

Transitioning from paper to digital survey plans

Discussion Paper
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Discussion paper – Transitioning from paper to digital survey plans

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Minister's foreword

For over 200 years, surveyors have been mapping and measuring land to prepare plans that define the extent of property rights and underpin consumer confidence in the NSW property sector.

The modern surveyor is blessed with sophisticated digital measurement technology that is a far cry from the Gunter's chains and circumferentors used by their predecessors. Today, robotic total stations, Global Navigation Satellite Systems, laser scanners and drones are just some of the cutting-edge measurement technology surveyors use to conduct their investigations in the field and locate property boundaries.



But when it comes to documenting this information in survey plans that are then registered as the source of truth for defining every property boundary in NSW, we are still stuck in a world of paper and manual processes. These manual processes have resulted in unnecessary errors on plans and delays in registration.

At worst, it could mean your property boundary is not accurately recorded in the land titles registry. While processes exist to amend such errors, these cost industry time and money, and create unnecessary stress for landowners. This paper proposes ways to overcome these shortcomings to transition to a fully digital plan registration process.

This Government is committed to harnessing opportunities for data, digital and technology to improve the lives of residents. NSW is leading the way in digital reforms, especially in the property sector. Already, we have transitioned to a digital conveyancing process, with the final phases of eConveyancing reforms now underway. Other initiatives, like ePlanning, ensure a streamlined, online one-stop shop for a range of digital planning services, mapping tools and reporting tools to assist everyone involved in a proposed development.

The transition from paper to digital survey plans is the last key component in realising a fully digital titling system for NSW. As was the case for eConveyancing, this will be a significant change for industry. Digital plans will form part of the NSW digital property pipeline, making the delivery of new homes more efficient, secure, transparent and customer friendly.

As the inaugural Minister for Digital and Minister for Customer Service, I am pleased to release this discussion paper, to initiate further consultation with industry for a fully digital survey plan process that meets the evolving needs of all those who interact with the system.

I encourage you to engage with this consultation process and raise any issues important to you to ensure the reform is a success.

A handwritten signature in black ink, appearing to read 'Victor Dominello'.

The Hon. Victor Dominello MP
Minister for Digital, Minister for Customer Service

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1. Introduction

NSW is moving towards a fully digital land title system as part of a broader and significant transformation for the delivery of government services. With the final stages of the eConveyancing reforms now underway, the transition from paper to digital survey plans is the next step in creating a modern and efficient digital system that meets the evolving needs of the community, while strengthening the integrity of the cadastre.

Survey plans encompass deposited plans and strata plans prepared by registered surveyors, key components of the process to deliver new homes and workplaces to the people of NSW. They provide the link between the planning and titling systems, formally progressing approved developments through to creation of new official land titles guaranteed by the State under the Torrens Assurance Fund. They contain comprehensive survey information to define the location of property boundaries, which is also used by subsequent surveyors to redefine and reinstate boundaries, ensuring accurate cadastral records.

The transition to digital plans presents a range of opportunities to enhance the user experience in the planning, development and conveyancing process for industry and the public. The existing paper-based plan system is complex, involving lengthy manual processes, exposing the system to inaccuracy and delays. A digital system will streamline many of these inefficiencies, reduce the scope for error, and will allow for greater visibility in the status of plans between creation and registration, ultimately allowing people to settle on and move into their new homes sooner.

The Government recognises that the existing system involves processes that have been in place for over 200 years. The move to digital survey plans represents a significant change for industry and the community. While digital innovation will foster positive outcomes for those who interact with the land title system, any change must ensure the integrity of the cadastre and titling system in NSW is protected at all times.

Stakeholder and community participation is critical to the success of this reform. This discussion paper is intended to promote a meaningful discussion about achieving the long-term benefits of the reform, identifying areas of immediate focus, and designing and implementing changes, with appropriate transitional periods.

2. Drivers for change

2.1. A digital property pipeline for NSW

The construction sector, the largest sector by GDP and largest employer in NSW, depends on an efficient property pipeline to keep businesses profitable and meet the needs of a growing population.

Over 11,000 deposited and strata plans were registered in the last 12 months. These plans created over 50,000 new land parcels and strata lots that contain the homes and workplaces for many in the NSW community.

Together with eConveyancing reforms¹, the transition to digital survey plans is a core component in establishing a fully digital land title system. Alongside initiatives like ePlanning² and Construct NSW³, these changes will support property creation and establish the platform for NSW to realise a world class digital property pipeline.

2.2. Alignment with digital property initiatives

The digital survey plan reform aligns with other technology investments already underway, and presents an opportunity for further integration to improve customer outcomes:

- **NSW LRS Connect** - NSW Land Registry Services (NSW LRS), which operates the land title registry on behalf of the Government, has recently launched NSW LRS Connect. This is a new online portal to replace the ePlan service more recently used by surveyors to lodge plans for registration. NSW LRS Connect forms part of a broader investment by NSW LRS to replace legacy IT systems that support the land titling system in NSW. This portal introduces a new digital plan workspace and an online form builder for various plan forms, with existing services and new functionality being progressively released over the next two years. NSW LRS Connect is an integral part of the digital survey plan reform.
- **NSW Planning Portal** - This is a digital space where community, industry and government can work together to better understand and meet their obligations under the *Environmental Planning and Assessment Act 1979*. Through the NSW Planning Portal, development and other applications can be made to relevant authorities, irrespective of where in NSW the proposed development site is located. Of particular relevance to digital survey plans are subdivision and strata certificate applications, which are often required before a plan can be lodged for registration. All councils have been required to use this portal since 1 July 2021⁴.

1 <https://www.registrargeneral.nsw.gov.au/property-and-conveyancing/eConveyancing>

2 <https://www.planningportal.nsw.gov.au/eplanning-program>

3 <https://www.nsw.gov.au/nsw-building-commissioner/construct-nsw>

4 More information on the implementation of the NSW Planning Portal is available at <https://www.planningportal.nsw.gov.au/eplanning-mandate>

- **Cadastre NSW** - The NSW Department of Customer Services' Spatial Services unit (DCS Spatial Services) is enhancing its property data services to better meet the needs of stakeholders and contribute to the delivery of the State's Spatial Digital Twin⁵. Cadastre NSW provides 'cadastre as a service', improving the timeliness and completeness of property data provided to stakeholders. This includes the creation of a 'proposed layer' which previews upcoming changes to property boundaries for development work currently progressing through the subdivision process as well as the capture of 3D strata developments.

2.3. Improved customer outcomes

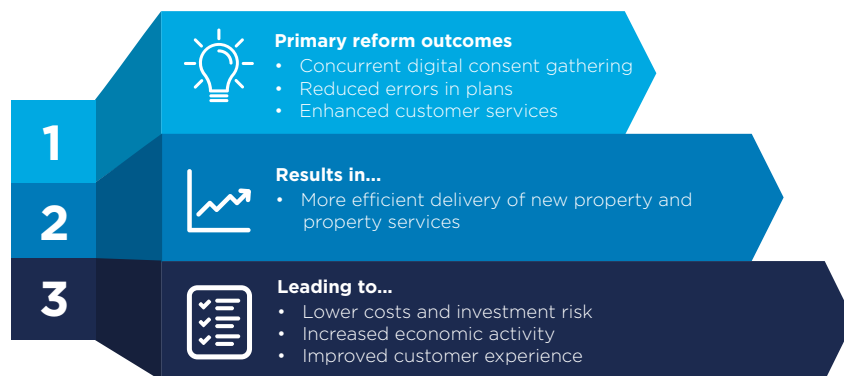
The NSW Government is committed to improving customer experience and delivering greater efficiency and transparency in government services. In line with these commitments, the move to digital survey plans is intended to improve titling services for surveyors, industry stakeholders and the broader community, through greater timeliness, value and integrity across the titling system.

Key delivery outcomes of the digital survey plan reforms include:

- fewer errors leading to requisitions, by enabling documents to be prepopulated with validated plan data, and reducing the need for manual data entry
- a faster consent-gathering process utilising electronic signatures and concurrent approvals
- a more efficient and accurate digital plan examination process that allows future users to more easily access plan information in a form that suits their needs

These outcomes and the enhancements to customer services they provide all contribute to reducing the timeframe between final survey and plan registration. This will ultimately result in financial benefits for industry and the community through lower holding costs for property development.

The benefits of transitioning to digital survey plans have been tested through a series of projects and interim measures that have been developed since July 2019, and which are set out in more detail in Appendix 1.



Intended customer outcomes from the transition from paper to digital survey plans

⁵ The Spatial Digital Twin is creating a digital real-world model of our cities and communities which will facilitate better planning, design and modelling for NSW's future needs. Further details on the Spatial Digital Twin are available at https://www.spatial.nsw.gov.au/what_we_do/projects/digital_twin

3. Digital survey plans in practice

Surveyors already utilise advanced technology to capture and analyse large amounts of data to deliver services to their clients. Most of these services involve providing digital data directly to the client via a Computer Aided Drafting (CAD) file, point cloud, or 3D model. However, while digital is the native language for most surveying products and services, manual paper processes still dominate the lodgment and registration phase of survey plans.

Currently, survey data needs to be exported as a plan image in PDF format when lodged with the land registry. Surveyors and others who subsequently use this information must manually interpret or digitise the data again to support their investigation and decision-making. This reform proposes to remove these inefficiencies and improve productivity by ensuring greater access for industry to intelligent data in an end-to-end digital process.

3.1. A future state scenario

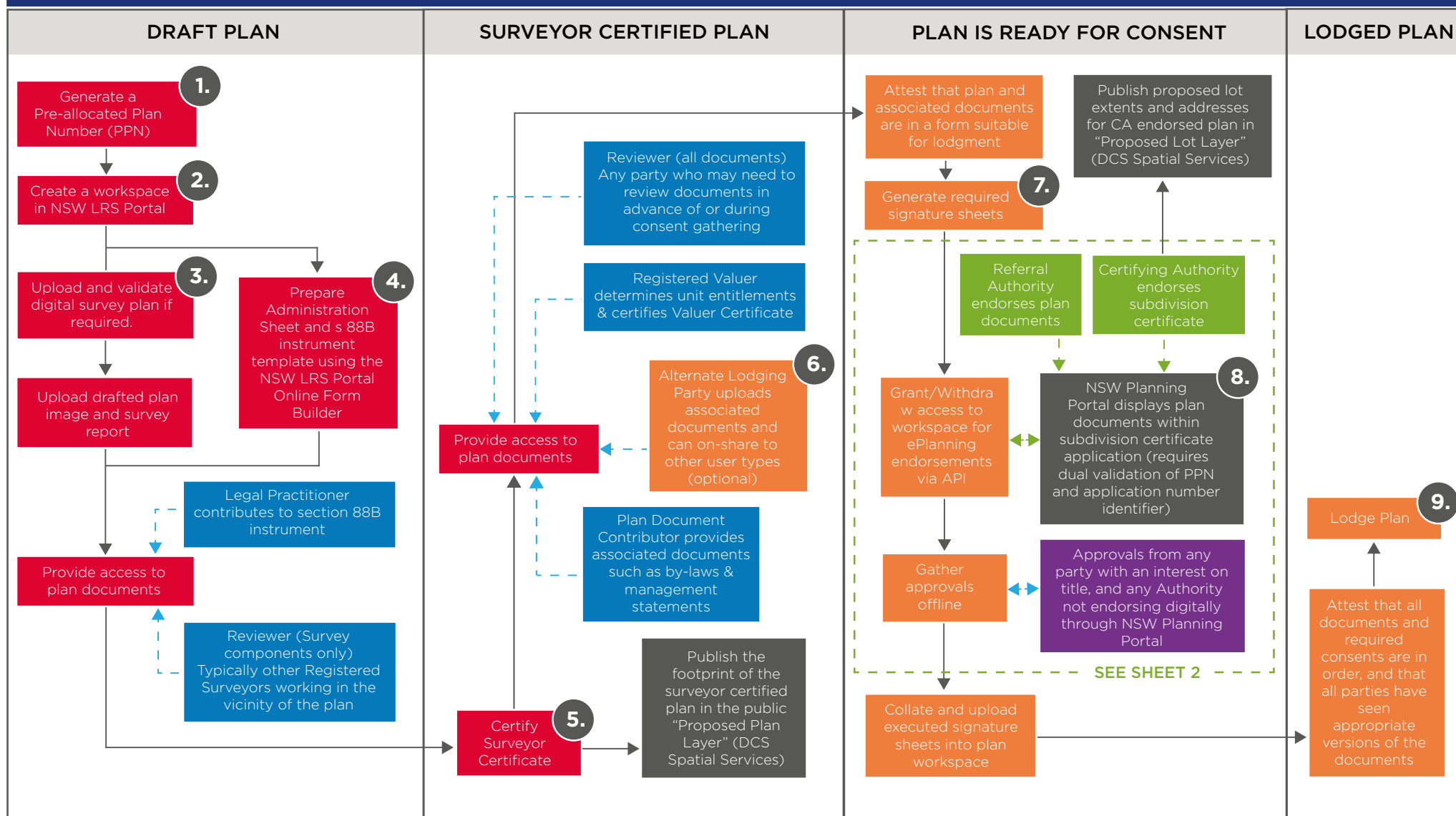
A future state scenario has been constructed to highlight how established processes will change under this reform, and to identify areas where stakeholder and community feedback is needed. This is set out more fully in the diagrams on the following two pages. While many aspects of this scenario are likely to form part of the final solution, the process will evolve in response to consultation feedback. Transitional arrangements and timeframes will also be determined in consultation with industry to support a staged implementation.

