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Review of the Rules for Cadastral Survey – Stage 2 – Part 1

Thank you for the opportunity to provide feedback on the Rules Review.

The following SUBMISSION represents the collective views of members of the Institute of Cadastral Surveying (Inc).

We look forward to viewing your summary of the Stage 1-Part 1 consultation results, and contributing to the further stages of the Rules Review process.

Layout of the Rules

1. It is unfortunate that the Surveyor-General is again proposing to use the scatter gun approach to structuring in the revised of rules for cadastral surveying. This makes it very difficult to identify gaps or overlaps in the rules, and for both LINZ and the cadastral surveyor to manage the inherent risks and liability associated with them.
2. Section 4 of the Cadastral Survey Act 2002 sets out the appropriate structure for cadastral surveys, identifying that the cadastral survey is a subset of the cadastral survey dataset (CSD), and separate from those items necessary to integrate the cadastral survey into the cadastre.
3. This separation of the component parts of cadastral surveying is further highlighted in s49(1) of the Act, where rules for the cadastral survey component are made in terms of s49(1)(a), while integration and other CSD requirements are made in terms of s49(1)(b).
4. In early 2016, ICS published the results of its project to develop an integrated structure for rules for cadastral surveying. This followed the layout envisaged by the Act, taking account of the differing liabilities of the parties involved in the cadastral survey and the CSD, and it is unfortunate the Surveyor-General refuses to utilise such a logical and coherent structure in the review.
5. By retaining the mixing of s49(1)(a) and s49(1)(b) items throughout the rules, the Surveyor-General is ensuring the whole of the rules will have to be revised with any changes in the integration process necessitated by the changeover from Landonline to its proposed ASaTS replacement, increasing costs to both LINZ and the public in such a changeover.

6. It is of note that the proposed layout of the rules has again allowed for the omission of any requirement for good survey practice (although we understand that a subsequent part may include a proposal around good survey practice), an origin of survey, or reference to the hierarchy of evidence utilised for definition purposes, while also blurring the difference between the dataset of cadastral survey certified by the cadastral surveyor and the CSD as defined by the Act, or the true nature of the graphical requirements of the cadastral survey as opposed to LINZ's Landonline Plan products.
7. The continued failure of the Surveyor-General to address these issues means that LINZ in a wider context cannot properly manage their liability with respect to cadastral surveying matters, exposing the Crown to unrecognised liability.
8. In addition, the proposed layout of the rules will make it extremely difficult for the Surveyor-General to carry out his or her functions in term of s7(2)(c) and s49(3)(d) of the Act, prerequisites of making rules in terms of s49 of the Act.

Reference Marks

1. The proposal to have only one type of non-boundary mark is welcome. It is suggested these be called "survey reference marks", as it is their function to reference the survey boundary marks.
2. In terms of their longevity, it is not physically possible for these to be made permanent, and it would be sufficient to for these to be; of suitable diameter and length, driven or set vertically in the ground, to be highly secure, not likely to be disturbed, and conveniently located and used
3. The background material accompanying this topic again highlights the Surveyor-Generals poor understanding of the difference between the origin of survey and an orientation in cadastral surveying.
4. If ICS may, an origin of survey requires observation between a minimum of 3 old survey marks and is a test of scale and rotation between those marks, that is, it is a test for the conflicts of ground movement or error between current and underlying surveys.
5. On the other hand, orientation is simply a mechanism to apply consistent bearings between surveys, has no function in testing for conflict, and can be obtained without reference to old survey marks.

Connection to a Horizontal Control Mark

1. The proposal to make all class B and C cadastral surveys tie to a cadastral survey network mark where such a mark is within 5 km of a survey is onerous.
2. While the background material highlights the increasing use of GNSS equipment in cadastral surveying, the ability to undertake cadastral surveys using a variety of equipment is important for both practicality and cost reasons. In addition, it is important

to realise that GNSS equipment has real limitations in terms of its use near structures and vegetation, while in broken country it also has significant range limitations.

3. Section 7(1)(b) of the Act makes it a function of the Surveyor-General to maintain a national survey control network, and the Surveyor-General should carry out that function, rather than try to transfer the densification of network marks to cadastral surveyors.
4. It is further noted that any proposal to change existing connection distances would need extensive assessments by the Surveyor-General in terms of s7(2)(c) and s49(3)(d) of the Act.

Reduced Levels and Official Vertical Datums

1. Where there is a height element in a cadastral survey, this should have similar origin, monumentation, and referencing requirements as for the horizontal elements of the survey, giving all tenure interests similar accuracy requirements.
2. However, Section 7(1)(b) of the Act makes it a function of the Surveyor-General to maintain a national survey control network, and the Surveyor-General should carry out that function, rather than try to transfer the densification of NZVD2016 network marks to cadastral surveyors.
3. Any proposal to change existing reduced level requirements would need extensive assessments by the Surveyor-General in terms of s7(2)(c) and s49(3)(d) of the Act.

Accuracy of non-primary parcel boundaries

1. As a general concept, the proposal has merit. However, two notes of caution will need to be addressed, namely that any cadastral survey network mark or old survey reference marks tied to will have to be proven to be reliable, and that subsequent redefinition of coincident boundaries may cause the easements dimensions to be altered to avoid gaps to, or overlaps with, adjoining parcel.

Unique Identifiers for Boundary Points

1. This is not a contentious issue. However, there is little point in allocating a unique reference to a boundary point unless this is available on the diagram of survey or diagram of parcels as appropriate, rather than having to search Landonline for the unique reference.
2. In addition, unmarked boundary points should not have a mark type description in Landonline, after all, there is no mark.

Date of Survey

1. This issue can be more simply rectified by requiring the lodgement of a dated observation record, or, removing the existing automatic field population from the import data function of Landonline, such that cadastral surveyors are required to enter appropriate dates.