have invalid status flows as indicated	Conflict	This message relates to the new status that the underlying parcels will take on after approval of the dataset.
		C41D (0)	C173 (D) All primary parcels from this survey have a valid spatial relationship with other primary parcels from this survey.	Pass	
		C41D (1)	C173 (D1) The following primary parcels from this survey spatially overlap other primary parcels from this survey as indicated	Conflict	
		C41E (0)	C173 (E) All primary parcels from this survey do not conflict with other approved primary parcels in Landonline.	Pass	
		C41E (1)	C173 (E1) The following primary parcels from this survey spatially overlap other approved primary parcels in Landonline as indicated	Conflict	
		C41F (0)	C173 (F) All secondary parcels from this survey have a valid spatial relationship with the primary parcels from this survey.	Pass	
		C41F (1)	C173 (F1) The following secondary parcels from this survey spatially overlap more than one primary parcels from this survey:	Conflict	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C41G (0)	C173 (G) All primary parcels from this survey have a valid spatial relationship with existing secondary parcels in Landonline.	Pass	
		C41G (1)	C173 (G1) The following primary parcels from this survey have an invalid spatial relationship with existing secondary parcels in Landonline as indicated	Conflict	Possible cause is that the Comprised in panel contains the CT reference for the land affected by an amalgamation condition. If so the CT should be removed but the affected parcels need to remain in the Parcel List.
		C41H (0)	C173 (H) All non primary parcels from this survey with Topology Class Secondary have a valid spatial relationship with the other non primary parcels from this survey with Topology Class Secondary.	Pass	
		C41H (1)	C173 (H1) The following non primary parcels with Topology Class Secondary from this survey spatially overlap other non primary parcels with Topology Class Secondary from this survey:	Warning	Check to make sure that easements are not overlapping each other, for example a centreline easement overlapping a parcel easement on the Secondary Topology layer
		C41I (0)	C173 (I) All secondary parcels from this survey do not extend over water boundaries.	Pass	
		C41I (1)	C173 (I1) The following secondary parcels from this survey extend over water boundaries as indicated:	Warning	
		C41J (0)	C173 (J) All non-primary parcels above the primary parcels being extinguished by this survey are also being extinguished.	Pass	
		C41J (1)	C173 (J1) The following non-primary parcels are above primary parcels being extinguished by this survey, but are not being extinguished themselves:	Conflict	If the existing easements on the balance parcels are not being affected by, e.g. for legalisation purposes, then no action is required. Creating a balance parcel is not an action to deal with the existing easements. Otherwise ensure that existing easements have been extinguished
		C41K (0)	C173 (K) There were no topological gaps or overlaps detected in the parcel networks that will result from this action.	Pass	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C41K (1)	C173 (K1) The following lines are part of the live primary network, but are not accounted for in the new primary network;	Conflict	The lines listed exist in Landonline but are not in the new dataset. The importance of this rule does not take effect until after Submit. New primary lines are not allocated Line ids therefore won't match the live primary network, which does have line ids. If new parcels are re-linked and there were Line ids associated to them (adopted lines) then this rule appears as the topology gets reformed thus removing any evidence of Line ids from adopted lines.
		C41K (2)	C173 (K2) The following lines are part of the new primary network, but are not accounted for in the live primary network;	Conflict	The lines listed are part of the new dataset but do not exist in Landonline. Same as above.
		C41K (3)	C173 (K3) The following lines have been referenced more than once in each direction. This indicates a topological overlap exists which should be investigated;	Conflict	<p>Check lines in question to ensure no capture errors. If none, ignore the conflict.</p> <p>The rule acts as a prompt for the surveyor to check the records that have been captured are satisfactory to replace the existing record.</p> <p>Usually indicates that surveyor has captured same line twice (once in each direction) may not necessarily be in same layer (i.e. once in primary layer and in reverse direction in traverse). If in same layer then one line needs deleting or amending; if in different layers then select a multiple layer option (e.g. trav/prim). Not all parcels have been extinguished.</p>
		C41L (0)	C173 (L) The bounding box for the following parcels overlaps other parcels. They will not be tested for consistency with the following rules and should be checked manually: C41E - *[Warning] The following approved primary parcels from this survey spatially overlap	To Note	Landonline is not able to adequately check topology for the new dataset since the area of interest that the database is using contains over 1000 parcels. Confirm that parcel definition and linking has been performed correctly.
