SYSTEMATIC

User Guide

For SOLA Systematic 1503a

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1. About this Guide

This guide is intended for users of SOLA Systematic and was initially developed to support the Nigeria Systematic Land Title Registration (SLTR) being undertaken by state governments and the GEMS3 project. The Nigerian SLTR processes were described in the Manual of Standard Operating Procedures on SLTR endorsed by the Presidential Technical Committee on Land Reforem (PTCLR).

This user manual describes the screens and functions of SOLA Systematic. As a user, you should familiarize yourself with the content of this guide, particularly the SOLA Systematic Concepts and SOLA Systematic Screens sections.

The How To sections list step by step instructions describing how to complete common systematic registration tasks using SOLA Systematic. You should refer to the relevant How To section when attempting a new task until you become familiar with the necessary steps. You should also refer to this guide if you need to refresh your memory of the steps required for tasks you have not completed in a while.

This guide is subject to change as new versions of SOLA Systematic are released with new or enhanced features. If you identify content that is missing from this guide, out of date, or requires further explanation or elaboration, you should contact the SOLA support team with a brief outline of the issue and we will update the guide content in subsequent releases (Email: mariapaola.rizzo@fao.org).

SOLA Systematic includes comprehensive online help that reflects the content of this guide. You can access help from the Help > SOLA Systematic Desktop Help menu or by pressing the F1 key when viewing any SOLA Systematic Desktop screen.

2. Solutions for Open Land Administration

2.1 Securing Land Tenure through Automation

Land administration and cadastral systems play a crucial global role in safeguarding the security of access to land and natural resources. Automation of land administration through the use of information technology has become increasingly common and similarly the appreciation that automated systems can contribute positively to land tenure security through providing systems that:

- involve elements of best land administration practice;
- are sensitive to the customs and laws of the country;
- do not create an unacceptable dependency on expertise or items of equipment that are difficult to obtain, maintain and afford; and
- are sustainable.

When done correctly, automation improves efficiency and transparency through the standardisation of land administration practices along with better access to land information records. This in turn has a positive impact on the overall governance of land tenure.

2.2 Solutions for Open Land Administration (SOLA)

One approach to providing all countries with computerized systems that are affordable and sustainable and designed to strengthen tenure governance is through the use of open source software. Open source means that, unlike proprietary software, developers have access to the software's "engine", which can be freely modified and extended. Open source solutions are more flexible and adaptable to local conditions and languages than proprietary software. By using and improving open source software, land administration agencies can build local knowledge and contribute to the public development of open source projects (via web communities, etc.) that can in turn benefit other land administration agencies world-wide.

In December 2012, the Food and Agriculture Organization of the United Nations (FAO) successfully concluded the Solutions for Open Land Administration (SOLA) project. The 2.5 year project was funded by the Government of Finland and dedicated to implementing an open source computerised cadastre and registration system that is both affordable and sustainable in the context of developing countries. The open source software produced by the SOLA project (also called SOLA) was based on international good practice for service delivery, responsible governance of tenure (including transparency of process and transparency of tenure details), robust data management and the need for enterprise scale software. The underlying data structures used by the SOLA software are also based on the Land Administration Domain Model (LADM), now published as ISO 19152 by the International Organization for Standardization (ISO).

SOLA was designed to be customisable so that it could appropriately reflect the laws and practices of the host country. To test the effectiveness of the software and the approach used for customisation, the SOLA project included three pilot implementations in Ghana, Nepal and Samoa. Each pilot implementation was undertaken by a team of local software developers who were first trained by an FAO SOLA mentor so they could undertake the required customizations, support the pilot implementations and maintain the software. Each pilot presented its own challenges with many lessons learned by the FAO SOLA Team along the way.

Along with the Samoa Ministry of Natural Resources and Environment and the Nepal Ministry of Land Reform and Management there are now a number of operational implementations of SOLA including the Lesotho Land Administration Authority, the Tonga Ministry of Lands, Environment, Climate Change and Natural Resources and implementations supporting systematic land titling and registration work in Ondo, Kaduna Kano, Jigawa, Cross Rivers and Kogi States (Nigeria).

2.3 SOLA Software Solutions

The SOLA suite of software solutions includes:

- **Registry** – The original SOLA software supporting cadastral and tenure registration. Registry targets Government land administration agencies that require a robust and transparent tenure registration solution.
- **Systematic (**known as **SLTR** in Nigeria)– Developed from the work in Nigeria and focuses on supporting decentralized collection of tenure information through a coordinated systematic registration process.
- **Open Tenure** – A mobile application developed for both Android and iOS devices that facilitates recording of tenure rights by a community (a.k.a. crowd sourcing).
- **Community Server** – A web based portal for recording and moderating the tenure rights captured by a community. Community Server is integrated with the Open Tenure mobile solution but can also be used independently.
- **State Land** – Designed to assist governments and state agencies to manage property owned or vested in the state from acquisition through to disposal.
- **Admin Console** – A web base administration console providing a single point of administration for all SOLA solutions deployed within a host organization.

2.4 Licensing

The source code for SOLA SLTR is licensed under the Berkeley Software Distribution (BSD) 3-clause license (a.k.a. New BSD or Modified BSD). The details of this license are

SOLA Systematic incorporates a number of tools, libraries, components and geospatial data that are subject to their own licensing terms and restrictions. If you use the SOLA Systematic source code, the SOLA Developers Bundle or the geospatial data or titles information for any purpose other than evaluation of SOLA Systematic, please ensure you also comply with the licensing terms and restrictions of the relevant tools, libraries, components and data. In no event shall FAO or the SOLA Software Community be responsible for any infringement of, or non-compliance with, any licensing terms and restrictions provided for such tools, libraries, components and data.

3. Systematic Registration Concepts

While using this guide you will encounter a number of terms and concepts. A description of these concepts and how they should be interpreted in the context of **SOLA Systematic** is provided here.

Agent	An individual or organization that is making a systematic registration claim on behalf of someone else. This could be a lawyer or relation under instruction from the claimant or a third party with a vested interest in a particular property. The request made by the agent is managed in the systematic registration project office as a SOLA application.
Business Rules	SOLA Systematic employs business rules to automatically validate the data entered by a user to ensure consistency of the data as well as warning the user of potential irregularities. Business rules are usually executed just prior to changes in state of a SOLA application or a service (e.g. application approval) but can also be manually triggered using the Validation tool in the Application Details screen. All business rules have a severity rating and the failure of any critical business rule will cause the current action to be aborted. In this situation, the user will be required to remedy the issue reported by the failed critical rule(s) before processing can continue. SOLA Systematic includes a default set of business rules that can be reconfigured to match those required by the land administration agency.
Cadastre (Cadastral Network)	Represents the cadastral information officially recorded plus that cadastral information captured as part of the systematic process. A key component of the cadastre is the spatial definition of parcels as this illustrates the shape, geographic location as well as the spatial relationship (i.e. topology) between parcels. SOLA Systematic validates all changes that occur to the spatial definition of parcels in order to prevent the formation of gaps and overlaps between adjacent parcels that would otherwise compromise the integrity of the cadastre.
Contact Person (Applicant)	The person to contact in regard to the SOLA systematic registration application. This person will be one of the systematic registration claimants for a property.
Documents	Documents records are scanned images of documents supplied by the claimant (or their agent) to support their systematic registration claim. Scanned document records are attached to the document records created for the application. SOLA Systematic includes a number of document types to help categorize the documentation received and also requires certain document types to accompany services. SOLA Systematic includes a default set of document types that can be reconfigured to match those required by the statutory authority who receives, approves and issues certificates at the conclusion of the systematic registration process
Land Administration Agency	The government authority with statutory responsibilities for the administration of land titles and the cadastral system.

Parcel (Cadastre Object)	Represents an area of land to which ownership rights apply. Parcels captured in SOLA Systematic should have a spatial definition that illustrates the shape and geographic location of the parcel.
Party	An individual, organization or group that has an association to a property or a property transaction.
Property	Used to link the rights and restrictions over a parcel to the parties that hold those rights and restrictions. The information represented by a property is recorded on the Land Certificate and is often refered to as 'title" in this manual.
RRR	RRR are the specific rights, restrictions and responsibilities that can be registered on a property e.g. freehold ownership, lease, mortgage, caveat, etc. SOLA Systematic includes a default set of RRR that can be reconfigured to match those required by the land administration agency responsible for systematic registration.
Service	Used to control the type of change a SOLA application can make to the systematic registration database record of properties including claimant and cadastral details. Services broadly identify the actions the systematic registration team will undertake for a SOLA systematic registration claim application. Every SOLA application captures in SOLA Systematic must include at least one service. SOLA Systematic includes a default set of services that can be reconfigured to match those required by the land administration agency responsible for systematic registration.
SOLA Application	SOLA applications contain the systematic registration claim details (including associated mapping) and manages the data capture and subsequent processing of the claims requests received by the systematic registration team through to the issuing of new land certificates and the transfer of the completed systematic registration claim to the land administration authority. SOLA applications have a lifecycle and transition into different states as the systematic registration team processes the systematic registration claim that initiated the application. The primary role of an application is to implement case management functionality in SOLA Systematic.

3.1 SOLA Application Lifecycle

SOLA applications can exist in different states as they progress through SOLA Systematic. To transition a SOLA application into a different state you need to trigger an action, although not every action causes the application to change state. The actions you can apply to an application are

Lodge	This action is triggered when you data capture a new systematic registration claim application. The Lodge action causes the application to be assigned the Lodged state.
Validate	Validates the details of the application and presents the results on the Validations tab of the Application Details screen. To validate an application, use the Validate tool in the Application Details toolbar.

Assign	Assigns the application to the nominated systematic registration team user. Triggered from the Application Assignment screen.
Un-assign	Un-assigns the systematic registration team user currently assigned to the application. Triggered from the Application Assignment screen.
Requisition	An application may be requisitioned when further information is required to support the systematic registration claim from the applicant or the agent using the Requisition tool in the Application Details toolbar. The Requisition action transitions the application into the Requisitioned state effectively placing it on hold until the additional information is received. This tool is only available when the application is in a Lodged state and is assigned to a user.
Resubmit	Once the claimant or agent supplies the necessary information, the application can be resubmitted for further processing using the Resubmit tool in the Application Details toolbar. This tool is only available when the application is in a Requisitioned state and is assigned to a user.
Withdraw	Claimants and/or agents can request the systematic registration claim application to be withdrawn prior to public display approval To withdraw an application, use the Withdraw tool in the Application Details toolbar. The Withdraw action transitions the application into the Annulled state. This tool is available when the application is in a Lodged or Requisitioned state and is assigned to a user.
Lapse	Applications that remain requisitioned for an extended period without response from the applicant or agent may lapse. To lapse an application, use the Lapse tool in the Application action dropdown. The Lapse action transitions the application into the Annulled state. This tool is only available when the application is in a Requisitioned state and is assigned to a user.
Cancel	Applications that are created by mistake, have become invalid or are rejected following assessment can be cancelled at the discretion of the systematic registration team leader using the Cancel tool in the Application Details toolbar. The Cancel action transitions the application into the Annulled state. This tool is only available when the application is in a Lodged state.
Approve	Following assessment of the application and completion of all services (completion or cancellation), the application may be approved using the Approve tool in the Application Details toolbar and it then is able to be part of a systematic registration public display. The Approve action executes the approve business rules for the application and transitions it into the Approved state if the rule checks are successful. This tool is only available when the application is in a Lodged state, is assigned to a user and all services for the application are in either a Completed or Cancelled state.