The process diagram has been separated into two parts. **Sheet 1** describes the three key states for plans in the leadup to lodgment, being 'draft', 'surveyor certified' and 'ready for consents'. Various stakeholder groups and plan users are shown in different colours in the legend. Numbered black circles are expanded in **Table 1**, which identifies various mandates, restrictions and substantial changes to current practice that could be introduced to support this reform.

Sheet 2 of the process diagram describes the consent gathering process in more detail, showing how the various parties might execute signature sheets using wet or electronic signatures. An alternate process is included to demonstrate how certifying authorities could execute the subdivision certificate with a digital signature through the NSW Planning Portal. This approach could be expanded for other referral authorities endorsing the plan through the NSW Planning Portal and would likely be consistent with a method adopted for other approvals within that Portal. The solution would need to sufficiently manage related issues like verification of identity and security.

Consent gathering and signature options are discussed in more detail in Part 4.4 of this paper.

Future-State Scenario (Sheet 1): Plan Preparation and Consent Process



See further details

Registered Surveyor

Registered Surveyor/Lodging Party

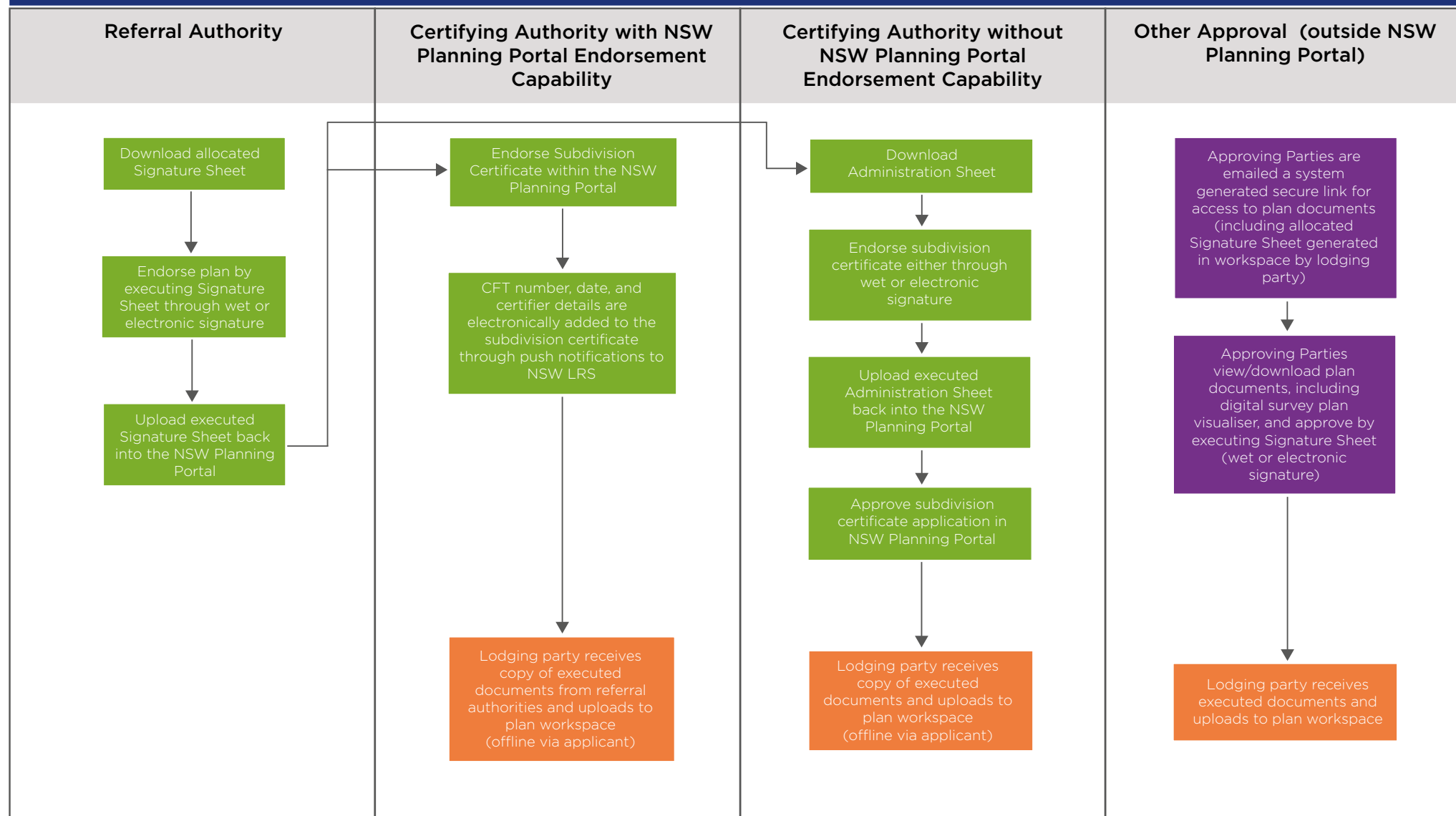
Other contributors/reviewers

NSW Planning Portal Users

Approving party

NSW Government

Future-State Scenario (Sheet 2): Breakdown of Consent Gathering Processes



Registered Surveyor/Lodging Party

NSW Planning Portal Users

Approving party

3.2. Potential mandates and restrictions

To support the future state scenario outlined in the process diagram in Part 3.1, several potential mandates and restrictions have been identified. These are summarised in Table 1 below and explored in more detail in the discussion of the reform at Part 4. Note that the sequence of potential mandates and restrictions in Table 1 is not intended to reflect any dependencies between items or the order of implementation.

The Government is seeking feedback on the anticipated impact of these proposals as well as reasonable implementation timeframes and transitional periods.

Reference number (see Process Diagram Sheet 1 in Part 3.1)	Type	Description	Benefit
1	Pre-requisite	A pre-allocated plan number (PPN) is required in order to create a plan workspace, unless the plan is a subsequent community plan. Creation of PPNs will continue to be limited to registered surveyors – see Part 4.2.2 below	Improved industry coordination of ‘in process’ survey activity, reducing the risk of disputes and resultant costs and delays
2	Existing Restriction	Only registered surveyors can create a plan workspace – see Part 4.2.1 below. ⁶ This does not preclude an alternate party from lodging the plan – see Part 4.4.1 below.	Establishes a single point of truth for plan documents while enforcing existing regulatory requirements for who can prepare a survey plan.
3	Mandate	Digital survey plans will be progressively mandated based on plan type or other plan characteristics. Where a digital survey plan is required, it must pass validation checks prior to a plan image being uploaded to the plan workspace – see Part 4.2.3 below	Enforces the underlying ‘data first, then drafting’ principle of the reform to improve the quality of survey plans.
4	Mandate	All administration sheet and section 88B instrument templates must be generated within the plan workspace using NSW LRS Connect form builder – see Part 4.3.1 below	Establishes a single point of truth for plan documents, which are pre-populated with data to improve quality and eliminate a common source of requisitions.

⁶ Some exemptions are anticipated for specific plan types such as crown road enclosures.

5	Mandate	Registered surveyors must certify survey certificate online. At this point the survey components of the plan, being the digital survey plan, drafted plan image, administration sheet (except unit entitlements) and section 88B instrument, must be finalised– see Part 4.3.3 below	Establishes a single point of truth for surveyor certified plan and associated documents to underpin more efficient consent gathering
6	Restriction	Only registered surveyors or legal practitioners may act as an alternate lodging party– see Part 4.4.1 below ⁷ . This does not preclude surveying companies or Government agencies from lodging plans on behalf of surveyors associated with that company, in line with current ePlan processes.	Ensures legal responsibilities assumed by lodging parties are appropriate and understood
7	Note	Signature sheets have the effect of endorsing all relevant plan documents (i.e. one signature per consenting party). Signature sheets display an identifier and schedule of plan documents that links the consent to a specific version of a plan workspace– see Part 4.4.1 below	Reduces duplicate executions across what can be multiple pages on multiple documents
8	Mandate	All subdivision and strata certificate applications made through the NSW Planning Portal must access plan and associated documents directly from NSW LRS plan workspace (i.e. no upload of copies). Note the NSW Planning Portal subdivision certificate application process includes strata certificate applications. – see Part 4.4.4 below	Enforces utilisation of single point of truth for surveyor certified plan and associated documents to underpin more efficient consent gathering.
9	Mandate	All plans must be lodged online via the NSW LRS Connect. It will no longer be possible to lodge plans in paper over the counter. – see Part 4.4.1 below	Enforces utilisation of single point of truth for surveyor certified plan and associated documents to underpin a more efficient examination and registration process.

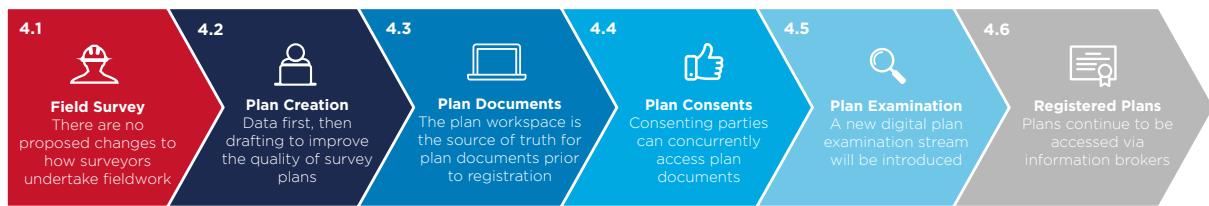
Table 1: Notes, proposed mandates and restrictions for the future state scenario

⁷ Some exemptions are anticipated for specific plan types such as crown road enclosures.