		C41M (0)	C173 (M) All primary parcels from this survey have a valid spatial relationship with existing non primary parcels in Landonline.	Pass	
		C41M (1)	C173 (M1) The following primary parcels from this survey have an invalid spatial relationship with existing non primary parcels in Landonline as indicated	Conflict	
		C41N (0)	C173 (N) All non primary parcels from this survey have a valid spatial relationship with the primary parcels from this survey.	Pass	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C41N (1)	C173 (N1) The following non primary parcels from this survey spatially overlap more than one primary parcels from this survey:	Conflict	
		C41O (0)	C173 (O) All non primary parcels from this survey do not extend over water boundaries	Pass	
		C41O (1)	C173 (O1) The following non primary parcels from this survey extend over water boundaries as indicated:	Warning	
		C41P (0)	C173 (P) All non primary parcels above the primary parcels being extinguished by this survey are also being extinguished.	Pass	
		C41P (1)	C173 (P1) The following non primary parcels are above primary parcels being extinguished by this survey, but are not being extinguished themselves:	Conflict	
2002/2010	C042		C042 Dimensions are supplied for new right line and arc boundaries		
		C042 (0)	C042 All new boundary observations have appropriate dimensions supplied	Pass	
		C042 (1)	C042 The following right line boundary observations do not have a bearing supplied	Warning	Check data for reported observations. Edit in the Traverse Bdy capture screen
		C042 (2)	C042 The following right line boundary observations do not have a distance supplied	Warning	Could be observed only trig rays, or Class D boundaries
		C042 (3)	C042 The following arc observations do not have an arc radius supplied	Warning	Add a radius to the reported arc observation in the Traverse Boundary capture screen
		C042 (4)	C042 The following arc observations do not have a chord bearing supplied	Warning	Add a chord bearing to the reported arc observation in the Traverse Boundary capture screen
		C042 (5)	C042 The following arc observations do not have an arc length supplied	Warning	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002	C052		C206 Cadastral Survey class appropriate.		
		C052 (0)	C206 All parcels less than 4ha correctly have no Class III boundaries	Pass	
		C052 (1)	C206 The following parcels less than 4ha incorrectly have Class III boundaries	Warning	Confirm that the correct survey class has been added to the boundaries of the reported parcels.
2002	C059		C079 Area for each new primary parcel supplied.		
		C059 (0)	C079 All primary parcels have an area supplied	Pass	
		C059 (1)	C079 The following primary parcels do not have an area supplied	Conflict	
2002	C060		C080 Areas where required or supplied are correct.		
		C060 (0)	C080 All primary parcels have an area within limits of the Landonline calculated area.	Pass	
		C060 (1)	C080 The following primary parcels have an area that is outside the limits of the Landonline calculated area	Warning	Confirm the parcel area entered. This message can appear as a result of having to link to inaccurate Landonline data. This causes the parcels to change shape, which affects the calculated area. Should not be an issue in SDC areas or over recent Landonline plans.
2002/2010	C061		C082 Total legal area of new primary parcels is comparable to the total area of the parcels to be extinguished		
		C061 (0)	C082 The total area of the new parcels is comparable to the total area of the subject parcels.	Pass	
		C061 (1)	C082 The total area of the new parcels does not match (within limits) the total area of the subject parcels.	Warning	Confirm the areas for each parcel in the Parcel Detail screen. Discrepancies should be highlighted in the survey report as there may be an error in Landonline. If this is the case then total area should be verified manually against titles.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002	C068		C089 The distances between boundary marks and their closest witness mark comply with Survey Regulations		
		C068 (0)	C089 All boundary marks are within the regulation distance of witness marks.	Pass	
		C068 (1)	C089 The following boundary marks are further than the regulation maximum distance from a witness mark.	Warning	This check is done by swinging a radius around each witness mark and reporting marks that fall outside that measure. It does not check distance by following traverses
2002	C089		C207 Consent to a computed plan attached		
		C089 (0)	C207 Consent for a computed plan is attached.	Pass	
		C089 (1)	C207 Consent for a computed plan should be attached.	Conflict	This check can be ignored for Computed easement and covenant datasets.