Dispatch	Notifications (e.g. emails, letters and telephone calls) to the claimant or agent can be noted against the application using the Dispatch tool in the Application Details toolbar. Where practical, the notification should also be attached to the application as a document for future reference. The Dispatch tool is only available when the application is in an Approved, Requisitioned or Annulled state.
Archive	When all processing is complete and the appropriate notifications dispatched, the application can be completed using the Archive tool in the Application Details toolbar. The Archive action transitions the application into the Completed state. Once it is complete, the application will no longer appear in the Assigned or Unassigned lists on the Dashboard. This tool is only available when the application is in an Approved or Annulled state.

The following state transition diagram illustrates the Application Lifecycle and the effect different actions have on application state.

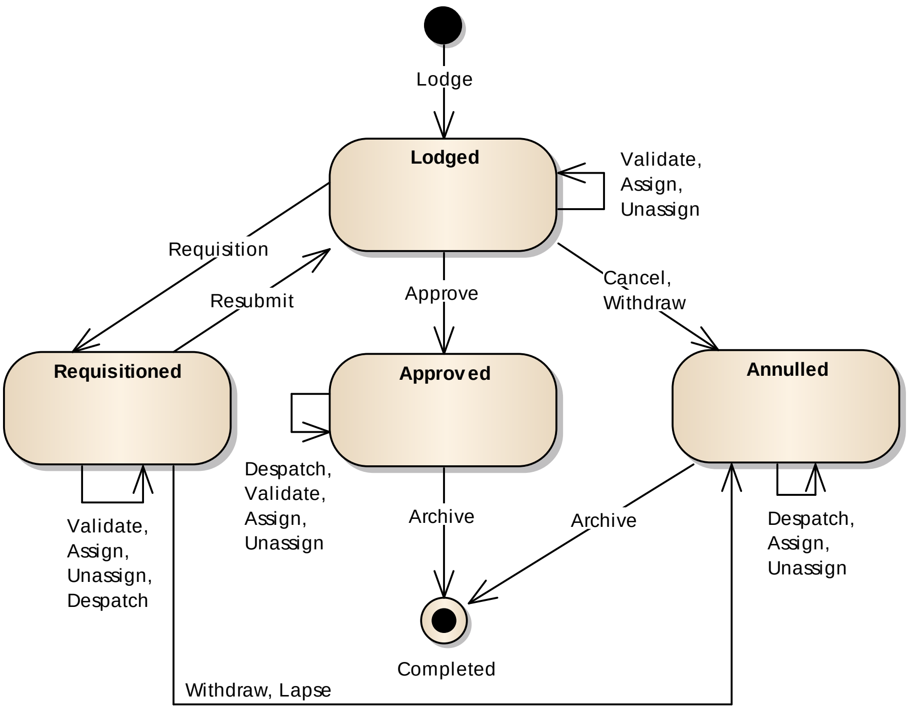


Figure 1 - Application Lifecycle

3.2 Services

Services are a key component of SOLA Systematic as they control the changes that can be made to the land register and cadastre information maintained by Registry. Every application lodged in SOLA Systematic must include at least one service. In cases where several changes to the systematic registration claim are required as part of a single application, you can choose to add multiple services to the application. The categories of services supported by Registry are:

- Registration Services
- Survey Services
- Supporting Services

Changes made to the systematic registration database information as part of a service must be justified by a document of some kind. This could be a completed application form requesting a particular change or it could be an adjudicated parcel boundary change in the case of a boundary dispute. These documents must be scanned and linked to the SOLA Systematic claim application in support of the service. If the documents required by a service are not linked to the application, SOLA Systematic will not allow the service to be completed. The documents required for each service are noted in the following sections. You can obtain more details about a specific document type from the Documents section.

SOLA Systematic includes a default set of services that are described in the following sections. Note that these can be reconfigured to match those services required by the land administration authority responsible for systematic registration.

3.2.1 Registration Services

Registration Services can be used to add, modify or remove the rights and restrictions recorded for a property. The rights and restrictions supported by SOLA Systematic are described in the Rights, Restrictions and Responsibilities (RRR) section.

Service Group	**Service**	**Description**	**Required Documents**
General Registration	Systematic Registration claim	Records details from the systematic registration claim application form which have been collected by field teams and are signed by applicant(s)	Completed Systematic Registration Application
General Registration	Register Easement	Used to record a right of way over a property.	
Disputes	Record objection	Record details of objections to a systematic registration claim application	

3.2.2 Survey Services

Survey Services can be used to capture details from new plans and update the cadastral network information recorded in Registry.

Service Group	**Service**	**Description**	**Documents Reqd.**
Survey	Change to Cadastre	Used to capture the details resulting from systematic registration mapping and property sketches.	Cadastral Survey
Survey	Redefine Cadastre	Used to make changes to the systematic registration mapping such as may be required after the resolution of a boundary dispute.	Cadastral Survey

3.3 SOLA Service Lifecycle

Like applications, SOLA services can also exist in different states which they transition to via service actions. The actions you can apply to a service are

Lodge	This action is triggered when you save a new service for the first time. The Lodge action causes the service to be assigned the Lodged state.
Start	To start processing the service, use the Start tool on the Application Details Service tab toolbar. The Start action transitions the service into the Pending state. The Start tool is available when the application is assigned and one of the services in the services list is selected.
Cancel	If a service is no longer required or is inappropriate for the application, the service can be cancelled using the Cancel tool on the Application Details Service tab toolbar. The Cancel action transitions the service into the Cancelled state. Note that all services must be in a state of Cancelled or Completed before the application can be approved. The Cancel tool is available when the application is assigned and one of the services in the services list is selected.
Complete	To complete processing of the service, use the Complete tool on the Application Details Service tab toolbar. The Complete action executes business rules for the service and transitions it into the Complete state if the rule checks are successful. Note that all services must be in a state of Cancelled or Completed before the application can be approved. The Complete tool is available when the application is assigned and one of the services in the services list is selected.
Revert	During quality review or approval, if the user determines a service requires further attention, they can reset the status of the service using the Revert tool on the Application Details Service tab toolbar. The Revert action transitions the service back to the Pending state for further processing. The Revert tool is available when the Application is assigned and the selected service has a Completed status.

The following state transition diagram illustrates the Service Lifecycle and the effect different actions have on Service state.

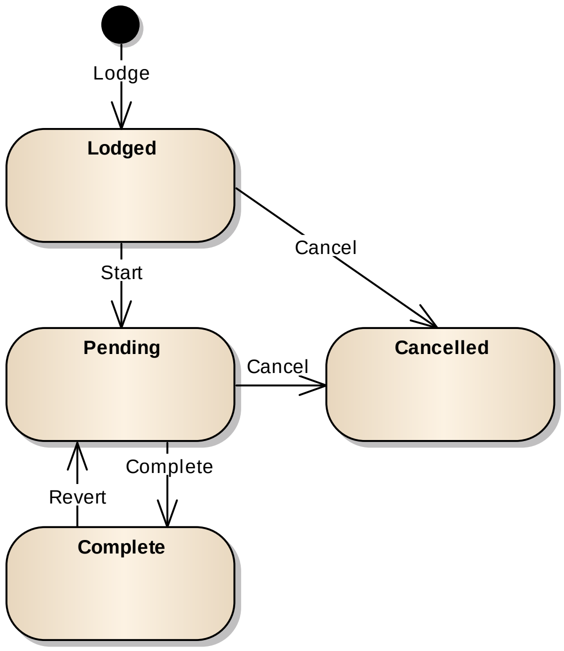


Figure 2 - Service Lifecycle

3.4 Rights, Restrictions and Responsibilities (RRR)

RRR are the rights, restrictions and responsibilities that can be registered on a property.

The primary right is used to indicate the main estate type for the property (i.e. Apartment, Ownership or State Ownership). Every property should have one primary right. The services that can be used to create, change or cancel each type of RRR are also indicated in the table.

Registry includes a default set of RRR that are described below. Note that these can be reconfigured to match the RRR required by the land administration agency.

Type	Description	Create	Change	Cancel
Ownership	**Primary right** indicating the property is under a Land Certificate.	New Land Certificate Other Land Certificate Registration	Transfer & Inherit Vary Right (General) Registration on Land Certificate	Remove Right (General)
Right of Way	Indicates the property is subject to or benefits from a right of way.	Register Right of Way	Vary Right (General)	Remove Right (General)

The primary right is used to indicate the main estate type for the property.

3.5 Documents

Documents are scanned image records of documents supplied by applicants in support of their systematic registration claim application.

3.5.1 Document Types

Document types are used to categorize the documents received and every document recorded in SOLA Systematic must have a document type. Some services also require certain documents to accompany them as noted in the following table.

Registry includes a default set of document types that are described below. Note that these can be reconfigured to match the document types required by the land administration agency.

Type	**Description**	**Services requiring the document**
Agreement	A documented or legally enforced agreement between two or more parties.	
Application	Systematic registration claim application	
Cadastral Map	A printed map or sketch that illustrates cadastral features.	
Contract for Sale	An agreement between a vendor and a purchaser that documents the terms of sale for a property.	
Land Certificate	A report or certificate that describes the rights, obligations or interests a party or group of parties hold over a property.	
Court Order	An order of the court that applies to a property and/or a land registration transaction.	
Death Certificate	A certificate recording the death of a person	
Deed	A legal instrument that describes the rights, obligations or interests one or more parties have over a property.	New Apartment Title Register Building Restriction Register Historic Preservation Order Register Limited Road Access Register Servitude Remove Right (General) Vary Lease Vary Right (General) Cancel Power of Attorney Withdraw Standard Document
Dispute	Objection to systematic registration claim application	
Office Note	A text file (e.g. Word, Excel, plain text, etc.) that describes and justifies a change to the register or the cadastral network by a land administration agency staff member.	