Questions for discussion:

1. What impact do you expect the potential mandates and restrictions will have on current practices? What supporting arrangements would help industry to adopt these changes? Please explain your answer
2. How long do you think surveyors and other parties would reasonably require to transition to each of these potential mandates and restrictions?

4. Discussion of the proposed reform



Key phases of the survey plan lifecycle, as affected by the proposed reform

4.1. Field survey

There are no proposed changes to how surveyors undertake fieldwork or the methodology for boundary definition (monuments over measurements), other than an expected increase in access to and use of digital data to support their investigations.

4.2. Plan creation

4.2.1. Online plan workspace

Preliminary stakeholder feedback has identified the need for a single point of truth for surveyor-certified plans, to improve information management practices through the creation and consent gathering phases of the plan. To this end, it is proposed that surveyors will create an online workspace for each plan, using NSW LRS Connect, that can be progressively updated alongside their field work and calculations.

Administration sheets, section 88B instruments and signature sheets will be generated with pre-populated data and identifying information (like a unique workspace code or timestamp) to ensure version control. Surveyors will be able to share plan documents from the workspace with relevant parties and will retain visibility over the status of the plan even if another party is ultimately assigned the responsibility for lodging the plan. Alternate lodging parties are discussed in Part 4.4.1 below.

4.2.2. Pre-allocated plan number (PPN)

The future state scenario described in Part 3.1 proposes that PPNs will be a pre-requisite for creating a plan workspace, except for subsequent community plans where the plan number already exists. PPNs are unique identifiers currently issued on request to surveyors for proposed land developments before plans are ready for lodgment. In the proposed reform, surveyors will need to generate a PPN when initiating a plan workspace, reserving the identifier that will be attributed to the deposited or strata plan once registered. Associated plan documents generated through the workspace will be pre-populated using the PPN, reducing the scope for manual data entry error.

For many surveyors, the requirement to have a PPN is not likely to be a significant adjustment, noting that Sydney Water already requires surveyors working in that authority's area to obtain a PPN. This ensures advanced notice of proposed subdivisions that will require the provision of water utilities. PPNs also provide advance notice of future lot identifiers that are commonly inserted into off-the-plan contracts prior to plan registration which helps purchasers better understand the scope of land involved. There is no cost associated with the creation of a PPN or creating a plan workspace.

A PPN will be required for all plans, although in practice the amount of time between the PPN creation and plan lodgment could vary from days to years based on the plan purpose, and other factors. Requiring PPNs to be created for all plans is intended to improve coordination across the surveying industry where multiple land surveys are being conducted in the same area. This will help reduce instances where boundaries shown in plans lodged for registration do not align with those shown in other lodged and/or registered plans, avoiding unnecessary dispute.

4.2.3. Data first, then drafting

An underlying principle of the reform is 'data first, then drafting'. In practice, this means that plan data will be checked as early as possible in the process instead of immediately before or after lodgment. This change will lead to fewer errors on plans, lower requisition rates and reduce delays associated with plan revisions.

Once a surveyor has finalised survey calculations, they will need to upload⁸ and validate⁹ their digital survey plan within NSW LRS Connect. The online validation will operate similarly to the validation service currently provided to surveyors through ePlan, but is expected to run a greater number of compliance checks with clearer error and warning messages.

The digital survey plan will include information currently shown on deposited and strata plans. Unlike drafted survey plan images, the information will be to scale, and not manipulated to fit within a plan form. The information in a digital survey plan must include:

- lot dimensions (bearings, distances, area)
- nature of boundary (right line or description of physical feature)
- measured location of occupations and structures within 1m of or relevant to any subject boundary
- boundary marks, reference marks and any other features used for boundary definition, along with associated connections
- survey control marks and associated connections
- new and existing easements and other secondary interests
- notations that further define a lot (e.g. stratum statements in strata plans)
- adjoining linework and textual information like neighbouring parcel identifiers, road names and watercourse names

Once the digital survey plan has been successfully validated, surveyors may export their data ready for drafting in either CAD or LandXML formats. Data exported in CAD format will include pre-populated textual annotations, symbols and line styles. This will reduce

⁸ Surveyors will have the option of uploading data in LandXML format or an alternative common industry format such as Computer Aided Drafting (CAD) formats. If CAD formats are used, the surveyor will need to utilise a data translator within the NSW LRS Connect to finalise their dataset prior to validation.

⁹ The validation of survey plan data involves checking compliance with a number of regulatory requirements. For example there are checks to confirm adequate connection to and placement of survey marks as well as determining whether mathematical loop and area calculations are within tolerance.

the effort required to prepare surveyor drafted plans and minimise instances of manual data entry errors, a common source of requisitions. Surveyors will continue to finalise the presentation of their drafted deposited and strata plan images using offline software packages that best meet their overall needs.

4.2.4. Visualisation of digital survey plans

Digital survey plans will be accessible in three forms, depending on the needs of a user:

Form of digital survey plan	Typical user	Purpose
Download digital survey plan in CAD or LandXML formats	Registered surveyors, NSW LRS and Government agencies	Import digital survey plan into software for drafting (pre-registration), plan examination, survey calculations or to update land administration databases
Online digital survey plan visualiser (samples made available with this discussion paper) that allows users to navigate (zoom in and out or pan around) plan information and overlay with other datasets (eg aerial imagery)	Contributing, reviewing and consenting parties (see Parts 4.3.2 and 4.4.3)	Inspect plan information to support drafting of associated plan documents as well as review and assessment of the digital survey plan
Static lot diagram image (samples included in Appendix 2) rendered from the digital survey plan at plan registration (see Part 4.6 including 4.6.3 for further details)	General users (eg contract for the sale of land)	User-friendly view of digital survey plan area of interest for general applications.

Table 2: Proposed visualisation options

In all cases, digital survey plans are accompanied by a surveyor drafted plan image. See the 'Plan Examination' in Part 4.5 and 'Registered Plans' in Part 4.6 for further details, including what is considered the legal point of truth for registered plan information.

4.3. Plan documents

4.3.1. Digital form builder – administration sheets and section 88B instruments

Surveyors currently generate plan forms and associated documents in various ways, including using Word templates, PDF forms or CAD drawings to prepare administration sheets and section 88B instruments in consultation with other contributing parties. All approaches presently involve significant and time-consuming manual data entry, and information is often duplicated across multiple documents.

To facilitate faster document creation and reduce the potential for requisitions due to data entry errors, the digital survey plan reform proposes that administration sheets and section 88B instrument templates must be generated directly from the online plan workspace. NSW LRS Connect currently provides an online form builder for this purpose. Other associated documents may be included in future releases.

Generating templates for administration sheets and section 88B instruments directly from the plan workspace means that these can be prepopulated with data held in the plan workspace and digital survey plan where possible. Surveyors will then be able to share these templates with contributing parties, like lawyers who will draft the terms of the section 88B instrument. This could be achieved offline or electronically, and ultimately contributing parties may be able to provide content directly into the workspace.

4.3.2. Contributing and reviewing parties

While a surveyor will initiate a plan workspace, there are other parties who are involved in preparing the survey plan and associated documents, by either contributing to or reviewing the documents before they can be lodged for registration.

The process diagram for the future state scenario (see Part 3.1) identifies five different types of contributing or reviewing parties who could interact with the plan workspace online or offline, depending on their role in the process and level of access to NSW LRS Connect. These include valuers who prepare and certify schedules of unit entitlements, and lawyers who prepare the legal documents, drafting the terms of section 88B instruments, by-laws and management statements. Reviewing parties might include other surveyors working in the vicinity of the plan, or any contributing or consenting party who is interacting offline.

Allowing contributing and reviewing parties to collaborate online in the workspace will streamline processes and allow for greater transparency and accountability. However, these expected benefits will need to be balanced against the likely complexity of system development, access arrangements and willingness of those parties to change existing practices (see Table 3).

If users are able to access NSW LRS Connect directly, plan documents could be reviewed within the plan workspace. Where reviewing parties are interacting offline, it will be necessary for the digital survey plan visualisation, to be presented to or accessible by contributing and reviewing parties.

Contributing or reviewing party	Primary task	Potential offline approach	Potential online approach
Reviewer (survey components only)	Review plan documents	Registered surveyor exports plan documents in PDF format and shares with reviewer offline.	Reviewer accesses plan documents, including a visualisation of the digital survey plan via a secure URL.
Reviewer (all documents)	Review plan documents	Surveyor or alternate lodging party exports plan documents in PDF format and shares with reviewer offline.	Reviewer accesses plan documents, including a visualisation of the digital survey plan, if one exists, via a secure URL.
Legal practitioner	Contribute to section 88B instrument	The section 88B instrument template, along with other plan documents, is shared in PDF format for offline completion by legal practitioner. The completed section 88B instrument is uploaded into the plan workspace by the registered surveyor.	The plan workspace is shared with a legal practitioner via NSW LRS Connect. They have access rights to edit the section 88B instrument using online form builder.
Qualified valuer	Provide unit entitlements and certify valuer's certificate	The registered surveyor populates the unit entitlements as directed by the qualified valuer. The completed administration sheet, along with other plan documents, is shared in PDF format for offline review and certification (via wet or electronic signature) by qualified valuer. The certified administration sheet is uploaded into the plan workspace by the surveyor or alternate lodging party.	The plan workspace is shared with a qualified valuer via NSW LRS Connect. They have access rights to enter in or upload unit entitlements (e.g. in a standard comma delimited format) and complete valuer's certificate online.
Other plan contributor	Provide additional plan documents such as by-laws and management statement	The plan documents are shared in PDF format for offline review. The other plan contributor prepares additional documents and provides them to surveyor or alternate lodging party to upload into the plan workspace.	The plan workspace is shared with the other plan contributor via NSW LRS Connect. They have access rights to upload or replace additional plan documents (other than survey component documents).

Table 3 – Potential online and offline options for contributing and reviewing parties

4.3.3. Secure online endorsement by registered surveyors

Once the survey component documents are complete, being the digital survey plan, surveyor drafted plan image, survey report, administration sheet and section 88B instrument, the surveyor may endorse the survey certificate. This reform proposes that surveyors will only be able to endorse the survey certificate on an administration sheet online, through NSW LRS Connect.

NSW LRS Connect may include security measures that require the surveyor to re-authenticate at the point of certification. As part of the certification process, their registration status would be confirmed in real-time with the Board of Surveying and Spatial Information (BOSSI). They would also need to declare that the plan, and their survey, meets regulatory requirements and is suitable for lodgment in line with existing processes.

Questions for discussion – Plan documents

3. Table 3 above identifies possible approaches for offline and online access (directly via the plan workspace) to plan documents by plan reviewers and contributors. How do you think each reviewing and contributing party should access or contribute to plan documents, and do you have any suggestions to improve the online proposal?
4. If contributing parties were able to access the plan workspace directly and input their contribution (like providing terms for a section 88B instrument), should that party be required to make any certification about their content? What would this certification look like?
5. Do you have concerns about verification of identity for contributing parties (like qualified valuers) in an online process? How could surveyors and alternate lodging parties ensure that contributors have been appropriately verified in an online environment?
6. In your experience, what impact will the requirement for administration sheets and section 88B instrument templates to be generated from the NSW LRS Connect workspace have on current practices?

4.4. Plan consents

Consent-gathering involves sourcing all approvals necessary to register a plan, like those of the registered proprietor, mortgagee, lessee or certifying authority. Required approvals vary, depending on the location of the plan and its purpose, and the parties who have an interest in the affected titles. Relevant legislation that determines consent requirements for plans are summarised in the Legislative Framework table in Appendix 3).