2002	C090		C208 More than 3 existing nodes identified		
		C090 (0)	C208 The minimum number of existing marks (X) have been identified.	Pass	
		C090 (1)	C208 The minimum number of existing marks (X) have not been identified.	Conflict	
2002	C091		C103 All boundary observations to be between existing nodes		
		C091 (0)	C103 All boundary observations of this compiled plan are between existing boundary points.	Pass	
		C091 (1)	C103 The following boundary observations are not between existing boundary points.	Conflict	Compiled Plan - check that marks have been linked correctly. This rule will fail for datasets over Landonline data that does not have the correct number of underlying nodes to link to.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002	C19A		C018 Comprised in references given for parcels to be extinguished, referenced or as affected agree with the Landonline reference (i.e. Crown Land, CT, Gaz Reference, no reference).		
		C19A (0)	C018 The subject parcels from the survey exist in the "Comprised in" references specified	Pass	
		C19A (1)	C018 Landonline does not record the following subject parcels as being part of the "Comprised in" references	Warning	Confirm the CT references added to Comprised in panel. Also, check that the correct extinguished, referenced or affected parcels have been added () to the Parcel List. If entry is correct this warning may be pointing to the possibility that Landonline has no link between the titles and spatial parcels.
2002/2010	C19B		C204 (Audit Item) Each comprised in reference for the survey, links to at least one subject parcel in the survey		
		C19B (0)	C204 All "Comprised in" references specified for the survey link to subject parcels from the survey	Pass	
		C19B (1)	C204 Landonline does not record links to the specified subject parcels in the following "Comprised in" references	Warning	Confirm the CT references added to Comprised in panel. Also, check that the correct extinguished, referenced or affected parcels have been added to the Parcel List. If entry is correct this warning may be pointing to the possibility that Landonline has no link between the titles and spatial parcels.
2002/2010	C23A		C025 All specified Territorial Authorities are affected by any parcel or part of a parcel		
		C23A (0)	C205 All Territorial Authorities specified are affected by parcels from the survey	Pass	
		C23A (1)	C205 There are no Territorial Authorities linked to this survey therefore a validation to ensure all Territorial Authorities are affected by the survey was not undertaken.	To Note	
		C23A (2)	C205 Landonline records the following Territorial Authorities as not containing any parcels from the survey.	Warning	Confirm the TA name added in the Survey Header screen.

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	C23B		C142 Parcel(s) are entirely within the Land District Specified.		
		C23B (0)	C142 All new parcels on the survey are in the specified land district	Pass	
		C23B (1)	C142 The following parcels appear to be outside the boundary of the land district specified for the survey.	Warning	1) Check that the correct Land District has been entered into the Manage Survey Transaction screen. If not a new dataset will be required 2) Check that the correct coordinate system has been entered in the Survey Header screen. 3) Have the correct parcels been added to the Parcel List?
2002	C24A		C027 Minimum of 3 old reliable marks identified as Origin Marks		
		C24A (0)	C027 The minimum number of old reliable mark have been indicated as origin marks	Pass	
		C24A (1)	C027 The minimum number of old reliable marks (X) have not been identified as origin marks for the survey.	Conflict	Check that the origin marks have been captured as old marks and the Condition field set to Reliably Placed/Found.
2002	C24B		C143 Marks shown as Origin or Witness are not also shown as adopted marks		
		C24B (0)	C143 None of the adopted marks from the survey have been used as origin marks	Pass	
		C24B (1)	C143 The following adopted marks cannot be used as origin marks by the survey	Conflict	Unless a boundary mark has been used as an origin/boundary for a compiled dataset

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	C300		C123 Where a First Stage Unit Plan is lodged, it must be accompanied by a Proposed Unit Development Plan	***Fatal***	
		C300 (0)	C123 The Proposed Unit Development (PUD) has been lodged for this Staged Unit Development.	Pass	
		C300 (1)	C123 The Proposed Unit Development (PUD) has not been lodged for this Staged Unit Development	Fatal	Confirm the Survey Purpose of the dataset. Is a standard unit plan being lodged as a stage unit plan? This cannot be edited once the plan has been created. If the incorrect Survey Purpose of a Unit/Stage unit or Cross lease plan is entered, then a script is required to amend this to ensure that the correct sequence of plans is maintained.