Type	Description	Services requiring the document
Proof of Identity	A passport or similar style photograph or an official document (e.g. birth certificate, driver's license, etc.) that can be used to verify the identity of a person.	
Sworn Affidavit		
Tax Payment	Notice confirming payment of taxes.	
Will	A legal declaration that names the benefactors of a deceased person's estate along with those responsible for administering the estate. The Will must be probated and legally enforceable by the executor.	

3.6 Business Rules

SOLA Systematic employs business rules to automatically validate the data entered by a user to ensure consistency of the data as well as warning the user of potential irregularities. Business rules are usually executed just prior to changes in state of an application or a service (e.g. application approval) but can also be manually triggered using the Validation tool in the Application Details screen.

All business rules have a severity rating and the failure of any critical business rule will cause the current action to be aborted. In this situation, the user will be required to remedy the issue reported by the failed critical rule(s) before processing can continue.

The results of the business rules are displayed in the Business Rule Feedback popup. Each row in the Feedback popup represents a business rule that has been executed by the validation process. The first column is a message that describes the business rule from the perspective that the business rule passes. The last column contains either a green traffic light icon repressing a pass of the business rule or a red traffic light representing a fail. The severity rating for each business rule is also listed. As noted above, any critical fails from an automated validation will prevent the current process from completing until the critical fail has been remedied. Other severity fails will not abort the current action allowing the process to complete.

The default ordering of the validation checks is for fails to appear at the top ordered by severity.

Where possible, business rules are defined in such a way that if they are irrelevant to a particular situation, they are excluded and do not appear in the Feedback popup. Sometimes the complexity of a business rule prevents this screening process and you may find business rules listed that are not particularly relevant to the current situation. Similarly, not all business rules can be automated and so this form of checking should not be considered the only checking method. However, if you identify a new business rule that you think could be automated, contact the SOLA FAO support team with details.

A complete listing of all business rules including what remedial action should be taken is included in Appendix 1 – SOLA Systematic Business Rules.

Feedback	Severity	
Service 'Registration on Title' must have been started and some changes made in the system	critical	
All documents required for the services in this application are present.	critical	
There are services in this application that should be dealt in the front office. These services are of type: serviceEnquiry, documentCopy, cadastrePrint, surveyPlanCopy, titleSearch.	warning	
An application can be associated with a property which should have a digital title record.	warning	
Personal identification verification should be attached to the application.	medium	
An application must have at least one service	critical	
Documents attached to the objects, created or modified through the service, must have a scanned image file (or other source file)	critical	
Documents supporting rights (or restrictions) must have current status	critical	
Within the application for the service a personal identification verification should be attached.	critical	
Documents attached to the objects, created or modified through the service, must have a scanned image file (or other source file)	critical	
Documents supporting rights (or restrictions) must have current status	critical	
Within the application for the service a personal identification verification should be attached.	critical	

Figure 39 – Business Rule Feedback

4. Getting Started

This section describes the steps to install the SOLA Systematic client software on your computer.

4.1 Installation & Upgrade Pre-requisites

The Java SE Runtime Environment 8 is required for the SOLA Web Start Applications. All versions of Java 8 are compatible with the SOLA Systematic Web Start Application. If you don't have Java 8 installed, you can download the latest update from http://www.oracle.com/technetwork/java/javase/downloads/index.html.

- Download the **Standard Edition (SE) Java Runtime Environment (JRE)**. It should be approximately 30Mb.
- You will need to accept the Oracle Binary Code License Agreement for Java SE before downloading Java 8.
- Download the product appropriate for your operating system. If you have a Windows 64bit OS, it is recommended you install the Windows x86 Offline option (i.e. 32bit) JRE. The 32bit JRE has better integration with web browsers on both 32bit and 64bit OS.
- You will require local administration privileges to install Java 8
- It is recommended that you install update 231 of the JRE or above.

4.2 Upgrading

If you are upgrading from an earlier version of the SOLA Systematic Web Start application, simply launch SOLA from the desktop shortcut. Java Web Start will automatically download the new release and upgrade the SOLA Systematic Client for you. Be aware that the upgrade will also replace your desktop shortcut and you may need to reconfigure the shortcut as described in Configuring the SOLA Systematic Shortcut in the Installation section (Section 4.3.1).

If you receive an Unable to launch the application error after attempting to upgrade SOLA Systematic , it is recommended that you uninstall then reinstall the SOLA web start application. Refer to the Uninstall section 4.5 for information on how to correctly uninstall a Java Web Start installation.

4.3 Installation

These installation instructions are for the client SOLA Systematic application using Java Web Start.

1. Using your web browser, navigate to the server url where your system administrator has advised you that the SOLA Systematic application server is running eg http://192.168.1.100/sola_sr
2. Right click the SOLA Systematic Web Start link and choose **Save link as...** and save the sola-sr-desktop-test.jnlp file to a known location on your local file system. [*Ignore and do not try and install the now obsolete SOLA Admin desktop app*]
3. Once the file has been saved on your file system, browse to the sola-desktop.jnlp file using Windows Explorer or equivalent and double click the file. You should see a Java 8 splash displayed.

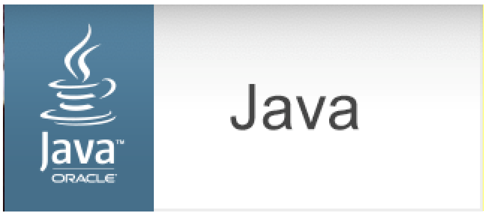


Figure 4 - Java 8 Splash

4. Followed by the Starting application... dialog

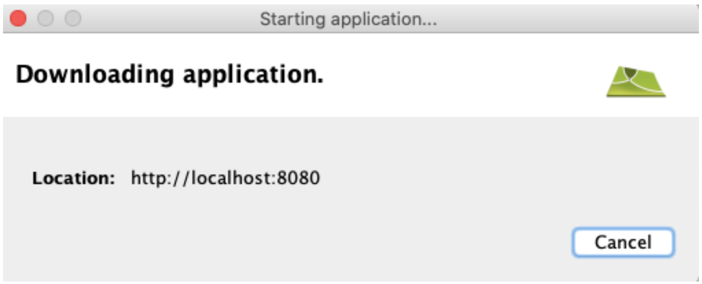


Figure 5 - Starting application... dialog

5. Once the download is complete, the installation may pause for several minutes while it performs verification of the installation package. Please wait until this action has completed.
6. When prompted with the **Do you want to run this application?** warning, tick *Do not show this again…* and choose **Run**

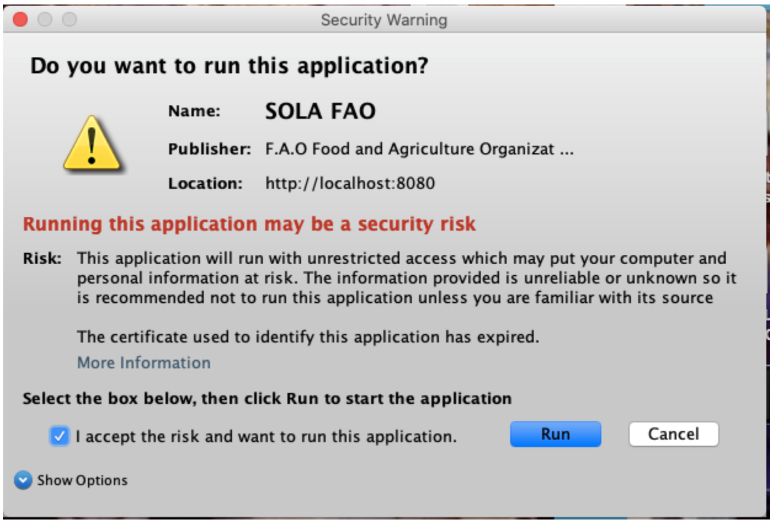


Figure 6 - Warning dialog

7. The SOLA Systematic will start automatically. At the login screen, enter User **test** and Password **test.** You will be presented with the SOLA Dashboard.

4.3.1 Configuring the SOLA Systematic Shortcut

The installation will place a shortcut to the SOLA Systematic on your computer desktop. This shortcut may be configured to use an older version of Java which will prevent the application from being launched. Test the shortcut by double clicking it. If you get the **Unable to launch application** error displayed due to the requested version of the JRE, perform the following steps. Note that the Properties dialog illustrated below may vary in appearance depending in the operating system you are using.

1. Right click the SOLA Systematic Web Start shortcut and choose Properties

Figure 7 - SOLA Systematic Web Start desktop shortcut

2. Update the Target: field on the Shortcut tab by removing any path (e.g. C:\Windows\System32\) before the javaws.exe command. This will ensure the shortcut uses the default Java installation on the computer. You may need to scroll left to reach the start of the Target: field.

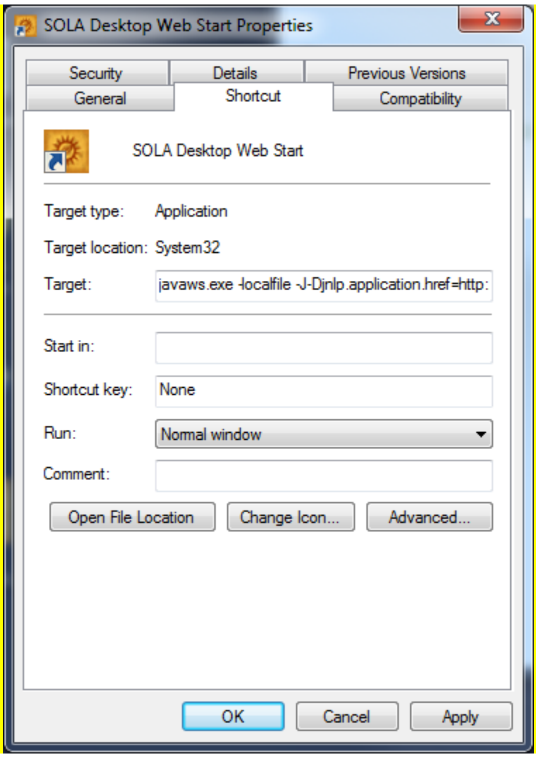


Figure 8 - SOLA Systematic Web Start Properties

4.4 Installation Troubleshooting

This section discusses some of the issues you may encounter when installing the SOLA Systematic Desktop Web Start. This may include:

1. Unable to launch the application
2. Error: The application has requested a version of the JRE (version 1.7+)...
3. Microsoft Jscript compilation error
4. Download/launching of the SOLA Web Start Application hangs/freezes
5. Where is the Java Control Panel ?

