



Institute of Cadastral Surveying (Inc)

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SUBMISSION::

Utility Location Standard 2020

Date:: 27 November 2020

To: utilitylocation@linz.govt.nz

This submission is on behalf of the *Institute of Cadastral Surveying* (ICS).

The ICS is an organisation whose membership is primarily engaged in cadastral surveying. Some of our members also undertake data capture projects of utility (and other) assets, so we are able to contribute to this topic with some knowledge, experience and understanding from a user perspective.

This response represents the views of ICS members who responded to our request for feedback so we could compile a collective response. The feedback is based on the experience and wisdom of our members whom are passionate about maintaining the integrity and value of the NZ survey system, and therefore any ancillary databases or digital information that may be linked with – or relate to – that survey system.

Our feedback is tabulated below and references the proposed Standard's section number; item for comment; followed by a narrative being our feedback or opinion. Comments relating to the overall document - and not any specific sections - are listed as "General"; and other comments not specific to the document are noted as "Other".

Thank you for the opportunity to provide feedback on the proposed Standard.

Questions and clarifications related to this feedback can be requested in the first instance via the ICS Secretary (Brent George) – sec@ics.org.nz

Utility Location Standard 2020 v1.0 Draft for consultation:

Section	Item	Comment
General	Why would LINZ seek to lead a utility location standard?	<p>Initially some of our members questioned why LINZ would consider that they have a mandate to prepare and lead the development of a Utility Location Standard.</p> <p>We understand that LINZ's responsibilities include managing the geodetic and cadastral survey systems and topographic and hydrographic information (et al), and that LINZ set standards for the accuracy and integrity of that information.</p> <p>We also understand the link that digital utility information can and does have with other GIS databases – including land information systems.</p> <p>LINZ may indeed be in a prime position (excuse the pun) to lead such a project (the development of a standard), however we would like affirmation that LINZ are well supported by local authorities and utility asset manager leaders etc in the standard's development.</p>
General	Funding for the standard development	<p>(This may not directly be within the scope of the feedback request).</p> <p>In the interests of ensuring that LINZ Clients funds are being well managed (noting that the current cadastral survey and title registration fees contribute significantly to the funding of the Department) – the ICS would like some reassurance that the revenue from survey and title fees and charges is <u>not</u> being used to fund the development of this standard. (As utility information does not assist the cadastral survey system in any way).</p>
References	NZTM2000 and NZVD2016 can be readily transformed...	<p>It may be useful to also note that other projections, datums, and height systems can (generally) be transformed to other reference systems – including NZMG and local height datums (eg: Lyttelton 1937).</p> <p>This would be of particular relevance (and reassurance) to asset managers who have historical records in terms of NZMG etc if they did not know this already.</p>
2 Purpose of Standard	Paragraph 2: Not expected to be applied to existing records...but used during maintenance or fault repair	<p>This comment implies – or may result in – a disparity in the quality of values captured for the same group of assets. ie: an existing asset item that may have been positioned previously with a certain accuracy; then part of that asset (eg: a manhole and entry/exiting pipework) is upgraded and positioned using the published standard accuracies, may result in components of that whole asset location record are not in the same accuracy terms.</p> <p>Such a situation could flagged by way of an additional attribute item (= capture date or class) attached to each feature – including historical positions.</p>
2 Purpose of Standard	Paragraph 7: Invert levels	<p>It would be desirous to have an industry standard as to the nature and exact position of the point where an invert is taken – particularly in a mutli-piped manhole chamber (pipe in; pipe out; central chamber etc).</p> <p>(This standard may not be the appropriate vehicle to record such a topic, but it may be useful to plant a suggestion).</p>

2.1 Target audience and users	Paragraph 3: Use of standard is not mandatory	We understand that making the standard mandatory will be difficult. However, if a standard can be championed by organisations that require utility information to be captured (by their own staff or contractors), and so become universally adopted and endorsed, then that should go a long way to making the standard become normalised. One way to promote the use of the standard (when published) would be to list the various local authorities and asset companies etc that subscribe to and endorse the standard. This list can be reported and updated on the LINZ website where the Standard is published/maintained.
4.1 3D Coordinates	Vertical position (Z)	There may be some assets and asset capture that do not require or have the vertical Z dimension, or that dimension is unknown – especially for historical positions. Therefore a <null> value needs to be accommodated.
4.3 Horizontal Accuracy Standards	tolerances	The tolerances are stated as 0.10m and 0.30m relative to the nearby survey control network. It may be useful to clarify that these values are not $\pm 0.10m$, and therefore are “absolute” values. (Or similarly explain the difference between “0.10m” and “ $\pm 0.10m$ ” etc)
4.3 Horizontal Accuracy Standards 4.4 Vertical Accuracy Standards	Relative to the nearby survey control network	In line with the above – define the term “relative”.
4.5 Application of Accuracy Classes	Third box: Defining the extents of assets...	<i>The specification of such points... need to be specified by the asset manager.</i> Totally agree. This acknowledges that each asset manager/company will have their own industry/company/asset feature code and asset name libraries.
4.5 Application of Accuracy Classes	Fifth box: Meeting the accuracy requirements	<i>“...two nearby control marks.”</i> May need some guidance or explanation of what is considered “nearby”.
5 Data for the Location	First box: Date of survey	Not critical – but we suggest a standard date format is used. eg: yyyyymmdd
5 Data for the Location	First box: Additional record?	Suggest that an additional data record is added – Method of Survey. This could include: <ul style="list-style-type: none"> • GNSS • GNSS/Precise Levelling • Optical Survey Instrument (Total Station) • Precise levelling • Standard levelling • Laser levelling • LiDAR

		<ul style="list-style-type: none"> • Photogrammetric • Other
Other	Cadastral Survey Mark protection	<p>A 'before you dig' submission includes a request to LINZ for survey mark location/information. Any survey mark that is considered important to protect is flagged to the submitter with instructions for offsetting or protection etc. rarely is there any follow-up after works completion regarding the outcome of important marks that are flagged for protection.</p> <p>If cadastral survey marks were to be considered at the same level as a 'utility', then their protection level would likely be raised. The cadastral survey network has the best 'as-built' regime of any service, and there needs to be greater respect for survey mark protection.</p>