2002	C42A		C067 Dimensions supplied for adopted boundaries equal to the latest dimensions held in Landonline		
		C42A (0)	C067 All adopted boundary observations match dimensions in Landonline	Pass	
		C42A (1)	C067 The following adopted boundary observations have dimensions that could not be verified by Landonline (check the bearing / distance against the source plan).	To Note	
		C42A (2)	C067 The following adopted boundary observations have bearings that do not match the latest information held by Landonline	Conflict	
		C42A (3)	C067 The following adopted boundary observations have distances that do not match the latest information held by Landonline	Conflict	
		C42A (4)	C067 The following adopted arc boundary observations have arc radii that do not match the latest information held by Landonline	Conflict	
		C42A (5)	C067 The following adopted arc observations have chord bearings that do not match the latest information held by Landonline	Conflict	
		C42A (6)	C067 The following adopted arc boundary observations have arc lengths that do not match the latest information held by Landonline	Conflict	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002	C45A		C170 Supplied dimensions of existing boundaries match dimensions in Landonline		
		C45A (0)	C170 All boundary observations match dimensions in Landonline within survey limits	Pass	
		C45A (1)	C170 The following boundary observations have bearings that do not match the latest information held by Landonline	Warning	
		C45A (2)	C170 The following boundary observations have distances that do not match the latest information held by Landonline	Warning	
		C45A (3)	C170 The following arc boundary observations have arc radii that do not match the latest information held by Landonline	Conflict	
		C45A (4)	C170 The following arc boundary observations have chord bearings that do not match the latest information held by Landonline	Warning	
2002	C55A		C146 For non-boundary right lines indicated as adopted the dimensions supplied must equal Landonline dimensions		
		C55A (0)	C146 All adopted non-boundary observations match dimensions in Landonline	Pass	
		C55A (1)	C146 The following adopted non-boundary observations have dimensions that could not be verified by Landonline (check the bearing / distance against the source plan).	To Note	
		C55A (2)	C146 The following adopted non-boundary observations have bearings that do not match the latest information held by Landonline	Conflict	
		C55A (3)	C146 The following adopted non-boundary observations have distances that do not match the latest information held by Landonline	Conflict	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002	C55B		C147 Supplied dimensions of non-boundary right lines between existing marks match dimensions in Landonline		
		C55B (0)	C147 All non-boundary observations match dimensions in Landonline	Pass	
		C55B (1)	C147 The following non-boundary observations have bearings that do not match the latest information held by Landonline	Warning	
		C55B (2)	C147 The following non-boundary observations have distances that do not match the latest information held by Landonline	Warning	
2002	C59A		C153 Parcel area must not be specified as less than one square metre		
		C59A (0)	C153 All primary parcels have an area greater than or equal to 1 square metre	Pass	
		C59A (1)	C153 The following primary parcels have a specified area less than 1 square metre	Conflict	
2002	C67A		C148 The number of witness marks in the survey complies with the Survey Regulations.		
		C67A (0)	C148 The minimum number of witness marks (X) have been included in the survey. (RCS2010 7.3.2(c))	Pass	
		C67A (1)	C148 The minimum number of witness mark (X) have not been indicated on the survey. (RCS2010 7.3.2(c))	Conflict	(X) is currently set to 3 as per Rule 12 of the SG Rules for Cadastral Surveys 2002/2
2002/2010	C182		C174 Survey internally consistent	N/A	
		C182	Least squares adjustment run as part of this rule. <u>Refer</u> Section 7 Adjustment Reports		

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2002/2010	C184		C119 Survey consistent with Accuracy requirements for boundary points..	N/A	
		C184	Least squares adjustment run as part of this rule. <u>Refer</u> Section 7 Adjustment Reports		
2002/2010	C185		C119 Survey consistent with non SDC network	N/A	
		C185	Least squares adjustment run as part of this rule. <u>Refer</u> Section 7 Adjustment Reports		
2010	C424		C424 Each survey must be referenced by at least one old non-boundary mark.	N/A	This rule is now primarily for Monumentation CSDs.