If Java web start installation problems persist contact your system administrator and suggest that as an interim solution the client desktop jar file and lib folder be copied onto each workstation computer where SOLA Systematic is to be used (as detailed in the SOLA Desktop Administration Guide – refer to Interim Local Jar File Client Installation).

4.4.1 Unable to launch the application

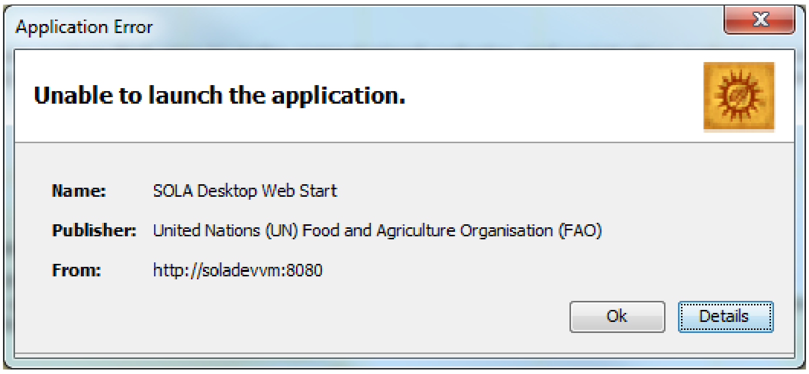


Figure 9 – Application Error dialog

Click the Details button to get the More Information dialog. The relevant error message should be displayed at the top of the dialog. You can also view the Exception tab for more details.

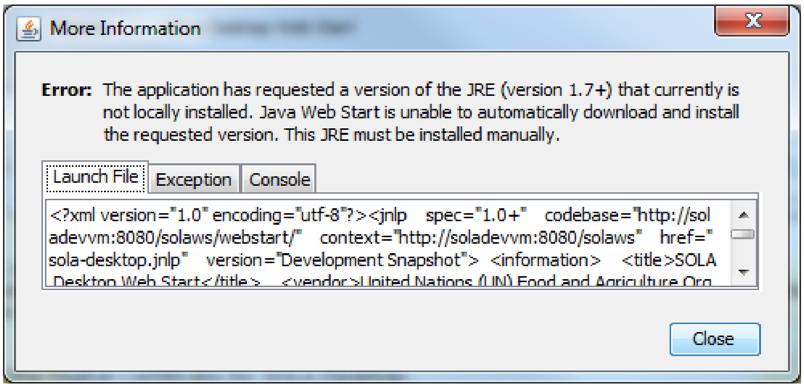


Figure 10 - More Information dialog

4.4.2 Error: The application has requested a version of the JRE (version 1.8 +)...

The following identifies what you should check or confirm in order to get the SOLA Desktop running using Java 8

1. Confirm you have Java 8 installed as the default JVM on your computer

    a. From Control Panel, click on Java and go to the Java Control Panel, click About... You should see the Java 8 Standard Edition dialog displayed.

Figure 11 - About Java

    b. If a different version of Java is displayed, install / reinstall Java 8.

2. Java version of your web browser

    a. Although Java 8 is installed as the default JVM, unfortunately it does not update the Java version used by your web browser. If you left click the SOLA Registry Desktop Web Start link rather than right clicking and using Save link as... Java Web Start will be automatically triggered using Java configured for your web browser. To avoid this issue, right click the **SOLA Systematic Web Start** link on the Welcome page and choose **Save As**... to save the sola-desktop.jnlp file to your local file system. Once saved, use Windows Explorer or equivalent to launch the application as described in the Installation section.

3. Desktop shortcut configuration

    b. If you get this error when launching the application using the SOLA Systematic shortcut you will need to configure the shortcut. Refer to Configuring the SOLA Systematic Shortcut in Section 4.3.1

4.4.3 *Microsoft JScript compilation error*

This is a known issue with Java[1].

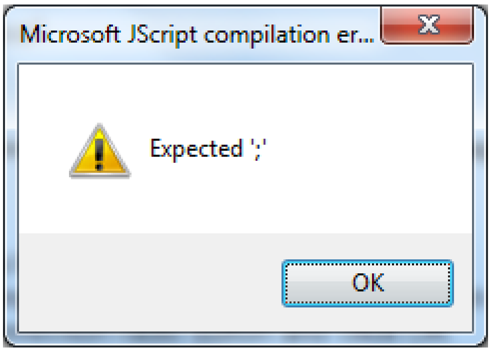
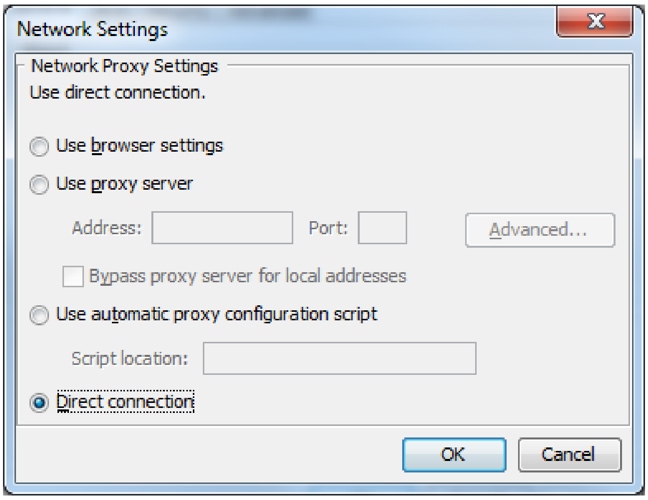


Figure 12 - JScript Compilation Error Message

To avoid this issue

1. Open the Java Control Panel
2. Choose Network Settings... in the Network Settings section of the General tab
3. Choose the Direct Connection radio button and click OK



4.4.4 *Download/launching of the SOLA Systematic Web Start Application hangs/freezes*

If the download or launching of the SOLA Registry Web Start Application hangs / freezes, this may indicate that Java Web Start is being blocked by a firewall or anti-virus software. Try temporarily disabling your anti-virus and attempt to download the web start application again. This issue is known to occur with later versions of AVG Anti-virus (v9.0+).

4.4.5 *Where is the Java Control Panel?*

On Windows you should find “Java” in Windows Control Panel. You may need to change from Category View to an Icon View to make it easier to find. If you Windows 10, you should also be able to search for “Java Control Panel” from the Start Menu search.

[1] http://bugs.sun.com/view_bug.do?bug_id=6780968

4.5 Uninstall

To uninstall the SOLA Systematic from your computer

1. Launch the Java Control Panel
2. Choose View... in the Temporary Internet Files section of the General tab

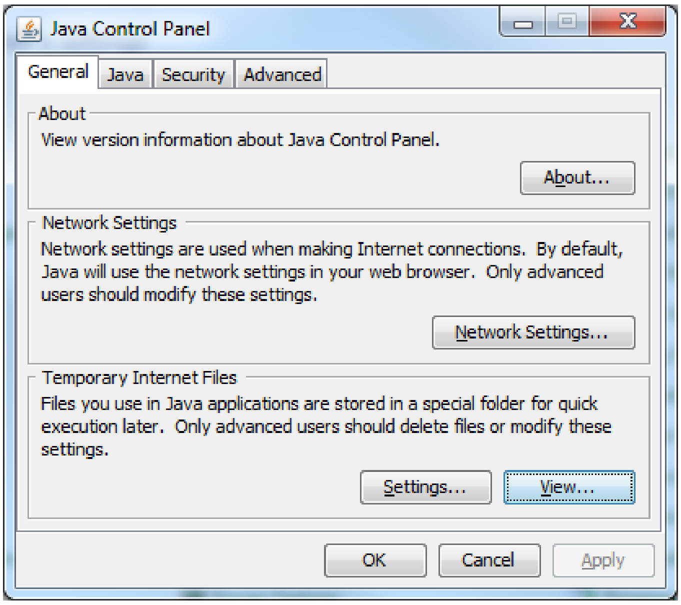


Figure 13 - Java Control Panel

3. In the Java Cache Viewer, select the SOLA Systematic Web Start application application and remove it using the Remove tool. This will remove your desktop shortcut to SOLA Systematic and the main jar for the application.

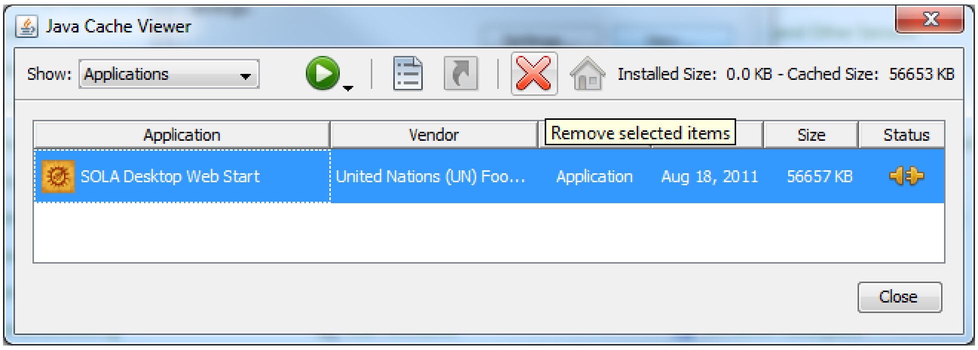


Figure 14 - Java Cache Viewer > Applications

4. To completely remove all references and jar's used by the SOLA Systematic Application you should also clear the Resources cache. To do this, choose Resources in the Show: drop down, select all of the resources listed and remove them using the Remove tool.

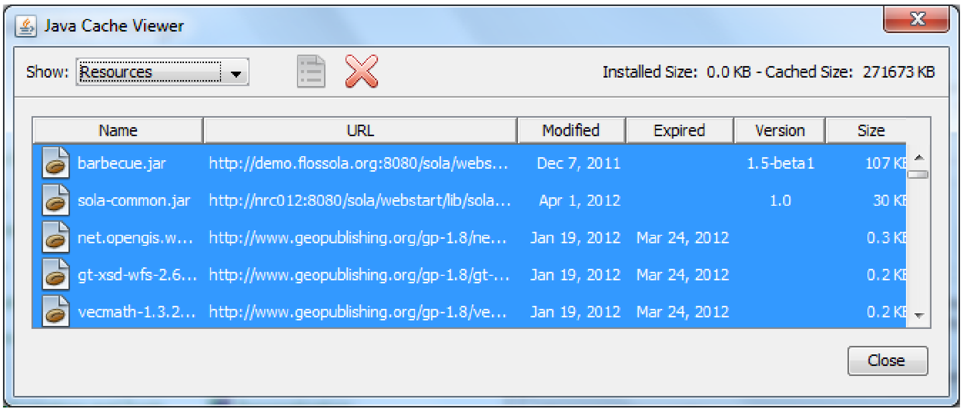


Figure 15 - Java Cache Viewer > Resources

5. SOLA Systematic Screens

5.1 Dashboard and Main Menu

You will be presented with the Dashboard following a successful login. The Dashboard lists the applications that are assigned to your user account along with the applications that have yet to be assigned.