Traditionally, consent gathering has been complex and time-consuming, with multiple parties often needing to sign the same physical document using wet-ink signatures in a lengthy linear process¹⁰. Moving consents online and providing a framework for them to be gathered concurrently is a crucial component of this reform.

Reducing the consent-gathering timeframe will mean that purchasers of new properties will be able to settle sooner and at a reduced cost, primarily from reduced interest payments and other holding costs during the post-construction phase. For greenfield developments involving the sale of vacant land parcels, plan registration is a significant milestone as it must occur before approvals can be given for building construction.

4.4.1. Alternate lodging party

About 90% of survey plans are currently lodged online via ePlan by a surveyor. The remaining 10% of plans are lodged in paper over the counter at NSW LRS. Since 2015, the legal sector has lodged significantly more plans in paper than any other industry group¹¹. Analysis of recent plan lodgments indicate that paper lodgments are often incomplete¹² and take longer to register than ePlan lodgments¹³.

It is expected that the vast majority of plans will continue to be lodged by surveyors. However, the system will need to be sufficiently flexible to allow surveyors to hand off to an alternate lodging party, once the survey certificate has been certified, to complete the lodgment process through NSW LRS Connect. However, noting the difficulties associated with manual lodgments discussed above, it is proposed that all plans must be lodged online and that lodging parties for plans be limited to particular professional groups, like registered surveyors and legal practitioners.

If responsibility for lodgment is handed to an alternative lodging party, the surveyor who initiated the plan workspace will still have access to the plan via LRS Connect. This will

¹⁰ Analysis has shown consent gathering for deposited plans takes roughly 5 months (from the time a surveyor signs the survey certificate to plan registration), and the timeframe for strata plans is around three months. While these do not necessarily reflect the precise time between physical completion of subdivision or building works and registration, they provide a reasonable gauge for monitoring improvements in the future.

¹¹ Based on available data for over 15,000 paper lodgments since 2015, 36% were lodged by a lodgment agent, followed by law firms directly (12%), developers/builders (10%), Government (4%) and surveyors (2%). 33% of paper lodgments could not be categorised although a large proportion of those are expected to be the registered proprietors at the time.

¹² Approximately 50% of attempted paper lodgments are rejected due to issues like missing documents or missing signatures (note ePlan lodgments are never rejected and similar issues would result in a lodging party requisition)

¹³ On average, paper lodgments take between one and two weeks longer to reach registration, suggesting that they are more likely to be requisitioned and it takes longer for those requisitions to be satisfied.

ensure the original surveyor does not lose sight of the plan during the registration process and can be directly advised of any survey requisitions. The alternate lodging party's access to the plan workspace will be limited, so that survey components cannot be affected without the original surveyor's involvement.

4.4.2. Lodging party online attestations

Once the plan and associated documents are finalised, the surveyor or alternate lodging party must attest that the plan package is complete and ready for consent gathering. This may include non-survey component documents that have been uploaded to the workspace after the surveyor has certified the survey certificate, like by-laws and management statements. Note that these documents may also be loaded into the workspace prior to the surveyor certifying the survey certificate.

4.4.3. Concurrent consent gathering

Once the surveyor has certified the plan documents and the surveyor or alternate lodging party has also attested that the plan and associated documents are in a form suitable for lodgment, consent gathering can commence. To this end, the surveyor or alternate lodging party could electronically share the plan from the workspace with consenting parties, or provide manual copies of documents offline, in a similar manner as described for contributing parties at Table 3 above.

The surveyor or alternate lodging party must ensure all relevant plan documents have been made available to each consenting party, including the digital survey plan visualisation, and must attest that this has occurred at the point of lodgment. A unique version code will be embedded in each plan document presented to the user, capturing the version of a plan workspace that has been reviewed and approved.

4.4.4. Signature sheets and electronic signing options

How parties provide consent currently varies depending on their role in the plan process. Some parties are required to endorse the plan, administration sheet and section 88B instruments, while others provide a consent under separate document or letter. Some parties need to consent to several aspects of the plan, or in more than one capacity. In some cases, signatures need to be witnessed.

The reform proposes that a single signature sheet for each consenting party will be issued from the workspace. Signature sheets are generated by the surveyor or alternate lodging party and will be embedded with the unique code identifying the version of the plan workspace being endorsed. The signature sheet will include a schedule of the documents being consented to, and where appropriate the nature of that consent (such as where specific certifications are required). For the most part, this will obviate the need for parties to sign multiple times on multiple instruments, streamlining the consenting process. There may still be instances where a consenting party will need to provide their consent in more than one capacity and in these circumstances more than one signature sheet may be required (for example where a Local Council is both endorsing a subdivision certificate and consenting as an interest holder).

Depending on user preference, consenting parties will be able to sign electronically or via wet-ink signatures. The following options could be utilised:

- Scanning wet-ink signatures and providing these to the surveyor or alternate lodging party for uploading into the workspace. Consideration will need to be given to who must retain the original instrument, and for how long.
- Consents may be digitally signed and provided to the surveyor or alternate lodging party to upload directly into the workspace. In this case, it is likely that the digital file will be considered the 'original', with no paper retention requirement.
- Online declaration as an alternative to endorsing a physical certificate with a signature. This option is likely to be limited to surveyors signing the survey certificate, but could be expanded to other users like qualified valuers, if they were granted access to the workspace. This could occur by the party confirming their endorsement by making a declaration and re-authenticating in the online workspace.
- Require consenting parties to create a profile with NSW LRS Connect and provide their consent directly to the workspace. Parties could endorse instruments using encrypted digital signature technology. This may be appropriate for surveyors only, or other professional groups like valuers or lawyers, where access can be more securely controlled.

In most cases, the surveyor or alternate lodging party will still be responsible for gathering and uploading consents. It is not proposed that all consenting parties will have access to LRS Connect to upload consents directly, although technology may facilitate this process in the future for some users. Any electronic process allowing a party to confirm their approval to or endorsement of a plan must ensure appropriate security and verification of identity arrangements are in place.

For certifying authorities (usually a council or a registered certifier) and other agencies, the NSW Planning Portal is expected to act as an intermediary service, linking the NSW LRS plan workspace through to the corresponding subdivision certificate application. It is proposed that all subdivision certificate applications made through the NSW Planning Portal would automatically source the surveyor certified plan, associated documents and relevant signature sheet(s) directly from the NSW LRS plan workspace (i.e. no upload of copies) by pairing a PPN with an ePlanning application number. Executed signature sheets would be uploaded by the certifying authority and other agencies directly into the NSW Planning Portal as part of their approval of the application. The applicant would then share the executed signature sheets with the surveyor or alternate lodging party (if they are not the same person) offline for upload into the NSW LRS Plan Workspace. Note the NSW Planning Portal subdivision certificate application process includes strata certificate applications.

Other parties with an interest on title (such as the owner and mortgagee of the affected titles) and any other party required to endorse the plan that is not facilitated through the NSW Planning Portal will interact with the surveyor or alternate lodging party outside the workspace. The surveyor or alternate lodging party will need to upload the executed signature sheets on behalf of the consenting parties. NSW LRS will continue to be responsible for examining signature sheets to ensure all required consents have been gathered before registration.

4.4.5. Notifications and change management

Notification services would be established to provide lodgment and registration status updates via email to NSW LRS Connect users who have access to the particular plan workspace, and potentially also to users with access through other linked channels (like the NSW Planning Portal).

Changes to plans and associated documents during the consent gathering process need to be managed to determine if any prior consents are still valid. Changes made to survey component documents will require the surveyor to re-certify the plan. Changes made to any document will require the surveyor or alternate lodging party to attest that the documents in the workspace are ready for consent gathering. It will be necessary for the surveyor or alternate lodging party to identify the type of change that has occurred. It is proposed that a model similar to the existing Plan Amendment Consent Checklist (at Appendix 4) will be adopted to guide this process. The surveyor or alternative lodging party will then, where required, need to seek the re-endorsement by impacted consenting parties and upload replacement executed signature sheets.

4.4.6. Temporary electronic processes for COVID-19

Temporary amendments to the *Conveyancing Rules*¹⁴ permitted a range of land registry instruments, including plans and consents ordinarily required to be wet-signed on paper, to be signed (and witnessed, where relevant) electronically during the COVID-19 pandemic. These measures have been well-received by industry and could be utilised as a permanent solution for a streamlined and secure concurrent consent gathering process in the digital plan environment.

These arrangements are in place until 31 December 2021 and allow NSW LRS to accept an electronically signed document and treat it as if were lodged in paper. The changes do not alter any existing requirements for establishing a party's right to deal with the land, verification of identity, or specific requirements that may apply to the form of attestation or witnessing of a paper document. The arrangements simply allow processes that would ordinarily need to be conducted in paper to be completed electronically.

Parties are able to use a range of technology to electronically sign instruments. 'Electronic signature' is a term that applies broadly, and may include a typed name, scanned image of a signature or a signature provided on a tablet via a stylus, and also encompasses a more secure digital signature involving public key cryptography. In each case, the electronically signed document must confirm the signatory's identity and their intention to sign by including a particular statement set out in the Rules.

¹⁴ https://www.registrargeneral.nsw.gov.au/__data/assets/pdf_file/0008/970460/Conveyancing-Rules-COVID-19-Pandemic-Amendment-V3.pdf

Questions for discussion – Plan consents

7. It is expected that there will be a limited class of persons who can lodge plans as part of this reform (e.g. registered surveyors, surveying companies, Government agencies, lawyers). Should any other class of person be entitled to lodge plans? Do you have any concerns about this proposal and, if so, how do you think these could be addressed?
8. Do you support the proposal for lodging party attestations outlined in Part 4.4.2 above? If not, why not? Please explain your answer.
9. It is proposed that each consenting party must have been able to view the digital survey plan through an online visualisation service prior to providing their consent. Do you have any concerns with this approach? Can you suggest any other way of ensuring the consenting party actually accessed and viewed the information?
10. Do you support the introduction of a single signature sheet to cover all the documents a particular consenting party needs to approve/endorse? If not, why not?
11. Consenting parties include registered proprietors, mortgagees, owners corporations/community associations, certifying authorities (including councils and registered certifiers), other authorities (eg government agencies or utility services providers) and other parties with an interest on title (like lessees). How do you think each type of consenting party should access plan documents (offline or online or directly via the plan workspace) in order to provide their consent?
12. Four options have been identified in Part 4.4.4 as ways that various consenting parties may be able to provide their consent. Which of these options do you consider to be best suited for each type of consenting party and why? Are there any other options which may be appropriate?
13. Do you have concerns about verification of identity in the consent gathering process? How could lodging parties ensure that consenting parties have been appropriately verified in an online environment?
14. How should changes to plans and associated documents be managed in the consent gathering process if a consent has been given that may or may not be impacted by the change?
15. How well are the temporary Conveyancing Rules provisions that allow documents to be signed electronically during the COVID-19 pandemic working? What improvements could be made, if any?

4.5. Plan examination

Before a plan can be registered, it is examined by NSW LRS. Currently, there are three different streams of plan examination:

- **manual examination** – all elements of the plan are checked on paper or by viewing the surveyor drafted plan image on a computer
- **electronic examination** – most elements of the plan are checked electronically using lodged digital survey plan data. Alignment checks between the surveyor drafted plan image and digital data are undertaken manually.
- **hybrid examination** – only recently introduced as part of the “hybrid capture-on-demand project” which is explained further in Appendix 1. Digital data is captured from a lodged plan image and run through the standard validation checks available to surveyors via ePlan. The results generated enable more comprehensive and efficient manual examination.