		C424 (0)	C424 The Survey is connected to at least one old non-boundary Mark.	Pass	
		C424 (1)	C424 The Survey is not connected to at least one old non-boundary Mark.	Warning	
2010	C430		C430 All new boundary points on primary parcels have been ground marked.		
		C430 (0)	C430 All new boundary points on primary parcels have been ground marked. (RCS2010 7.1(a))	Pass	
		C430 (1)	C430 The following new boundary points have not been ground marked. (RCS2010 7.1(a))	Warning	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2010	C440		C440 Horizontal datum connection appropriate.		Xm is based on the class of the nearest boundary point to a CSN mark (6 th order) and varies as follows: Class A – 500m Class B – 1000m Class C – 2000m
		C440 (0)	C440(0) Horizontal datum connection correct. Cadastral survey network marks (6th order or better) have been connected to boundaries within the distance tolerance specified.	Pass	
		C440 (1)	C440(1) There are no Cadastral survey network marks (6th order or better) in Landonline within the distance tolerance specified.	Pass	This is effectively a “pass” as Landonline cannot identify any CSN marks for the survey.
		C440 (2)	C440(2) One or more cadastral survey network marks (6th order or better) exist within the distance specified of a boundary but have not been connected by vectors to the survey.(RCS 2010 4.2)	Warning	
2010	C445		C445 Supplied dimensions of existing boundaries match dimensions in Landonline.		
		C445 (0)	C445 All boundary observations match dimensions in Landonline.	Pass	
		C445 (1)	C445 The following boundary observations have bearings that do not match the latest information held by Landonline	Warning	
		C445 (2)	C445 The following boundary observations have distances that do not match the latest information held by Landonline	Warning	
		C445 (3)	C445 The following arc boundary observations have arc radii that do not match the latest information held by Landonline	Warning	
		C445 (4)	C445 The following arc boundary observations have chord bearings that do not match the latest information held by Landonline	Warning	
		C445 (5)	C445 The CSD contains boundary observations relating to existing boundaries that cannot be verified as Landonline does not have corresponding data.	Warning	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2010	C455		C455 Supplied dimensions of non boundary right lines between existing marks match dimensions in Landonline.		
		C455 (0)	C455 All non-boundary observations match dimensions in Landonline	Pass	
		C455 (1)	C455 The following non-boundary observations have bearings that do not match the latest information held by Landonline;	Warning	
		C455 (2)	C455 The following non-boundary observations have distances that do not match the latest information held by Landonline;	Warning	
		C455 (3)	C455 The CSD contains non-boundary observations relating to existing non-boundary lines that cannot be verified as Landonline does not have corresponding data.	Warning	
2010	C459		C459 Area for each new primary or Lease parcel supplied.		
		C459 (0)	C459 All primary and lease parcels have an area supplied	Pass	The rule runs a validation test to check that an area has been supplied depending on what type of CSD is chosen The test does not assess whether an area exists for lease parcels that have not been captured Note: The rule does not calculate the area of parcels i.e. it checks that an appropriate area has been recorded.
		C459 (1)	C459 The following primary or lease parcels do not have an area supplied	Conflict	
2010	C460		C460 Areas where required or supplied are reasonable.		
		C460 (0)	C460 All primary parcels have an area within limits of the Landonline calculated area.	Pass	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C460 (1)	C460 The following primary parcels have an area that is outside the limits of the Landonline calculated area	Warning	This test is provided to assist surveyors identify gross error. It is less reliable for parcels within "Non SDC areas" due to the inaccuracy/distortion of the base data.
2010	C467		C467 The number of witness marks in the survey complies with the Rules for Cadastral Survey		
		C467 (0)	C467 The minimum number of witness marks (X) have been included in the survey. (RCS2010 7.3.2(c))	Pass	
		C467 (1)	C467 The minimum number of witness mark (X) have not been indicated on the survey. (RCS2010 7.3.2(c))	Conflict	X) is based on the classes of boundaries in the survey and varies as follows: All Class A – 3 required Mixed Classes – 4 required This includes PRMs that also meet witnessing requirements
2010	C468		C468 The distances between boundary marks and their closest witness mark comply with the Rules for Cadastral Survey 2010.		