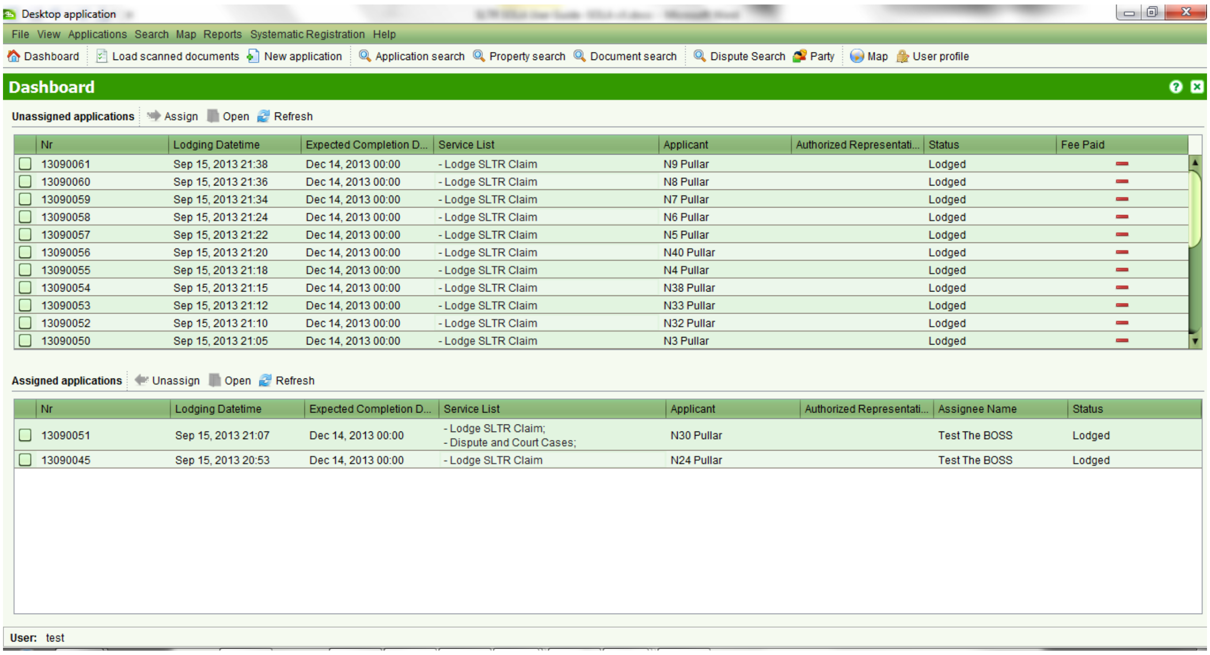


Figure 16 - Dashboard and Main Menu

Using the main menu and toolbar options you can

• Exit the SOLA Systematic	File > Exit or window close icon
• Export property rights information	File > Export rights
• Change the display language	View > Language
• Choose the log level	View > Log Level
• Navigate back to the Dashboard	Dashboard
• Create and lodge a new application	Applications > New Application or New application
• Search for an existing application	Search > Application or Application search
• Search for an existing property	Search > Property or Property search
• Search for an existing document	Search > Document or Document search
• Search for an existing person and add new parties	Search > Party or Party search
• Open the SOLA Map Viewer	Map > Map or Map
• Open your user profile to change your password	User profile

• View the lodgement report	Reports > Lodgement Report
• Load Scanned Documents	Load Scanned Documents or Systematic Registration > Load Scanned Documents
Public Display Listings	Systematic Registration > Public Notification > Parcel Number/Owner's Names/State Land
Public Display Maps	Systematic Registration > Public Display Maps
Generate Certificates of Occupancy	Systematic Registration > Certificates
Systematic Registration Reports	Systematic Registration > Reports > Status/Progress/Performance
Spatial Unit Group Editor (Section & Ward Boundaries)	Systematic Registration > Spatial Unit Group Editor
• Open the SOLA Systematic Help file	Help > SOLA Systematic Help
• View the Registry Desktop About dialog	Help > About
• Assign an unassigned Application	Check the application and click Assign in the Unassigned applications toolbar
• Select and edit an unassigned or an assigned Application	Open or right click menu
• Un-assign an assigned Application	Check the application and click Unassign in the Assigned applications toolbar
• Refresh the application lists	Refresh or right click menu

5.1.1 Also See

- SOLA Systematic Desktop Screens
  - SOLA Map Viewer
  - Application Search
  - Property Search
  - Document Search
  - Party Search
  - User Profile
- General How To
  - Change Language
  - Change Your Password
  - Lodge a new Application
  - Edit an Application
  - Assign an Application
  - Un-assign and Application

5.2 SOLA Map Viewer

The SOLA Map Viewer allows you to navigate and interact with the geospatial data managed by SOLA. It can be accessed from the Map > Open Map menu or selecting Map.

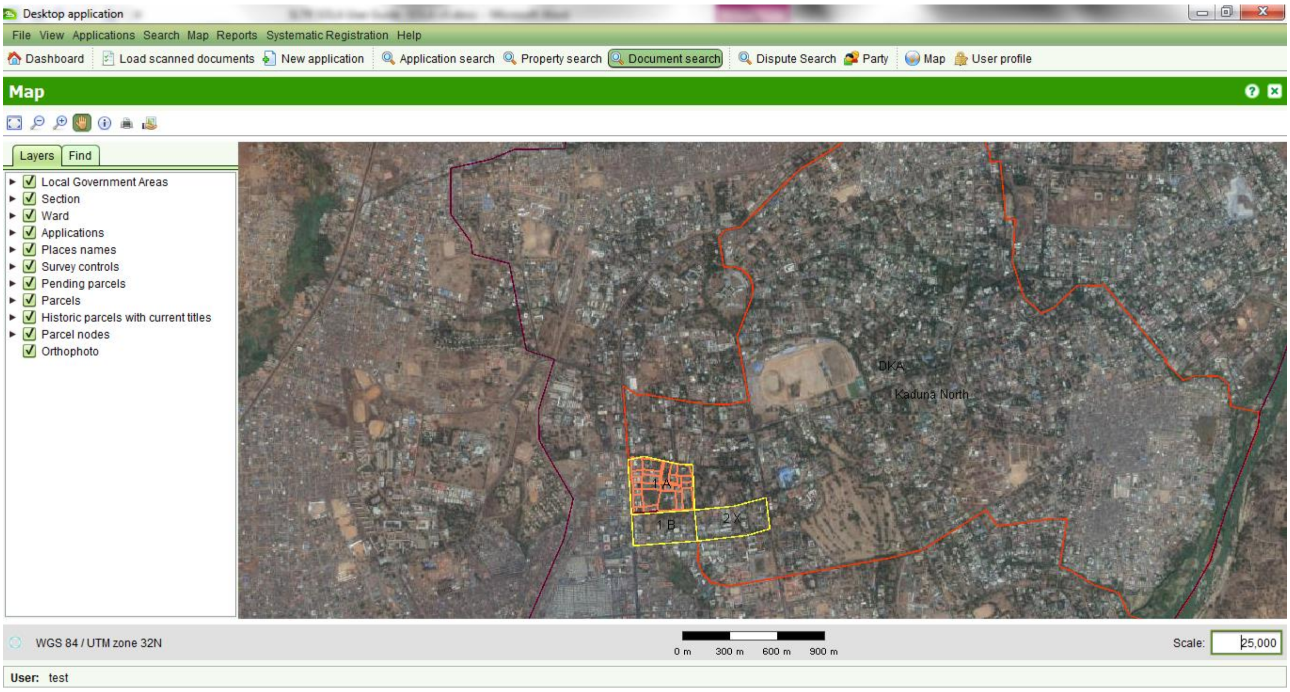


Figure 17 - SOLA Map Viewer

The SOLA Map Viewer includes a toolbar for navigating and querying the map as well as two tabs; Layers and Find. The Layers tab can be used to control the geospatial data displayed on the map while the Find tab that can be used to quickly locate parcels and other geospatial features in the map.

5.2.1 Map Tools

The tools provided for the SOLA Map Viewer are

- Zoom to extent
- Zoom out
- Zoom in
- Pan
- Information tool
- Print
- Export to KML

The SOLA Map Viewer can also support additional map tools for editing and related spatial tasks. These tools are described in the relevant How To sections.

5.2.2 Map Scale and Location

The scale of the map can be controlled using the Zoom in, Zoom out and Zoom to extent tools. The desired scale can also be entered directly into the Scale text box in the bottom right of the map.

A scale bar is displayed to help determine distances on the map. Note that due to variations in screen resolution, the scale bar is indicative only and it should not be used to obtain accurate measurements from the map.

As you pass the mouse over the map you will see map coordinates displayed in the bottom left corner under the Layers and Find tabs. This information can be used to determine coordinate locations on the map.

5.2.3 Layers

The Layers tab identifies the layers of geospatial data that can be displayed in the map. You can show or hide these layers by checking or clearing the checkbox next to the layer name.

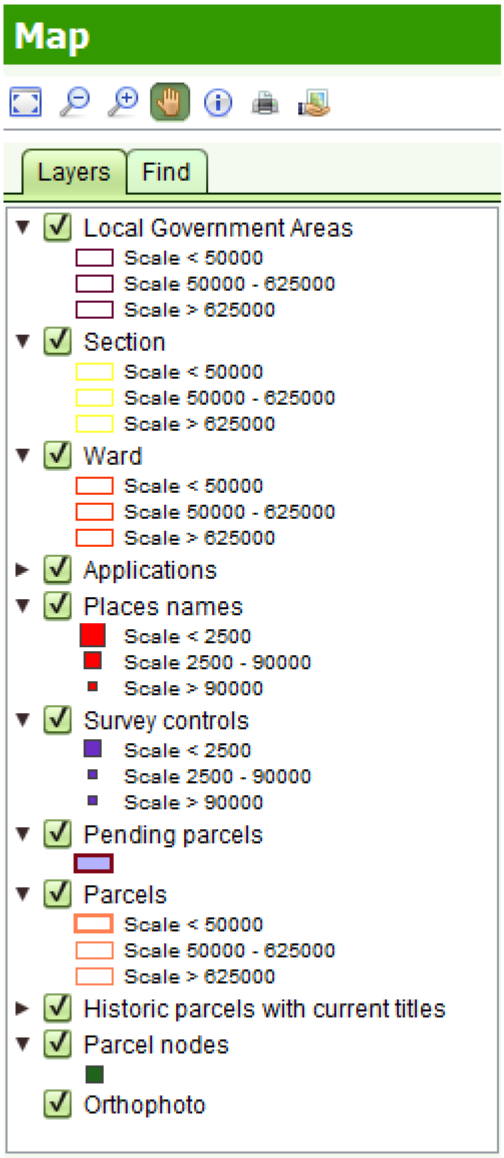


Figure 18 - SOLA Map Viewer Layers Tab

By clicking the triangle beside each layer name you can also see the symbology used to illustrate the geospatial data at different map scales. Using the map scale to control the layer symbology ensures the map does not become overly crowded with detail which might otherwise impair navigation or comprehension of the information displayed by the map.