The extensive requirements for manual checks of survey content in all three streams result in plan examination being very time consuming and hard to undertake consistently. Manual examination also commits all future users to manual interpretation and extraction of plan information. Any delay in the examination process will impact on the time taken to register a plan, with financial consequences for developers and future home-owners.

4.5.1. Digital plan examination

A new stream of examination will be established as part of this reform which will minimise the extent to which manual checks are required to register a plan and speed up the registration process by utilising automated mathematical checks. There are several pre-requisites for this digital plan examination to occur:

- a digital survey plan must be part of the plan lodgment
- all consenting parties must have been provided with access to the digital survey plan visualisation prior to executing their respective signature sheet, which contains a schedule of relevant plan documents (including the digital survey plan)
- the digital survey plan must include all information required for plan examination
- a Lot Diagram must be rendered by NSW LRS from the digital survey plan data to an acceptable standard for each lot in the plan (excluding common property in strata plans and association property in community plans). Lot Diagrams are discussed further at Parts 4.6.3 to 4.6.5 below.

If these requirements are met, manual examination of the surveyor drafted plan image may not need to be undertaken. Upon registration, the plan will be identified as a digital survey plan and a notation will be added to the surveyor drafted plan image as follows: *“This plan image has not been examined by NSW LRS. Refer to the digital survey plan”*. The plan will also be identified as a digital survey plan when searches are undertaken, such as through the Cadastral Records Enquiry. The Lot Diagram will be the visualisation of the digitally examined survey plan data.

If the prerequisites to digital examination noted above cannot be satisfied, the surveyor drafted plan must be manually examined by NSW LRS in the current manner.

Questions for discussion

16. Do you support the introduction of a new digital plan examination stream? If not, why not?
17. Manual examination is still expected to occur where the requirements for the digital plan examination stream cannot be met. In what other circumstances would examination of the digital data not be sufficient and manual examination of surveyor drafted plans be required?

4.6. Registered plans

The registered plan defines land boundaries on the day of registration and creates the legal identity of the land or affecting interest. Legal title to that land (or interests in it) is effected by registration in the Torrens Register operated by NSW LRS on behalf of the Registrar General. The digital survey plan reform is not proposing any change to existing requirements for registration of land interests in the Torrens Register, or the state guaranteed indefeasible title that results from registration.

Under current legislation, NSW LRS effects registration of plans on behalf of the Registrar General by affixing a seal (or record of it) on the surveyor drafted plan, once satisfied that plan is in registrable form¹⁵. This means that the surveyor drafted plan is the legal point of truth for plan data in the current regime. The digital survey plan reform proposes to change this process. With the introduction of a digital plan examination stream, the surveyor drafted plan may not be examined. This reform proposes that where this is the case, it is the digital survey plan data itself that will be the legal point of truth for plan information.

Where digital survey plan data is considered the legal point of truth, a Lot Diagram will be rendered as a simple visualisation of the digital survey plan data which has been validated and examined by NSW LRS. The Lot Diagram will include the seal affixed on or recorded against the digital survey plan by NSW LRS upon registration. A notation will also be added to the surveyor drafted plan identifying that it has not been examined by NSW LRS (in place of the seal).

In cases where the requirements for digital plan examination cannot be met (such as where a Lot Diagram cannot be rendered to an acceptable standard), NSW LRS will need to use an alternate examination stream and the surveyor drafted plan will be the legal point of truth. NSW LRS will affix a seal to the surveyor drafted plan upon registration as per current practice. No Lot Diagrams will be rendered in these instances.

4.6.1. Accessing registered plans

Upon registration, plan information must only be accessed from the Register of Plans. In practice this means registered plans will continue to be accessed via NSW LRS information brokers or alternate channels, in the same way as currently applies. However, purchasers

¹⁵ Section 195G Conveyancing Act 1919

of plans will have access to more information in a form that better suits their needs. It is proposed that upon registration the plan documents will no longer be accessible from the NSW LRS Connect plan workspace. Similarly, plan information shown in the DCS Spatial Services proposed layer will be removed when the plan is registered and the Digital Cadastral Database (DCDB) is updated.

The registered plan will comprise the digital survey plan data, Lot Diagram (if rendered) and surveyor drafted plan. As noted above, the surveyor drafted plan will not be manually examined by NSW LRS if it is processed through the digital plan examination stream.

It is essential that all relevant information is provided to users of plans and that there is no perception of any information being held 'behind the register'. For this reason, when only the digital survey plan is examined prior to registration, the user must be provided with the digital data itself or the relevant Lot Diagram(s) as well as the associated surveyor drafted deposited or strata plan.

It is expected that land titling activities that typically occur on the parcel level, such as a contract for the sale of land, would utilise both the Lot Diagram and surveyor drafted plan, delivered together as a consolidated PDF file. The digital survey plan data would also be available to those users, but is unlikely to be needed (and will not be required to be disclosed in sale contracts). Users who are interested in the plan as a whole, like surveyors, would be provided with the digital survey plan data and surveyor drafted plan, but would not normally utilise any Lot Diagrams. The digital survey plan data could be viewed in an online visualisation service or downloaded in either LandXML or CAD format depending on the user's preference.

4.6.2. Digital survey plan Lot Diagrams

Different users have different needs when consulting survey plans, and the complexity of plans means it is very difficult to automatically render all the survey information to a standard that meets all users' expectations. Digital Survey Plan Lot Diagrams are intended to address this issue.

For some users, like potential homeowners, the deposited and strata plans prepared by a surveyor are overly complicated and difficult to understand. Users other than surveyors have identified common types of survey information as being unnecessary for their purposes (like reference marks and connections, permanent survey mark information).

However, the full range of information a surveyor must include on the plan is necessary to ensure an accurate cadastre, allowing future surveyors to reinstate boundaries, and providing key information about the relationship of physical structures to boundaries.

The reform introduces a simplified Lot Diagram to be rendered from the digital survey plan data. While similar in concept to the 'title diagrams' that existed in NSW up until 1983¹⁶, Lot Diagrams remain static from the point of registration, like deposited and strata plans. Examples of concept Lot Diagrams for deposited and strata plans are shown in Appendix 2.

¹⁶ Titles without diagrams were introduced in NSW in October 1983 with the Automated Land Titling System (ALTS), acknowledged as the world's first computerised Torrens Titling System.

4.6.3. Key information to be depicted in Lot Diagram

Rendering capabilities for Lot Diagrams will evolve and be improved over time to support a growing number of plan types. It is expected that, at a minimum, Lot Diagrams will show:

- lot number and dimensions (bearings, distances, area)
- nature of boundary (right line or physical feature)
- new and existing easements and other secondary interests
- notations that further define lot (e.g. stratum limits in strata plans)
- occupations and structures within 1m of boundary

Feedback is being sought on how these Lot Diagrams may be used and what additional information, if any, should be rendered on the diagram.

4.6.4. Validation and use of Lot Diagrams

For most users, the Lot Diagram is a view of the digital survey plan data that has been validated and processed through the digital plan examination stream. NSW LRS will be responsible for ensuring Lot Diagrams accurately reflect the digital survey plan data.

As with current practice, surveyors will continue to be responsible for the quality of their surveyor-drafted plans. Existing plan audit arrangements¹⁷ under the Registrar General and Surveyor General will continue with matters referred to BOSSI where necessary.

A less complex rendering of plan data in a Lot Diagram may be easier for a potential purchaser to understand (and legal practitioner to explain) and may be preferable for disclosure in a sale contract. However, there is a risk that this diagram alone may not depict all features of the parcel that will impact on how the land can be used. For this reason, Lot Diagrams will not be available in isolation, and will be provided with the associated surveyor drafted deposited or strata plan. Similarly, surveyor drafted plans will not be available without the associated Lot Diagram(s) or digital survey plan data.

It is expected that both the Lot Diagram (where available) and surveyor drafted plan forming part of the registered plan package will be required to be included in contracts for the sale of land¹⁸ to ensure purchasers are being provided with all the relevant information. If a Lot Diagram has not been rendered and for existing registered plans, the surveyor drafted plan will still be included in the contract, in line with existing practice.

¹⁷ https://www.registrargeneral.nsw.gov.au/__data/assets/pdf_file/0014/320414/Audit-Survey-Procedures.pdf

¹⁸ Currently, Schedule 1 Conveyancing (Sale of Land) Regulation 2017 requires that vendors include a plan of the land issued by the Registrar General in sale of land contracts, as well as copies strata plans showing the relevant lot, and community/neighbourhood/precinct plans where applicable.

Questions for discussion

18. Do you support the proposal for digital survey plan data (that has met the prerequisites set out in Part 4.5.1) to be the legal point of truth for a registered plan? If not, why not?
19. Do you have any concerns about the proposal for Lot Diagrams to be the visualisation of examined digital plan data for general applications, like contracts for the sale of land?
20. Is the information proposed to be shown on a Lot Diagram sufficient for most purposes? If not, what other information should be included?
21. Do you support the proposal to include both a Lot Diagram and surveyor drafted plan in the contract for sale of land, to ensure appropriate disclosure to purchasers? If not, why not?
22. The discussion paper proposes that digital survey plans could also be viewed online or downloaded in CAD or LandXML format. For surveyors, what impact will digital survey plan data being the legal point of truth have on your practices? How can this best be managed?
23. Do you support the proposal to place the Registrar General's seal on the Lot Diagram rendered from examined digital survey data and, where this is not available, on the surveyor drafted plan instead? Do you have any concerns about this approach, or other suggestions about the placement of the Registrar General's seal?

5. Consultation process

Making a submission

Anyone wanting to comment on any matter relevant to the transitioning from paper to digital survey plans project, whether or not it is addressed in this discussion paper, is invited to make a written submission.

All submissions must be received by 4pm on 30 September 2021.

Submissions may be made via the online survey or sent via email to:

DigitalSurveyPlans@customerservice.nsw.gov.au

If you wish to submit your comments in paper, please forward these to:

Transitioning from Paper to Digital Survey Plans

Office of the Registrar General

McKell Building

2-24 Rawson Place

HAYMARKET NSW 2000

Important note: release of submissions

All submissions will be made publicly available. If you do not want your personal details or any part of your submission published, please indicate this clearly in your submission. Automatically generated confidentiality statements in emails are not sufficient. You should also be aware that, even if you state that you do not wish certain information to be published, there may be circumstances in which the Government is required by law to release that information (for example, in accordance with the requirements of the Government Information (Public Access) Act 2009).

Evaluation of submissions

All submissions will be considered and assessed and inform any future legislative change, if necessary, to address issues identified in the consultation process. If further information is required, targeted consultation will be held before the proposed Regulation is finalised.

Appendix 1: What we've achieved so far

'Grosvenor review' of digital survey plans

In 2019, the Office of the Registrar General and the Surveyor General commissioned an independent 'Digital Survey Plans Review' by Grosvenor Performance Group (GPG). The three main objectives of the review were to:

1. explore and explain why uptake of digital plans has remained low
2. identify what opportunities exist for digitalisation of plans
3. provide recommendations on the best way to progress digital plans such that benefits to surveyors, Government and other plan users are maximised.

GPG spent several months consulting with surveyors, councils, utilities, developers, software vendors, DCS Spatial Services, Transport for NSW, and the Department of Planning, Industry and Environment. GPG also considered approaches in other jurisdictions, and reviewed the eConveyancing reform to identify applicable lessons for digital survey plans in NSW. As a result, GPG identified a number of 'pain points' that hampered our move to digital plans in the past, and how our approach now must deal with these directly.