		C468 (0)	C468 All boundary marks are within the regulation distance of witness marks. (RCS2010 7.3.2(a))	Pass	Extensive rural boundary marks may fail the validation test. If these are compliant with rule 7.3.2(b), they should be addressed in the survey report.
		C468 (1)	C468 The following Class A boundary points do not have at least one witness or PRM mark within 150m that is not itself. (RCS2010 7.3.2(a))	Warning	
		C468 (2)	C468 The following Class B boundary points do not have at least one witness or PRM mark within 500m that is not itself. (RCS2010 7.3.2(a))	Warning	
		C468 (3)	C468 The following Class C boundary points do not have at least one witness or PRM mark within 1000m that is not itself. (RCS2010 7.3.2(a))	Warning	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
2010	C481		Boundary Points required to be Defined by Survey have been		
		C481 (0)	C481 All boundary points required to be 'Defined by Survey', have been (RCS2010 6.2(a)(iv));	Pass	Extensive rural boundary marks may fail the Landonline test. If these instances comply with rule 7.3.2(b) they should be addressed in the Survey Report
		C481 (1)	C481 the following boundary points have not been 'Defined by Survey' as required	Warning	
2010	C482		C482 The number of PRM's in the survey complies with the Rules for Cadastral Survey 2010.		
		C482 (0)	C482 The minimum number of PRM's (2) have been included in the survey. (RCS2010 7.4.1)	Pass	
		C482 (1)	C482 The minimum number of PRM's (2) have not been indicated on the survey. (RCS2010 7.4.1)	Warning	
2010	C483		C483 Dimensions supplied for adopted boundaries or existing boundaries are equal to the latest dimensions held in Landonline.		
		C483 (0)	C483 All adopted boundary observations match dimensions in Landonline.	Pass	Untested observations are identified separately from "true" differences.
		C483 (1)	C483 The following adopted boundary observations have bearings that do not match the latest information held by Landonline	Warning	
		C483 (2)	C483 The following adopted boundary observations have distances that do not match the latest information held by Landonline	Warning	
		C483 (3)	C483 The following adopted arc boundary observations have arc radii that do not match the latest information held by Landonline	Conflict	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C483 (4)	C483 The following adopted arc boundary observations have chord bearings that do not match the latest information held by Landonline	Warning	
		C483 (5)	C483 Supplied dimensions of adopted boundaries have not been tested.	Warning	
2010	C484		C484 All new, renewed, reinstated or disturbed, PRM, witness marks or any other non boundary marks have identifiers and are unique to that dataset.		Refer RCS2010 7.5(a)). For example having IS I and IT I in the same CSD is not permitted.
		C484 (0)	C484 All non boundary marks have identifiers and are unique to that dataset. (RCS2010 7.5(a))	Pass	This rule does not check that boundary marks are unique or whether an existing unique name is retained for undisturbed old marks as required under r7.5(c).
		C484 (1)	C484 The following new, renewed, reinstated or disturbed non boundary marks do not have unique alpha numeric identifiers.	Warning	
		C484 (2)	C484 The following new, renewed, reinstated or disturbed non boundary marks are not unique to the dataset.	Warning	
2010	C485		C485 Every PRM is within the applicable horizontal distance specified of a boundary point that is required to be witnessed by Rule 7.3.1		
		C485 (0)	C485 Every PRM is within the applicable horizontal distance specified of a boundary point that is required to be witnessed (RCS 2010 7.4.2(a))	Pass	
		C485 (1)	C485 The following PRM's are not within the required distance of a Class A boundary point that requires witnessing. (RCS 2010 7.4.2(a))	Warning	
		C485 (2)	C485 The following PRM's are not within the required distance of a Class B boundary point that requires witnessing. (RCS 2010 7.4.2(a))	Warning	

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C485 (3)	C485 The following PRM's are not within the required distance of a Class C boundary point that requires witnessing. (RCS 2010 7.4.2(a))	Warning	
2010	C486		C486 Every bearing in a cadastral survey that defines or marks a new primary parcel boundary point is orientated in terms of an official geodetic projection applicable to the area.(RCS2010 4.1)		
		C486 (0)	C486 Every bearing that defines or marks a new primary parcel boundary point is orientated in terms of an official geodetic projection applicable to the area (RCS2010 4.1)	Pass	
		C486 (1)	C486 Every bearing that defines or marks a new primary parcel boundary point is not orientated in terms of an official geodetic projection applicable to the area (RCS2010 4.1) Please explain in your Survey Report.	Warning	