The default layers available for SOLA Systematic Registration include

•	Parcel nodes	Illustrates the location of current parcel nodes.
•	Pending parcels	New parcels that have been created by a survey subdivision or amalgamation. These parcels remain pending until the application that created them is approved.
•	Parcels	Illustrates the location of current parcels
•	Orthophoto	Satellite imagery that has been corrected for lens distortion, camera tilt and topography to ensure they have a uniform scale and that has been spatially referenced in terms of UTM coordinates and WGS1984 datum making the imagery suitable for map display.

Figure 19 - Orthophoto layer

5.2.4 Find

You can use the Find tab to perform spatial searches to quickly locate parcels or other geospatial features in the map. To use the Find, select the type of geospatial feature to search in the Search By drop down and start typing in the field provided. Once you have entered enough characters (between 1 and 3), the search will begin listing values that match the search criteria. To view one of the results, double click the result value in the result list and the map will zoom to the location of the selected feature and highlight it.

Figure 20 - SOLA Map Viewer Find by Parcel Number

To remove the highlight from your selected feature on the map, click the Clear Map button.

The spatial searches available in SOLA Nigeria SYSTEMATIC are

- Number — Enter the parcel number (part of Nigeria Unique Parcel Identifier (UPI).
- Property Number — Enter the reference to the Land Certificate (same as Number for new certificates of occupancy).
- Property Owner — Enter name of holder of Land Certificate
- Section — Enter Section number

5.2.5 Information Tool

The Information Tool can be used to query geospatial features such as parcels and grids, etc. As geospatial features are often in close proximity or overlap, the Information Tool displays details for all features immediately surrounding the selected location. Click the appropriate tab to see details for the various layer features.

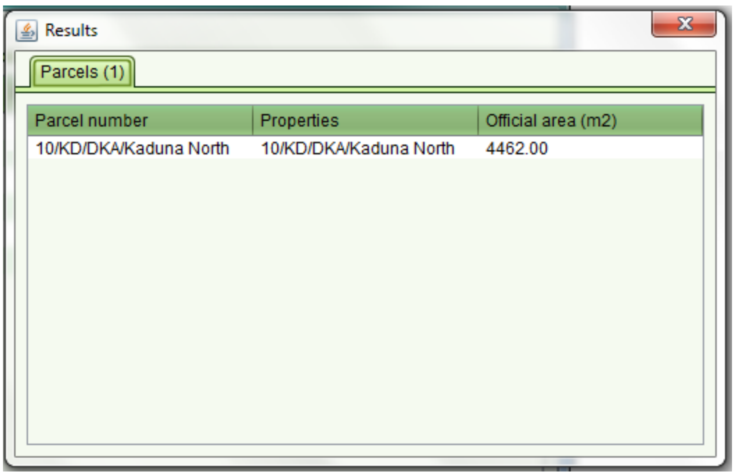


Figure 21 - Information Tool Results

5.2.6 *Print Tool*

The Print Tool can be used to export the current view of the map to a PDF file for printing. Before printing, you should setup the map with the layers you want to include in the print by turning them on or off. Once you have arranged the map with the information you want on the print, click the Print Tool. This will display the Print dialog where you can select the layout (A3, A4, A5) and change the map scale.

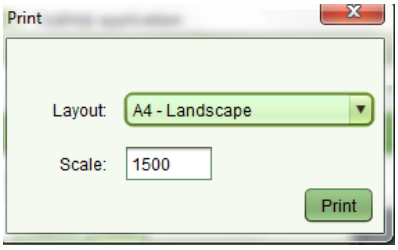


Figure 22 – Print dialog box

Click the Print button to generate a document containing the image of the map. Using the Report Viewer, you can save the print in several formats including PDF, DOCX and HTML or print a hard copy.

Figure 23 - Spatial Print

5.2.7 *Export to KML Tool*

The Export to KML Tool can be used to export the currently selected feature of the map into a basic format KML file. That KML file can then be loaded into Google Earth and displayed.

Before exporting, you should use the Map Find to locate and select a feature and then click the Export to KML Tool. This will export map data from the selection layer using longitude and latitude coordinates into a file called **mapExport.kml** in your ***<user_home>/sola/*** directory. If you have Google Earth installed, double click the file to launch Google Earth and show the feature super-imposed on Google Earth map. Note that you can also use Google Earth to change the styling for the feature.

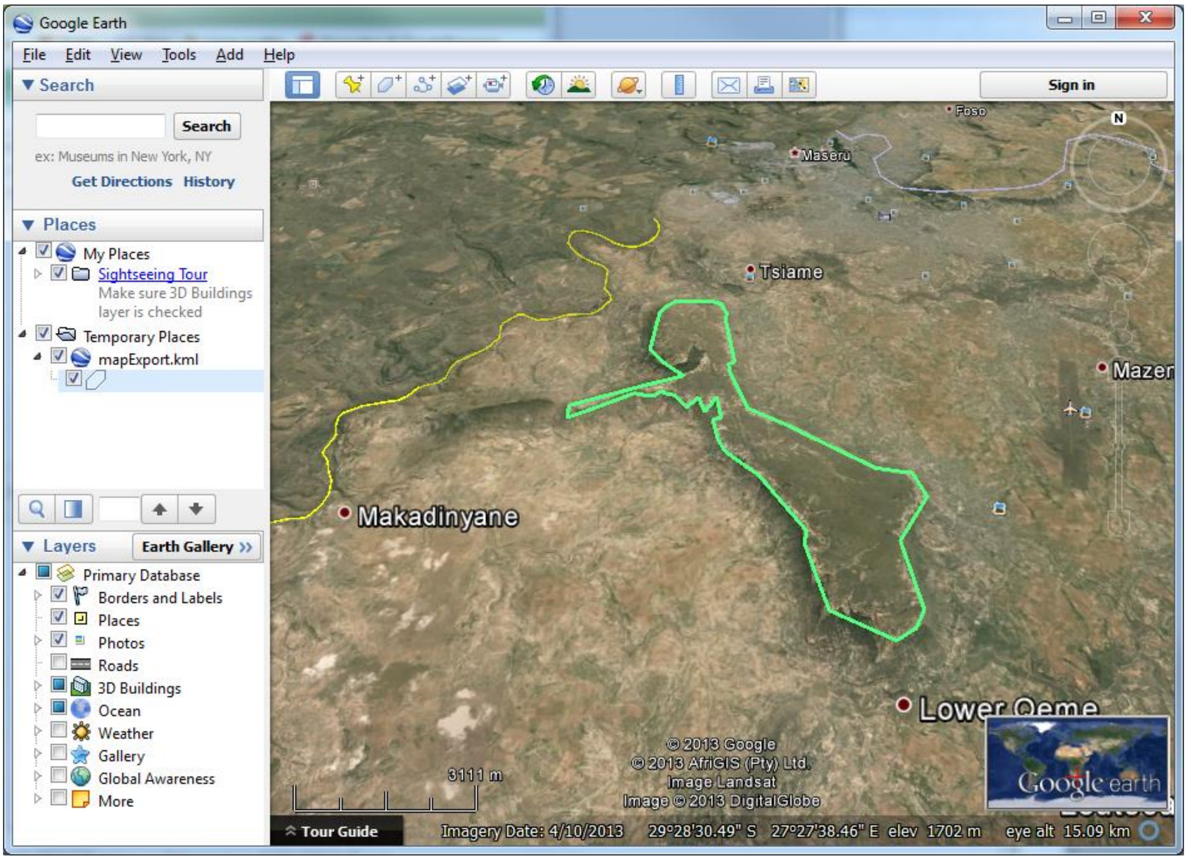


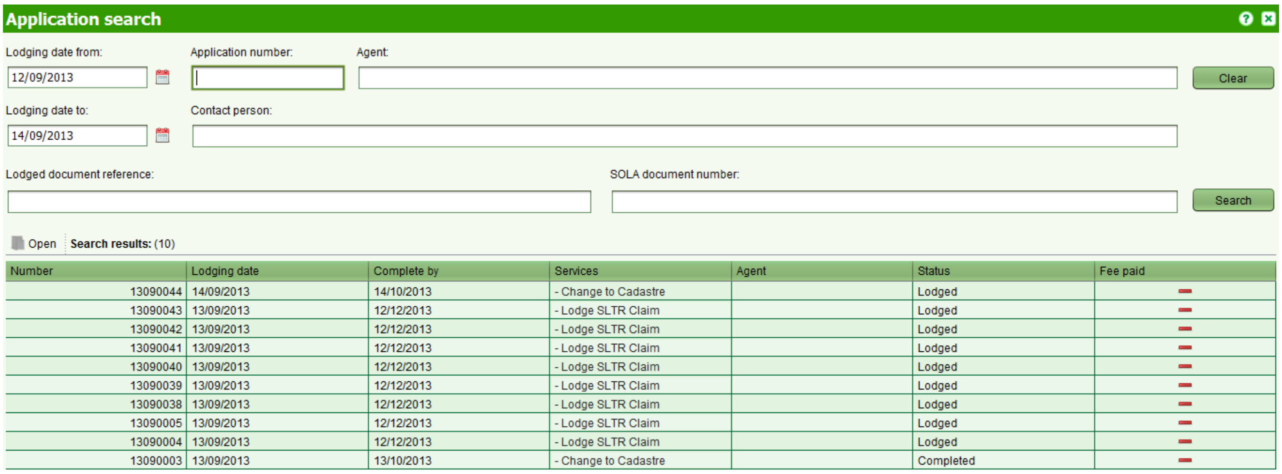
Figure 24 - KML Export displayed in Google Earth

5.2.8 Also See

- SOLA Systematic Screens
  - Change to Cadastre
  - Redefine Cadastre
- How To
  - Print Location Map Service

5.3 Application Search

The Application Search screen allows you to find applications of interest. It can be accessed from the Search > Search Applications menu or clicking Application search.