In their final report, GPG made suggestions on how we can reframe our approach to work with industry on a successful transition to paperless digital survey plans. In particular, GPG concluded the current approach:

- does not provide sufficient incentives for industry to justify the additional effort of preparing LandXML files
- failed to deliver the purported benefits for industry, such as the automatic rendering of plan images
- is perceived as part of a move away from the current monument-based approach and favours 'data' over 'decisions'.

GPG recommended a four-step high-level roadmap to progress digitalisation:

1. Confirm outcomes with stakeholders to guide design of digital plans—with a focus on efficiency, accuracy and customer service
2. Agree on governance with clear roles, responsibilities and accountabilities for Government, NSW LRS and industry for design and implementation
3. Design solutions for three main areas: deposited plans, strata plans and approvals and associated documents—engaging with surveyors and other industry stakeholders throughout the solution design phase
4. Implement solutions in close consideration of impacts on stakeholder groups, with continued stakeholder engagement; and in the case of mandating, an appropriate notice period should be given with the timing designed with, and agreed upon, by industry representatives.

The final report is available on the Office of the Registrar General's website at: https://www.registrargeneral.nsw.gov.au/__data/assets/pdf_file/0010/603595/Grosvenor-Digital-Survey-Plans-Review-Final-Report.pdf

Delivery plan: transitioning from paper to digital survey plans

On Monday 30 November 2020, the Hon. Victor Dominello, Minister for Customer Service, launched the delivery plan for transitioning from paper to digital survey plans in NSW. Chair of Australian Registry Investments, industry peak body CEOs and presidents and relevant government agencies shared their perspectives on the importance of this digital transformation.

The delivery plan sets out the key actions necessary to implement this reform. Key deliverables in the next 12 months include:

- July 2021: Surveyors will be able to create survey plan workspaces in the NSW Land Registry Services (LRS) portal and pre-fill titling documents online
- End of 2021: Move to 100% online lodgment along with new NSW LRS portal tools that make it easier for surveyors to lodge digital survey plans

The delivery plan has NSW progressively rolling out new digital plan capabilities with a fully digital survey plans system in place by the end of 2022.

The delivery plan is available on the Office of the Registrar General's website at: https://www.registrargeneral.nsw.gov.au/__data/assets/pdf_file/0008/937439/Digital-survey-plans-Delivery-Plan.pdf

Highlights of the delivery plan actions delivered or in progress to date include:

- **LandXML Channel:** digital survey plans data in LandXML format is now available at no additional cost with the purchase of the corresponding registered plan image from a participating information broker. Over 2,000 LandXML files are now being delivered to information brokers each week.
- **Plan workspaces and online form builders:** NSW LRS have introduced new digital survey plan tools to help surveyors manage their plans and avoid typographic errors.
- **Support for common industry formats (CAD):** NSW LRS have developed a draft CAD layering standard for NSW survey plans which will form the input data for a translator that automatically maps information across to LandXML format. The translator is now undergoing industry testing and will be further enhanced.
- **ePlanning link to land titles:** An integration roadmap has been developed to guide the transition to a more seamless end-to-end subdivision registration process.

An industry led and co-designed solution

To ensure the transition to digital survey plans is a success, a customer centric approach to design and implementation has been adopted. Two key groups of stakeholders have been established to support the reform:

- **Consultative Committee:** A group of peak industry body and stakeholder organisation representatives who have been selected to oversee the design and implementation of a digital survey plans solution for NSW. A list of participating organisations is available at: <https://www.registrargeneral.nsw.gov.au/land-boundaries/digital-survey-plans/digital-survey-plans-consultative-committee>

- Surveyor Working Group: Over 30 registered surveyors from a range of businesses and public sector agencies who are supporting the reform through the testing and evaluation of digital plans standards and services.

Thank you to all the industry representatives who have volunteered their time to support this reform.

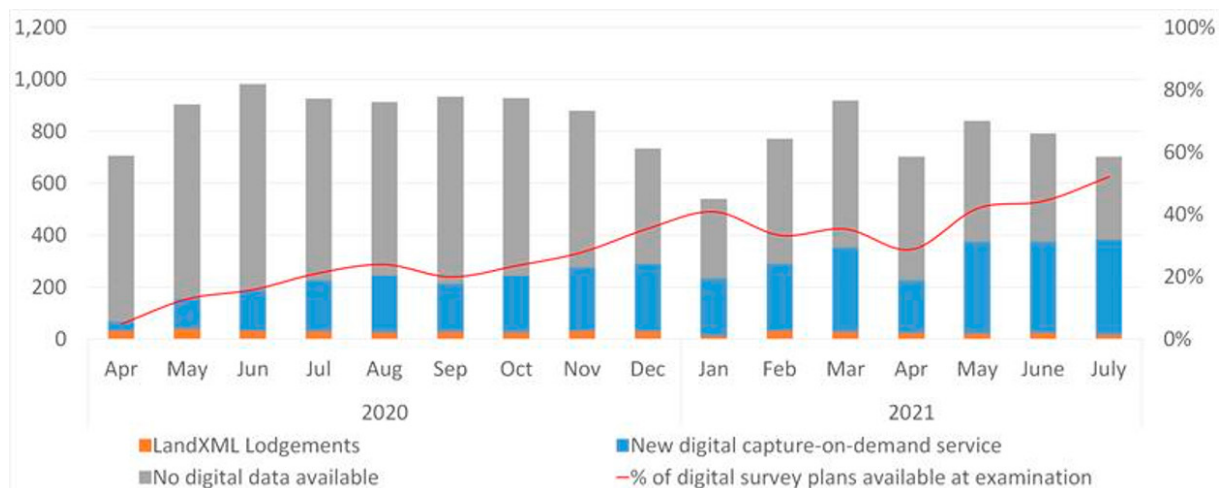
Related collaboration projects

Reducing errors with digital plans

The Office of the Registrar General together with DCS Spatial Services and NSW LRS, are collaborating through the hybrid capture-on-demand project. Hybrid capture-on-demand increases the utilisation of digital survey plans for plan examination to reduce the prevalence of errors in registered plans.

The project utilises an existing service provider engaged by DCS Spatial Services to convert plan images lodged with NSW LRS into a digital format, LandXML, to support plan examination. Upon plan registration, digital data is returned to DCS Spatial Services, rather than data capture through the service provider occurring at that point.

The project has so far identified mathematical errors in 19% of the 2,700 plans processed to date, allowing for correction prior to registration, saving time for all parties involved by avoiding a post-registration plan amendment. Over half of deposited plans are now being examined utilising intelligent digital data and this is expected to increase over the remainder of 2021.



Faster consent gathering with electronic signatures

The provisions introduced by the Registrar General during the COVID-19 pandemic have supported increased use of digital tools for consent gathering and reduced the need for paper-based consents. This has been particularly effective when paired with subdivision certificate applications made through the NSW Planning Portal. NSW Councils have reported significant efficiency improvements when assessing applications through the use of electronic signatures in digital workflows.

Proposed property data for improved services

Proposed land parcels and property addresses are being mapped to support faster delivery of government services to new properties. Subdivision layouts received as part of a development application or subdivision certificate application are being digitised by DCS Spatial Services and incorporated into a 'proposed layer' so Councils and utility services providers can update their property databases prior to plan registration. This results in less delay in the provision of services to new properties and a more consistent view of property across multiple agencies and service providers.