2010	C488		C488 Class of Adopted boundaries appropriate.		
		C488 (0)	C488 Mark purposes for Class C are appropriate (RCS2010 3.2.3)	Pass	
		C488 (1)	C488 The following vectors should not be associated with Class C (RCS2010 3.2.3)	Warning	Check that a mark on a Class C boundary point has not been "Defined by survey"
2010	C490		C490 New Appellations unique to the Dataset.		Refer RCS2010 5.5.1(a)(ii) For Example having Lot 1 and Lease I in the same CSD is not permitted

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Commentary Note: If there is no comment, the checklist item is self explanatory.
		C490 (0)	C490 All new parcels have unique appellations. (RCS2010 5.5.1(a))	Pass	
		C490 (1)	C490 The following new parcels have parcel identifiers that are not unique to the CSD:(RCS2010 5.5.1(a)(ii))	Warning	
2010	C491		C491 Comprised in references given for parcels to be extinguished or referenced agree with the record held in Landonline.		
		C491 (0)	C491 All of the Comprised In references link to merged and Registered Parcels in Landonline.	Pass	
		C491 (1)	C491(1) The entry recorded in the Comprised In list does not link to a merged registered parcel recorded in Landonline.	Warning	
		C491 (2)	C491(2) The entry recorded in the Comprised In list is not linked to an existing parcel listed in the CSD.	Conflict	
		C491 (3)	C491(3) CT references for the existing parcels to be Extinguished or Referenced have an existing spatial link but are not listed.	Warning	
		C491 (4)	C491(4) The entry recorded in the Comprised In list does not have an existing spatial link to existing parcels. CT may be valid but not yet processed. (Warning)	Warning	
2010	C499		C499 Class of Accepted boundaries appropriate.		
		C499 (0)	C499 Mark purposes for Class D are appropriate. (RCS2010 3.2.4(a))	Pass	
		C499 (1)	C499 The following vectors should not be associated with Class D (RCS2010 3.2.4(a))	Warning	Check that a mark on a Class D boundary point has not been "Defined by survey", and at least one end point has been "accepted"

P (Plan Layout) Rules

Cadastral Rules Version	Checklist Code	Item Number	Checklist Description	Message Severity	Explanation
2002/2010	P001		All boundary marks captured for the survey are displayed.		Ensures that every boundary mark captured for the survey is displayed at least once on the set of diagrams used to illustrate the Title Sheets on the CSD Plan and the Title Plan. Note: This check excludes system added marks created by the balance parcel process.
		P001 (0)	All captured boundary marks have been displayed.	Pass	
		P001 (1)	The following list of captured observations do not have their distance dimensions displayed on the CSD Plan.	Warning	
2002/2010	P002		All boundary marks captured for the survey are labelled		Ensures that every boundary mark captured for the survey has its mark name label displayed (if applicable) at least once on the set of diagrams used to illustrate the Title Sheets of the CSD Plan. Note: This check excludes system added marks created by the balance parcel process.
		P002 (0)	All captured boundary marks have their mark names displayed. (Landonline requirement)	Pass	
		P002 (1)	The following list of captured boundary marks do not have their mark names displayed on the Title Sheets of the CSD Plan.	Warning	
2002/2010	P003		All observations captured for the survey are displayed		Ensures that every observation captured for the survey is displayed at least once on the set of diagrams used to illustrate the CSD Plan and/or is displayed at least once on the set of diagrams used to illustrate the Digital Title Plan. Note: The set of diagrams used to illustrate the CSD Plan includes diagrams used for the Survey Sheets as well as diagrams used for the Title Sheets.