Number	Lodging date	Complete by	Services	Agent	Status	Fee paid
13090044	14/09/2013	14/10/2013	- Change to Cadastre		Lodged	
13090043	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090042	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090041	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090040	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090039	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090038	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090005	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090004	13/09/2013	12/12/2013	- Lodge SLTR Claim		Lodged	
13090003	13/09/2013	13/10/2013	- Change to Cadastre		Completed	

Figure 25 - Application Search

You can search by any combination of application number, agent name, contact person name, document reference and/or a lodging date range. The application number, agent name and contact person name also support partial and full matching.

To view the details of an application select it from the results table and press the Open button.

The search results can also be sorted by any of the columns displayed in the Search results table. Simply click a column header one or more times to switch the sort of the column values between ascending and descending.

5.3.1 Also See

- SOLA Systematic Screens
  - Application Details
- How To
  - Edit an application
  - Cancel, Withdraw or Lapse an Application

5.4 Application Details

The Application Details screen allows you to enter the details for a new application and/or edit the details of an existing application. To create a new application, click the Applications > New Applications menu or select New application

To edit an application, select the application in the assigned or unassigned application lists on the Dashboard and choose Edit.

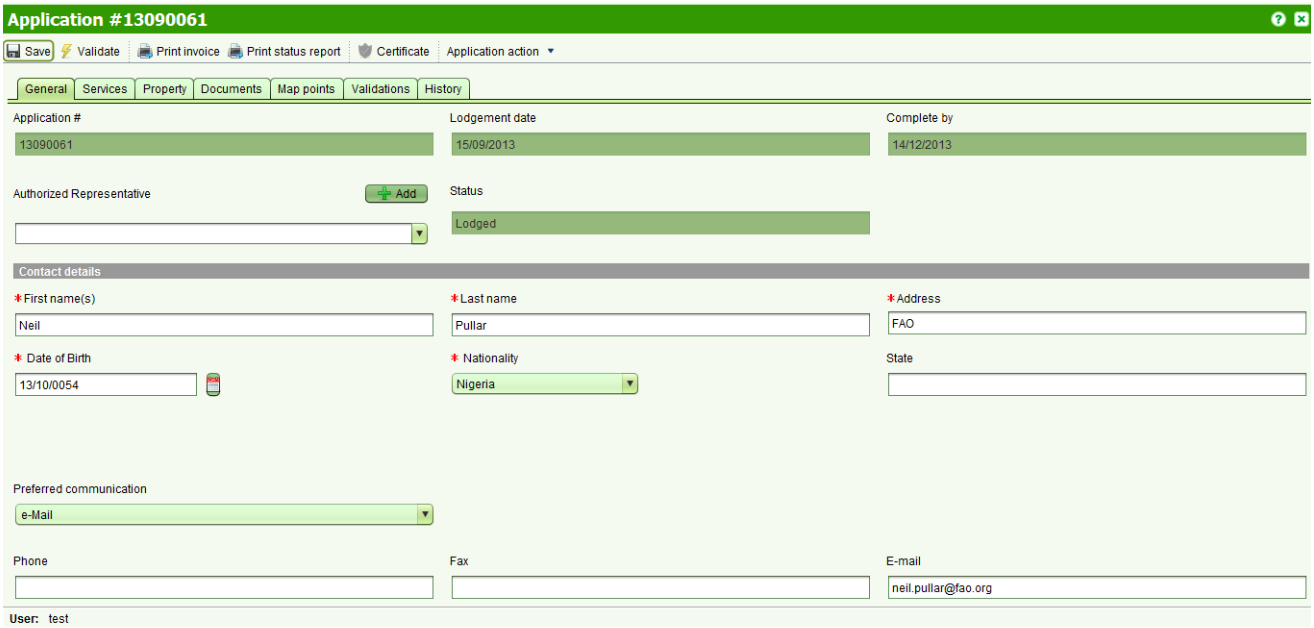


Figure 26 - Application Details General tab

An application represents a bundle of services that will be undertaken by the land administration agency, typically in response to a client request. Each service may result in changes to property information and/or associated rights. Details that can be captured for an application are:

Authorised Representative	An individual or organization that is making a Systematic Registration claim on behalf of the claimant or is one of many claimants and is the principal contact for the claimants. Authorised representative details are optional.
Services	Used to control the type of change an application can make to the land registry and/or cadastre information recorded in SOLA. These broadly identify the actions the land administration agency will undertake for the application. Refer to the Services section of information on the services available for SOLA Systematic. At least one service must be added to each application.
Property	Used to identify the parcel the service (such as Systematic RegistrationClaim) applies to. Use the Search Parcel UPI/Ward button and enter the Parcel number

Documents	The legal or other documents that explain and/or justify the reasons for changing land registry and/or cadastre information. Scanned images of documents should be attached to the application for easy reference. Document details are optional; however there are certain document types that are expected to accompany various services. The Required Document Types list on the Documents tab identifies the types of documents that should be included with the application given the services that have been selected.
Validations	Displays the results of the automated business rules executed when you choose to manually validate the application using the Validate action. Validation is only available after the application has been lodged.
Map Points	An option to record the application with a point in the SOLA Map Viewer
History	Displays the history of actions applied to the application and its services. The actions that can be applied to applications and services are in the Application Lifecycle and Service Lifecycle sections. History details are only available after the application has been lodged.

5.4.1 Also See

- SOLA Systematic Concepts
    - Application Lifecycle
    - Services
    - Service Lifecycle
    - Documents
- SOLA Systematic Screens
    - Dashboard and Main Menu
    - Application Search
    - Application Forms
- General How To
    - Lodge a new application
    - Edit an application
    - Calculate fees
    - Cancel, withdraw or lapse an application
- Documents How To
    - Add a document to an application
    - Attach a file to a new document
- Survey How To
    - Record a Completed Field Map
    - Redefine the Cadastre
- Systematic Registration How To
    - Lodge Systematic Registration Claim

5.5 Property Search

The Property Search screen is of limited usefulness for systematic registration but it does allows you to find and view properties of interest, although it will not display right holders names until systematic registration is complete and certificates of occupancy have been issued. It can be accessed from the Search > Search Property menu or selecting Property search

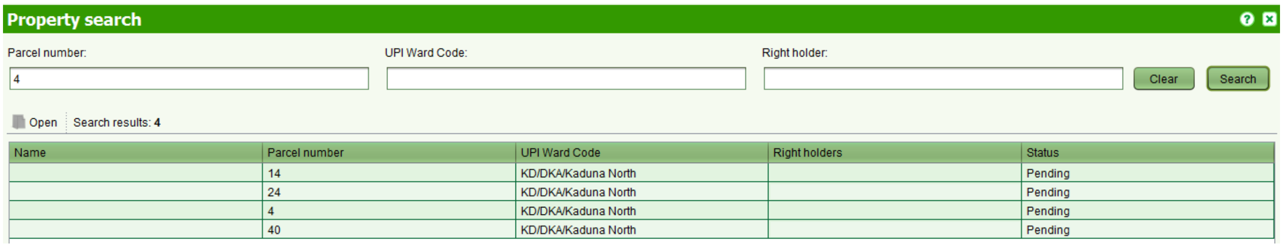


Figure 27 - Property Search

You can search by any combination of the parcel number and last part of the UPI including the reference to Ward, LGA and State. These fields also support partial and full matching.

To view the details for a property, select the property in the Search results list and click the Open button.

5.5.1 Also See

- SOLA Systematic Screens
  - Property details

5.6 Property Details

The Property Details screen allows you to view or edit property details. You can access the Property Details screen in view only mode by opening a search result from the Property Search screen. To edit property details, you must first lodge an application that contains a Lodge Systematic Registration Claim assign the application and then Start the service from the Application Details Service tab. The Systematic Registration How To section discusses how to process Lodge Systematic Registration Claim using the Property Details screen.

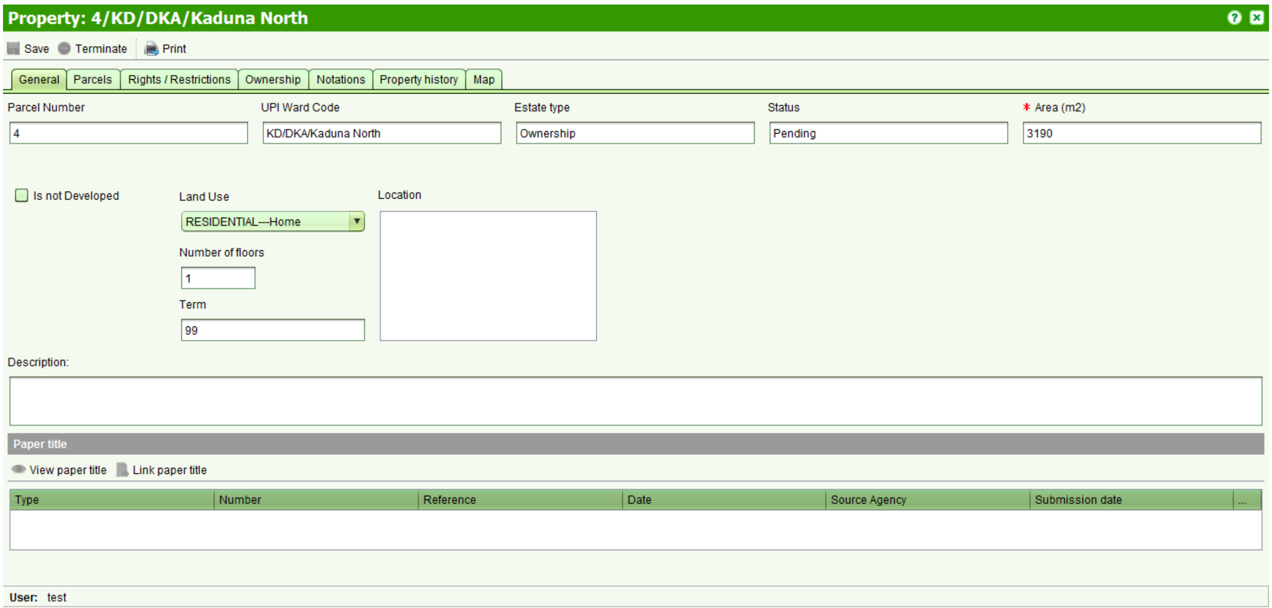


Figure 28 - Property Details

A property links the rights and restrictions over a parcel to the individuals or groups (i.e. parties) that hold those rights. The information represented by the property is often referred to as the Title. Details that can be captured for a property include:

Parcel	Details about the parcel the property represents.
Rights / Restrictions	The rights and restrictions the right holder(s) are accorded in relation to the parcel represented by the property. These will include the ownership right (which should be marked as the 'Primary' Right and could also include mortgages, liens, servitudes, usufruct and occupation rights and restrictions) This tab shows summary information of the current and pending rights and restrictions for the property
Ownership	The list of proposed owners (i.e. claimants) for the property. The Ownership tab is intended to provide quick access to the pending owners (and eventually current owner) details. Note that any changes in Ownership details must be captured on the Ownership right in the Rights / Restrictions tab through the Systematic Registration Claim service.
Notations	Short comments recorded when changes are made to the property that provides a succinct history of critical changes to rights and restrictions of a property.
Property history	Unlikely to be relevant to systematic registration but shows the list of parent properties (if any) that are superseded by the current Land Certificate (i.e. Prior Land Certificate) along with the list of child properties (if any) that the property has been superseded by when the property was cancelled or terminated.
Map	Provides the SOLA Map Viewer highlighting the parcel for the property if one exists. This can help to identify the location of the property.