Appendix 2: Sample Lot Diagrams

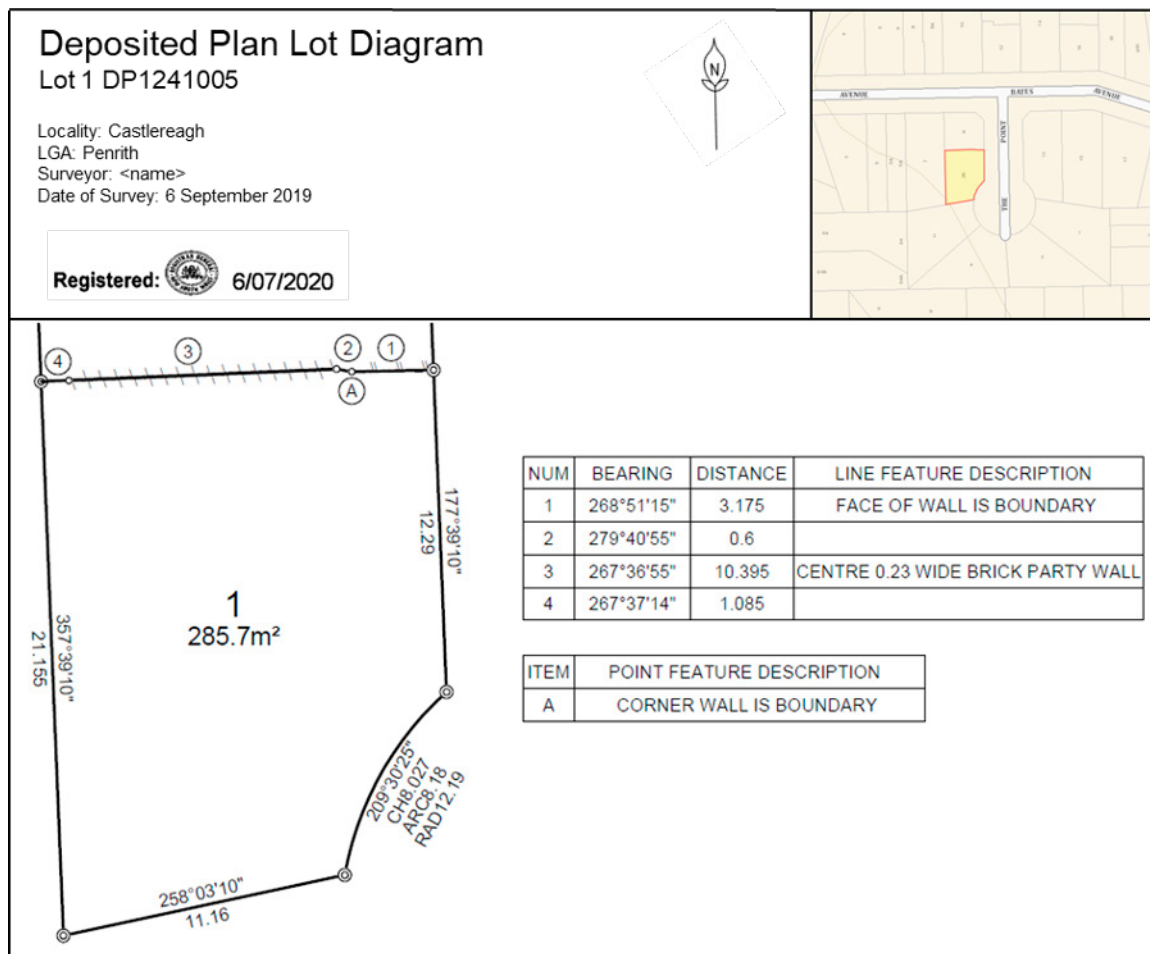


Figure 1: Small subdivision example

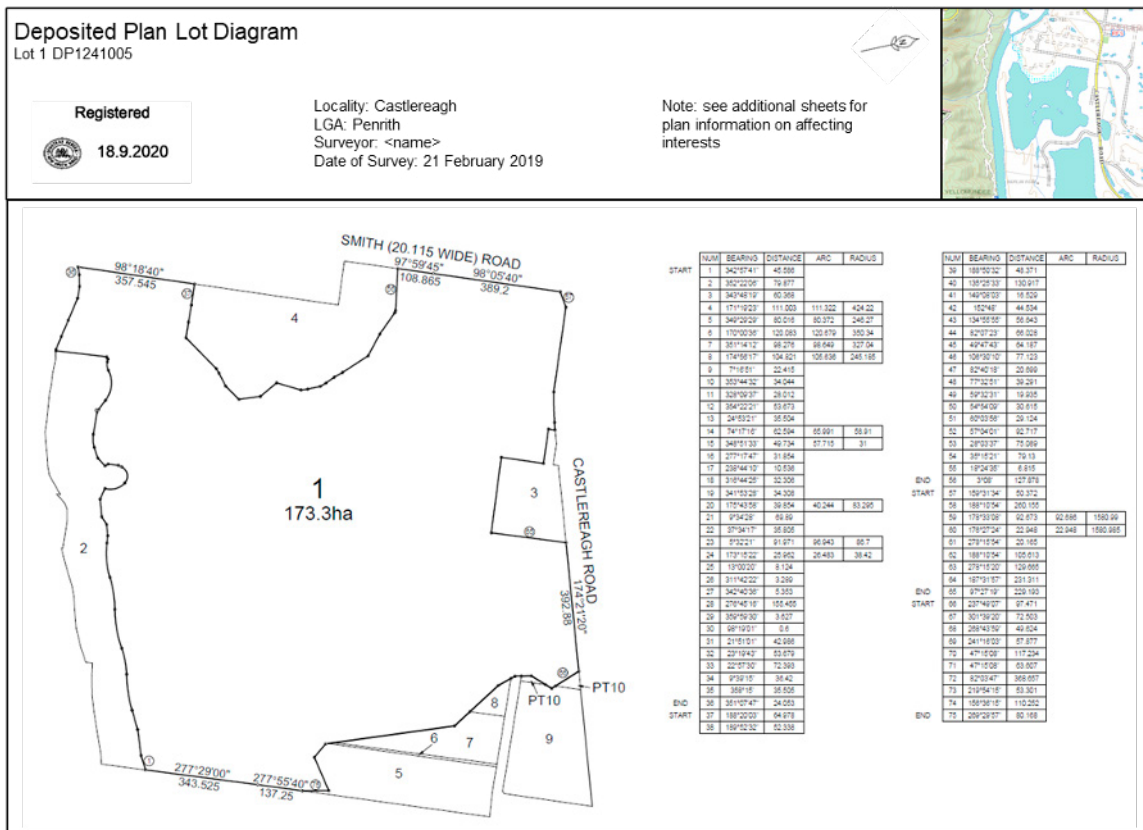


Figure 2: Large subdivision example

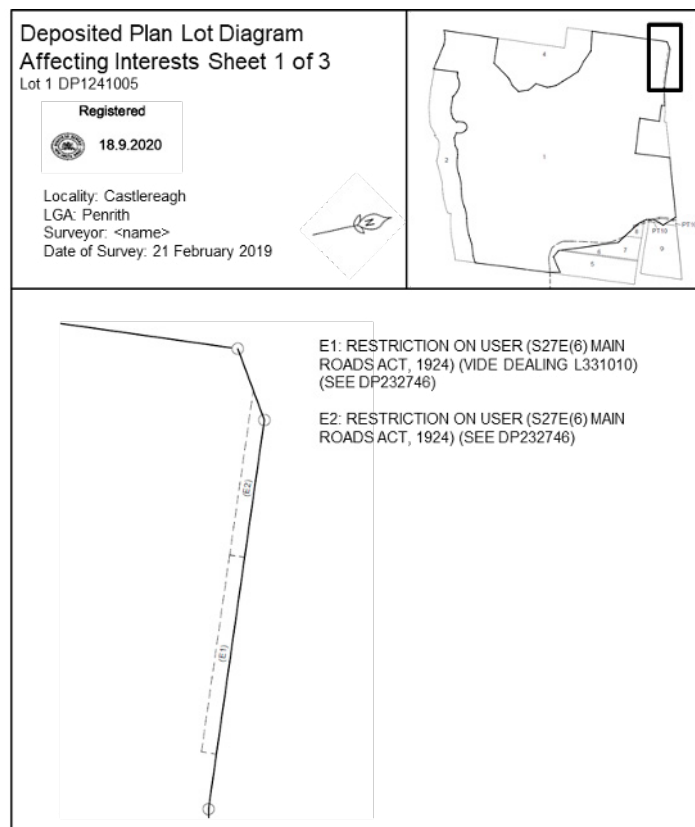


Figure 3: Example of additional sheet for affecting interests

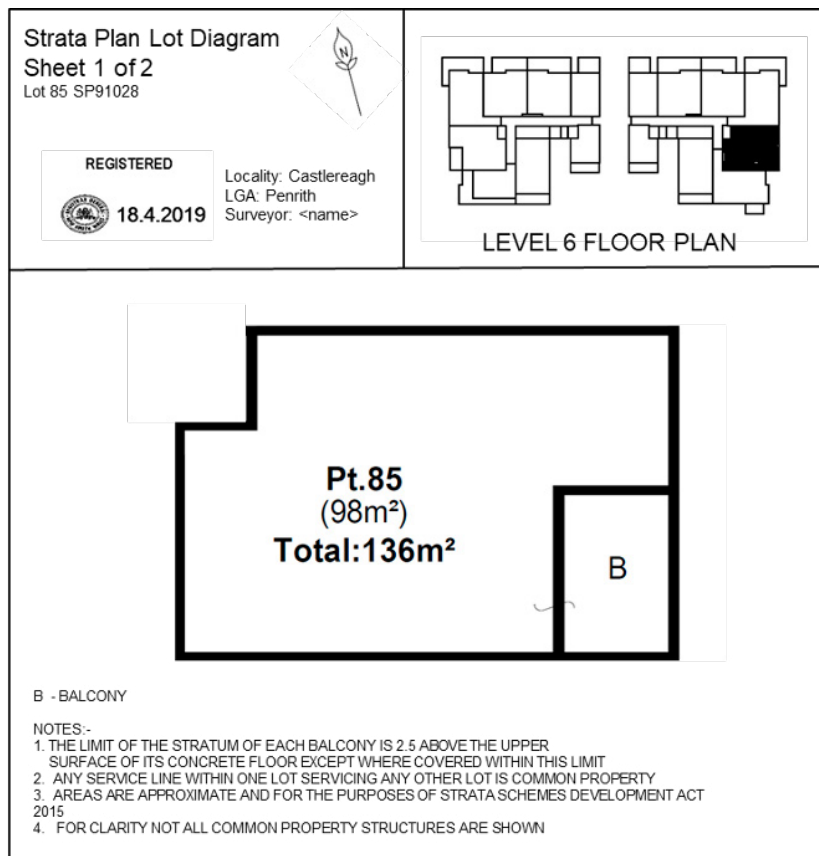


Figure 4: Strata lot example sheet 1

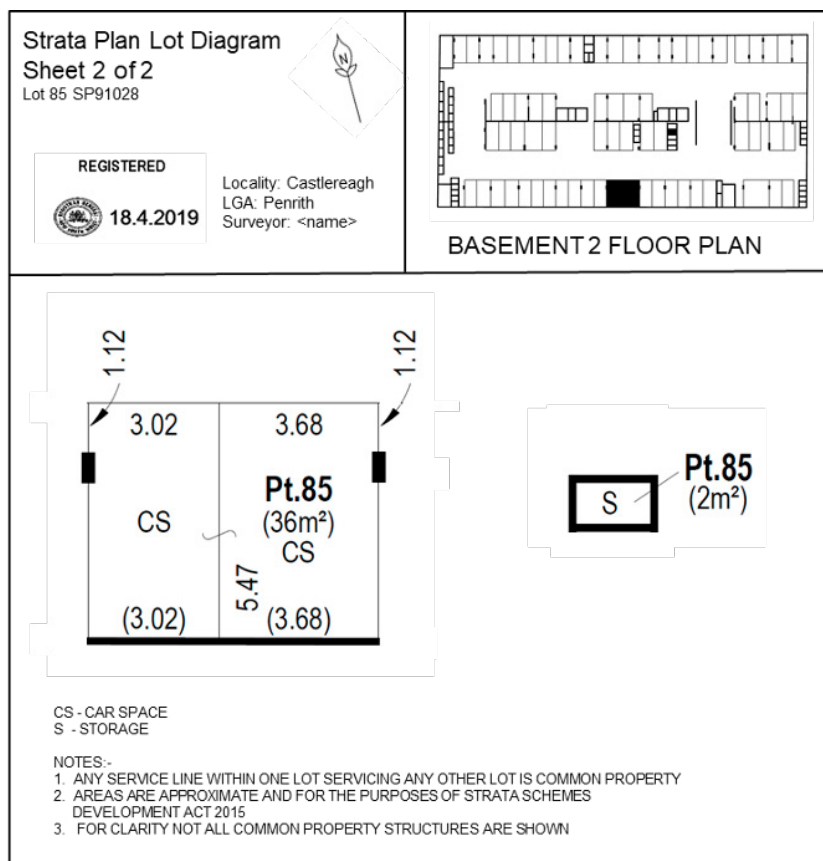


Figure 5: Strata lot example sheet 2

Appendix 3: Legislative Framework

The reforms proposed in this discussion paper will ultimately require legislative reform.

Current requirements and obligations associated with survey and strata plans in NSW are set out in a complex interrelated legislative framework comprised of Acts, Regulations, rules, directions and guidelines, which have been broadly set out below.

The current process by which registered surveyors comply with the legislative framework, and under which NSW LRS assesses compliance, is complex and time-consuming. A key benefit of digital survey plans is that it will improve efficiencies and reduce errors by allowing for regulatory compliance to be self-assessed to a greater extent, through online validation services utilised before plans are endorsed or approved by consenting parties and lodged with NSW LRS.