		P003 (0)	All captured observations have been displayed.	Pass	
		P003 (1)	The following list of captured observations have not been displayed on either the CSD Plan or the Title Plan.	Warning	

2002/2010	P004		All observation dimensions captured for the survey are displayed on the CSD Plan		Ensures that the every observation dimension captured for the survey is displayed at least once on the set of diagrams used to illustrate the CSD Plan. Note: <ul style="list-style-type: none"> The set of diagrams used to illustrate the CSD Plan includes diagrams used for the Survey Sheets as well as diagrams used for the Title Sheets. Observation dimensions include bearing, distance, chord bearing, arc length and arc radius measurements.
		P004 (0)	All captured observations dimensions have been displayed on the CSD Plan.	Pass	
		P004 (1)	The following list of captured observations do not have their distance dimensions displayed on the CSD Plan.	Warning	
		P004 (2)	The following list of captured observations do not have their bearing dimensions displayed on the CSD Plan.	Warning	
		P004 (3)	The following list of captured arc observations do not have their chord bearing dimensions displayed on the CSD Plan.	Warning	
		P004 (4)	The following list of captured arc observations do not have their arc length dimensions displayed on the CSD Plan.	Warning	
		P004 (5)	The following list of captured arc observations do not have their radius dimensions displayed on the CSD Plan.	Warning	
2002/2010	P005		All primary parcel boundary distances are displayed on the Title Plan.		Ensures that every primary parcel boundary distance recorded for the survey is displayed at least once on the set of diagrams used to illustrate the Title Plan. Note: The parcel boundary distance includes observation distance and arc length measurements.
		P005 (0)	All primary parcel boundary distances have been displayed on the Title Plan.	Pass	
		P005 (1)	The following list of captured observations do not have their boundary distances displayed on the Title Plan.	Warning	
		P005 (2)	The following list of captured arc observations do not have their arc length displayed on the Title Plan.	Warning	

2002/2010	P006		Created primary parcels are displayed in full on the Title Plan.	Warning	Ensures that every primary parcel created by the survey is completely contained by at least one diagram used for the Title Plan.
		P006 (0)	All primary parcels created for the survey have been appropriately illustrated on the Title Plan.	Warning	
		P006 (1)	The following list of primary parcels created by the survey have not been appropriately illustrated on the Title Plan. Ensure the complete area of each created primary parcel is displayed in at least one diagram..	Warning	
2002/2010	P007		Appellation and area displayed for created parcels on the Title Plan.		Ensures that every primary and non-primary parcel created for the survey has its appellation and area (if applicable) displayed at least once on the set of diagrams used to illustrate the Title Plan.
		P007 (0)	All parcels created for the survey have their appellation and area (if applicable) displayed on the Title Plan.	Pass	
		P007 (1)	The following list of parcels created by the survey do not have their appellation displayed on the Title Plan.	Warning	
		P007 (2)	The following list of parcels created by the survey do not have their area displayed on the Title Plan.	Warning	
2002/2010	P008		All diagrams created for the survey are displayed.		Checks that every system generated and user defined diagram created for the survey is displayed on the CSD Plan.
		P008 (0)	All diagrams created for the survey have been displayed.	Pass	
		P008 (1)	The System Generated Traverse Diagram has not been displayed.	Warning	
		P008 (2)	The System Generated Primary Diagram has not been displayed.	Warning	
		P008 (3)	The System Generated Non Primary Diagram has not been displayed.	Warning	
		P008 (4)	The following User Defined Traverse Diagrams have not been displayed.	Warning	
		P008 (5)	The following User Defined Primary Diagrams have not been displayed.	Warning	
		P008 (6)	The following User Defined Non Primary Diagrams have not been displayed.	Warning	

CT prefix codes for converted titles

Converted title references have a two letter prefix code added to the beginning of the original CT number. For example, Wellington title 1A/1 is converted as WN1A/1. There is no space between the prefix and the plan number.

Prefixes used for titles converted into Landonline are:

District	Prefix	District	Prefix
North Auckland	NA	Nelson	NL
South Auckland	SA	Westland	WS
Gisborne	GS	Canterbury	CB
Hawkes Bay	HB	Otago	OT
Taranaki	TN	Southland	SL
Wellington	WN		
Marlborough	MB		