Legislation

Reference Name	Description of aspects related to plans	URL
Real Property Act 1900	Establishes the 'Torrens title' register and provides associated government guarantees for title. Relevant sections include: <ul style="list-style-type: none">• Section 3A: Allows for plans to be lodged electronically• Division 2: Sets out the role of survey plans in bringing old system land under the act• Section 48: Creation of cross-easements for party walls• Part 14A: Boundary determinations	https://www.legislation.nsw.gov.au/view/whole/html/inforce/current/act-1900-025
Real Property Regulation 2019	Relevant sections include: <ul style="list-style-type: none">• Clause 9: Annexure of plans to dealings• Clause 13: Retention of documents	https://legislation.nsw.gov.au/view/html/inforce/current/sl-2019-0434
Conveyancing Act 1919	Sets out mechanisms for dealing with land, with respect of both old system and Torrens title. Relevant sections include: <ul style="list-style-type: none">• Section 6A: Allows for plans to be lodged electronically• Part 23, Division 3: Sets out provisions relating to plans• Part 23, Division 3B: Sets out provisions relating to stratum lots• Schedule 4A & Schedule 8: Sets out the standard terms and meanings available for easements	https://www.legislation.nsw.gov.au/view/whole/html/inforce/current/act-1919-006

Reference Name	Description of aspects related to plans	URL
Conveyancing (General) Regulation 2018	Relevant sections include: <ul style="list-style-type: none"> • Part 3: Register of plans 	https://legislation.nsw.gov.au/view/html/inforce/current/sl-2018-0424
Conveyancing (Sale of Land) Regulation 2017	Relevant sections include: <ul style="list-style-type: none"> • Clause 4: Requires documentation specified in Schedule 1 to the Regulations to be included in the contract for sale. • Schedule 1: Sets out prescribed documents to be included in contract for sale NOTE: Prescribed documents include a copy of a plan for the land issued by the Registrar-General (if the contract relates to land under the provision of the Real Property Act 1900). 	https://legislation.nsw.gov.au/view/whole/html/inforce/current/sl-2017-0372#sch.1
Strata Schemes Development Act 2015	Sets out how strata developments and the creation of strata titles operate. Relevant sections include: <ul style="list-style-type: none"> • Part 2: Creation of lots and common property in strata schemes • Section 197: Allows for plans to be lodged electronically • Schedule 1: Requirements for plans • Schedule 2: Requirements for schedules of unit entitlement 	https://www.legislation.nsw.gov.au/view/whole/html/inforce/current/act-2015-051
Strata Schemes Development Regulation 2016	Relevant sections include: <ul style="list-style-type: none"> • Part 2: Plans, administration sheets and unit entitlements 	https://www.legislation.nsw.gov.au/view/html/inforce/current/sl-2016-0659
Community Land Development Act 1989	Sets out how community developments and the creation of community titles operate. Relevant sections include: <ul style="list-style-type: none"> • Section 3A: Allows for plans to be lodged electronically • Part 2: Community schemes and precinct schemes • Schedule 1: Plans • Schedule 11: Initial unit entitlements 	https://www.legislation.nsw.gov.au/view/whole/html/inforce/current/act-1989-201

Reference Name	Description of aspects related to plans	URL
Community Land Development Regulation 2018	Related sections include: <ul style="list-style-type: none"> • Part 2: Community plans, precinct plans and neighbourhood plans • Part 3, Divisions 1: Boundary adjustment plans • Part 3, Division 2: Plans of consolidation, subdivision and acquisition • Clause 24: Access way plans 	https://www.legislation.nsw.gov.au/view/whole/html/inforce/current/sl-2018-0497
Surveying and Spatial Information Act 2002	Sets out requirements for the undertaking of land surveys. Relevant sections include: <ul style="list-style-type: none"> • Part 2: Provisions related to co-ordination, collection and maintenance of certain State cadastral information 	https://www.legislation.nsw.gov.au/view/html/inforce/current/act-2002-083
Surveying and Spatial Information Regulation 2017	Relevant sections include: <ul style="list-style-type: none"> • Part 2: survey practice • Schedules 1-6 	https://www.legislation.nsw.gov.au/view/html/inforce/current/sl-2017-0486

Other related legislation includes:

- Environmental Planning and Assessment Act 1979
- Roads Act 1993
- Local Government Act 1993
- Crown Land Management Act 2016

Supporting reference material (Data standards/specifications & guidance)

Reference name	Description of aspects related to plans	URL
Registrar General's Guidelines	Guidelines for land surveyors and other professionals to assist with meeting regulatory requirements. Relevant sub-sections include: <ul style="list-style-type: none"> • deposited plans • strata schemes • community schemes • plan forms 	https://rg-guidelines.nswlrs.com.au/

Reference name	Description of aspects related to plans	URL
Surveyor General Directions	<p>Guidelines for land surveyors to assist with meeting regulatory requirements. Relevant directions include:</p> <ul style="list-style-type: none"> • Direction No. 6: Water as a Boundary • Direction No. 7: Surveying & Spatial Information Regulation 2017–Applications <ul style="list-style-type: none"> o Surveyor General’s-Deposited Plan Checklist • Direction No. 9: GNSS for Cadastral Surveys 	https://www.spatial.nsw.gov.au/surveying/surveyor_generals_directions
Lodgment Rules	<p>Rules that govern the lodgment of various instrument types ranging from dealings to deeds and plans. Relevant sections include:</p> <ul style="list-style-type: none"> • Ruler 6: Requirements for plans annexed to dealings or caveats lodged in the Torrens Register • Rule 7: Requirements for deposited plans lodged under the CA • Rule 8: Requirements for strata plans • Schedules 3-14 	https://www.registrargeneral.nsw.gov.au/publications/lodgment-rules
Conveyancing Rules	<p>Rules that govern the preparation and lodgment of documents to give effect to conveyancing transactions. In April 2020, Amendments were introduced to allow various paper documents to be electronically signed during Covid-19 restrictions.</p>	https://www.registrargeneral.nsw.gov.au/publications/conveyancing-rules
NSW Plan Reference Guides and checklists	<p>Reference document to assist lodging parties to understand the relevant acts and sections, regulations, policies and practices that guide NSW LRS plan examiners in their examination of lodged plans</p>	https://www.nswlrs.com.au/Help/Reference-Guides,-Templates-and-Checklists
ePlan file specifications	<p>Information regarding the required general characteristics of plans, such as file naming conventions and image resolution requirements.</p>	https://www.nswlrs.com.au/About-ePlan
NSW LandXML Recipe and schema files	<p>Information regarding the structure and requirements for digital survey plans.</p>	https://www.nswlrs.com.au/Digital-Plans/LandXML

Appendix 4: Plan amendment consent checklist



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GPO Box 15, Sydney NSW 2001
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www.nswlrs.com.au

Plan Amendment Consent Checklist

A registered plan may only be amended by the Registered Surveyor who originally prepared the plan, or by a Registered Surveyor where authority has been obtained from the Registered Surveyor of said plan. Either the surveyor or a third party may identify an omission or error in a registered plan. Following investigation, NSW LRS may then direct the surveyor to commence action to amend their plan. In many cases, consent from other parties is required to authorise the amendment.

This Checklist sets out when consents are required by NSW LRS for different types of amendments to registered plans and titles, to assist customers and lodging parties in obtaining the necessary consents for amendment. For more information on Plan Amendments, visit the [Registrar General's Guidelines](#) website.

Plan Amendments

Amendment Type	Consents Required				No Consent Required
	Surveyor*	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
1. Survey Definition a. Lot definition b. Road definition (subject parcel)	✓*	✓ (If area change) See Area amendments Section below	✓>		
2. Survey Definition a. Road definition	✓	✓^			
3. a. Reference Marks b. Permanent Survey Marks & Connections	✓				

Amendment Type	Consents Required				No Consent Required
	Surveyor*	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
4. Survey Definition (missing residue/parcels)	✓*	✓^	✓	✓ (if major change or lot change)	
5. Easements / Restrictions / Positive Covenants (affecting being added or varied)	✓ (when extent of easement is not shown correctly*)	✓ (if benefitted or benefitting authority)	✓		
6. Easements added on (benefitting plan by charting error)					✓

* Surveyor is responsible for obtaining consents.

> May not apply **if not** affecting subject parcels definition.

^ Authority from City of Sydney Council, RMS, Railways, & MHWB or other consent authorities may be required on the changes when previous consent obtained prior to registration

Plan / Title Amendments

Amendment Type	Consents Required				No Consent Required
	Surveyor	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
7. Easements / Restrictions / Positive Covenants being removed off benefitted land/title		✓ (where benefitted)	✓ (mainly benefitting party)		

Amendment Type	Consents Required				No Consent Required
	Surveyor	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
8. Easements / Restrictions / Positive Covenants being removed off affecting land/title					✓
9. Easement / Restrictions / Positive Covenants adding affecting land/title	✓	✓	✓	✓ (possibly if new CT's delivered)	
10. Easement / Restrictions / positive Covenants adding benefitted land/title					✓ +

+ Except where there benefitted authority or lot has an implied/enforced action or cost to benefitted lot

Title Amendments

Amendment Type	Consents Required				No Consent Required
	Surveyor	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
11. Second Schedule notifications			✓	✓ (possibly if new CT's delivered)	

Amendment Type	Consents Required				No Consent Required
	Surveyor	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
12. First Schedule (Registered Proprietors)			✓	✓ (possibly if new CT's delivered)	
13. Historical Files i.e. Prior titles, First title					✓
14. Locality / LGA / Title diagram					✓
















Area Amendments

Amendment Type	Consents Required				No Consent Required
	Surveyor*	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
15. Request for incorrect area by registered surveyor (<u>decrease in area</u>)	✓*	✓ (Plans of Subdivision Only)	✓		
16. Request for incorrect area by registered surveyor (<u>increase in area</u>)	✓*	✓ (Plans of Subdivision Only, <i>if</i> subject boundaries are affected)			

Amendment Type	Consents Required				No Consent Required
	Surveyor*	Council	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	
17. Request to amend areas for plans from unregistered, deceased or retired surveyors, or old plans (concession from ORG to assist Registered Proprietors in this matter)			<p>✓</p> <p>Request normally comes from R.P's and calculated area added only. Stated Area Remains</p>		
18. Departmental Areas a. Old System Plans <u>Note.</u> Area Stated in Deed Book only to be shown. No calculated area even if obviously incorrect we will not amend. Must mirror Deed Book. If area doesn't match Deed, we will amend our error.			<p>✓</p> <p>Request normally comes from R.P's.</p>		
19. Departmental Areas b. Real Property Torrens Volume Folios			<p>✓</p> <p>Must reflect area from Vol Fol. Converted Area Added Only</p>		

* Surveyor is responsible for obtaining consents.

Strata Amendments

Amendment Type	Consents Required						No Consent Required
	Surveyor	Council/ Registered Certifier	Strata Valuer	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	Owners Corporation	
20. Unit Entitlements (U.E)- Form 11R (See Request Form 11R Section Below) Note: Where the initial period of the scheme has NOT expired, we CAN NOT amend without an Order from N.C.A.T	 With evidence it was incorrect at time of registration.	 With evidence it was incorrect at time of registration.	 With evidence it was incorrect at time of registration.	 ALL R.P.s if sold, otherwise developers name, ALL PARTIES IMPACTED	 If, Unit entitlement changes on CP Title		
21. Street Address and Sub Addresses - Form 11R <u>Note.</u> The initial requests must come from surveyor to change administration sheet on Strata Plan. We do not amend if correct at time of registration.	 * With evidence it was incorrect at time of registration.	 * With evidence it was incorrect at time of registration.		 *			
22. Area changes to Strata Plan	 *	 * That the area change does not affect the U.E	 * That the area change does not affect the U.E.	 * For decrease in area ONLY		 * Not required for typographical or calculation errors and the U.E is not affected by the change.	

* Surveyor is responsible for obtaining consents.

Request Form 11R Amendments

Amendment Type	Consents Required						No Consent Required
	Surveyor*	Council/ Registered Certifier	Strata Valuer	Registered Proprietor (R.P)	Mortgagees (CT's Prod)	Owners Corporation	
23. Section 88B Amendments	✓+ (if, lodging amendment and it affects the plan form)	✓+ (if benefitted or benefitting authority)		✓+	✓+ (if, new easements created or greatly impacts their interest)		
24. Change in Lot Numbers on Registered Plans	✓* With evidence it was incorrect at time of registration.	✓		✓	✓		
25. Unit Entitlements Note: Where the initial period of the scheme has NOT expired, we CAN NOT amend without an Order from N.C.A.T	✓ With evidence it was incorrect at time of registration.	✓ With evidence it was incorrect at time of registration.	✓ With evidence it was incorrect at time of registration.	✓ ALL R.P's if sold, otherwise developers name, ALL PARTIES IMPACTED	✓ If, Unit entitlement changes on CP Title	✓	
26. Street Addresses or Sub Addresses	✓* With evidence it was incorrect at time of registration.	✓		✓			

* Surveyor is responsible for obtaining consents.
+ If not lodged on Form 11R, an exemption must first be obtained from NSW LRS Legal Registry Services.