5.6.1 Right and Restriction Details

The Rights and Restrictions (RRR) tab shows summary information for all current and pending (i.e. unregistered) rights and restrictions on the property. You can access further information about a specific right or restriction by selecting the RRR from the list and clicking the View toolbar button. The RRR details screen displayed will be dependent on the RRR you selected, however it should contain detailed information about the RRR as well as any supporting documentation that was linked to the RRR when it was first recorded.

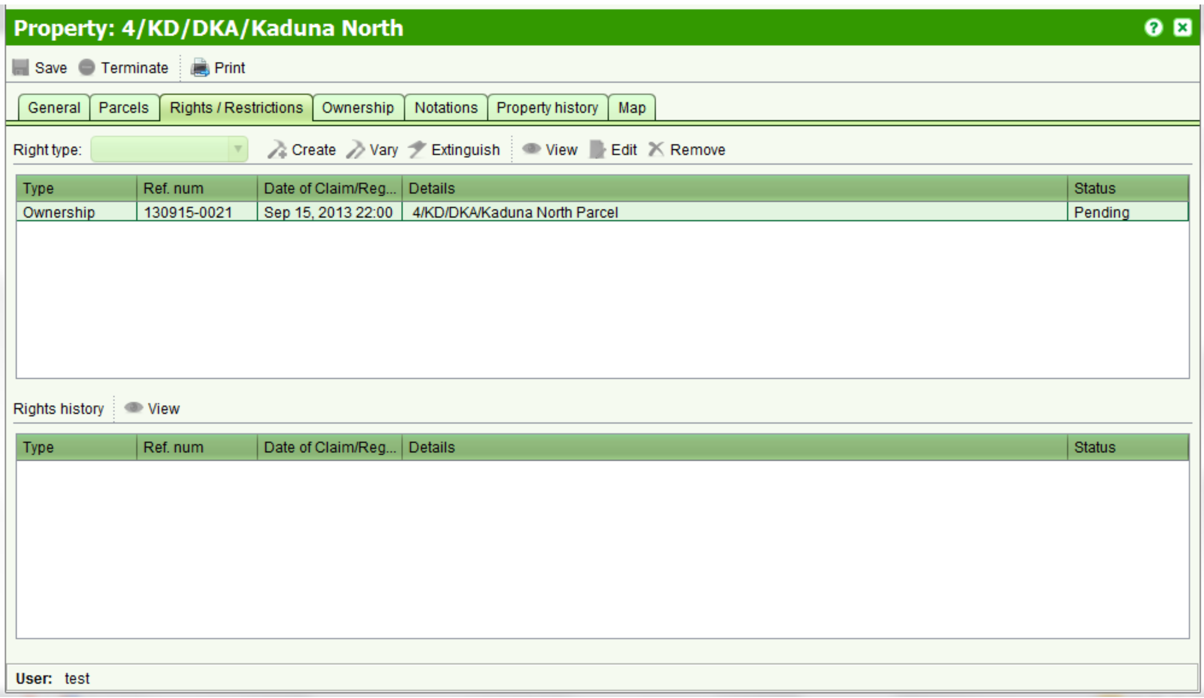


Figure 29 - Rights and Restrictions tab

This tab also displays the Rights history for the property in the bottom section of the tab. You can select and view the historic right details as required.

The other toolbar items available on this tab allow you to create, vary (modify) or extinguish (cancel) RRR. To use these toolbar items you must first lodge a Lodge Systematic Registration Claim application. When you Start a RRR related Service (such as Lodge Systematic Registration Claim) from the Application Details Services tab, it configures the Property Details screen enabling or disabling the RRR toolbar items relevant for that service.

5.6.2 Also See

- SOLA Systematic Concepts
    - Rights, Restrictions and Responsibilities (RRR)
- SOLA Systematic Screens
    - Property Search
- Systematic Registration How To
    - Lodge Systematic Registration Claim

5.7 Mortgage Details

The Mortgage Details screen contains information about the Mortgage rights for a property. It can be accessed from the Rights and Restrictions tab on the Property Details screen by selecting a Mortgage right (current, historic or pending) and clicking the View toolbar button.

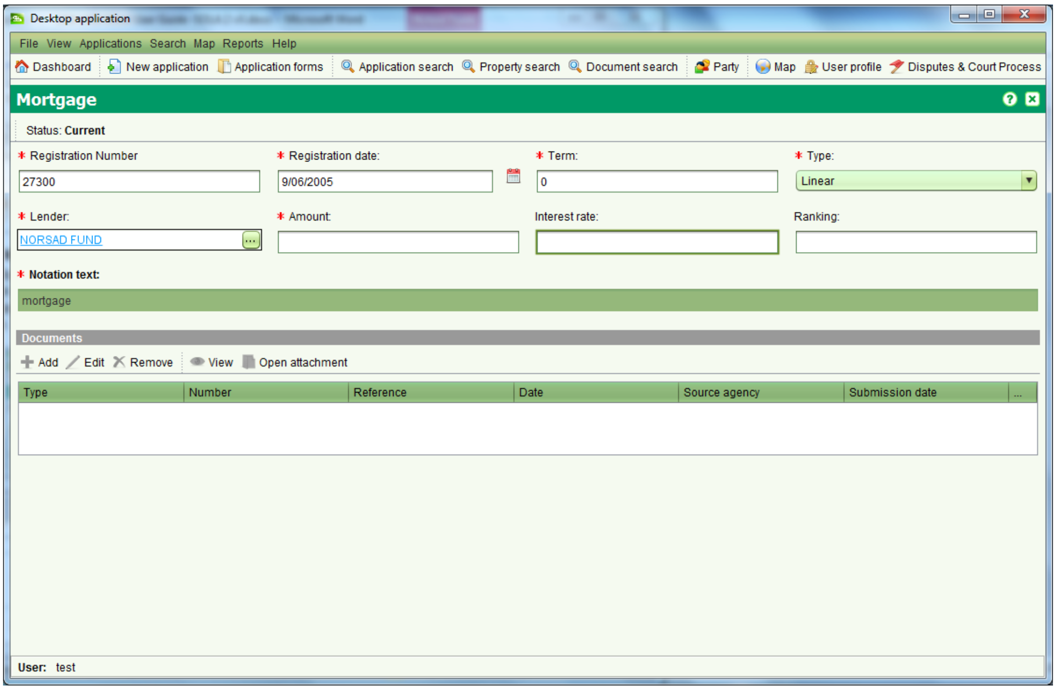


Figure 30 - Mortgage Details

To create a mortgage right you must first lodge a Systematic Registration Claim

5.7.1 Also See

- SOLA Systematic Concepts
  - Rights, Restrictions and Responsibilities (RRR)
- SOLA Systematic Screens
  - Property Search
- Systematic Registration How To
  - Lodge Systematic Registration Claim

5.8 Right of Way Details

The Right of Way Details screen can be accessed from the Rights and Restrictions tab on the Property Details screen by selecting a pending Right of Way right and clicking the View toolbar button.

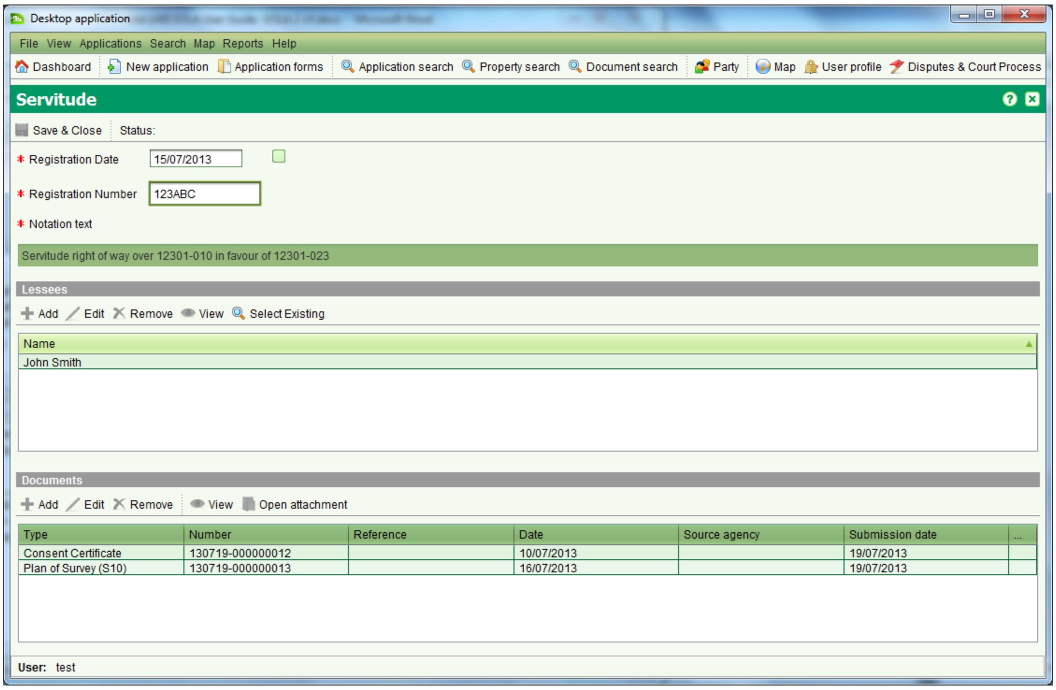


Figure 31 – Right of Way Details

To record a right-of-way you must first lodge an application with a Systematic Registration Claim service.

5.8.1 Also See

- SOLA Systematic Concepts
  - Rights, Restrictions and Responsibilities (RRR)
- SOLA Systematic Screens
  - Property Search
- Systematic Registration How To
  - Lodge Systematic Registration Claim

5.9 Document Search

The Document Search screen allows you to find documents of interest for editing or viewing. It can be accessed from the Search > Search Document menu or selecting Document search.

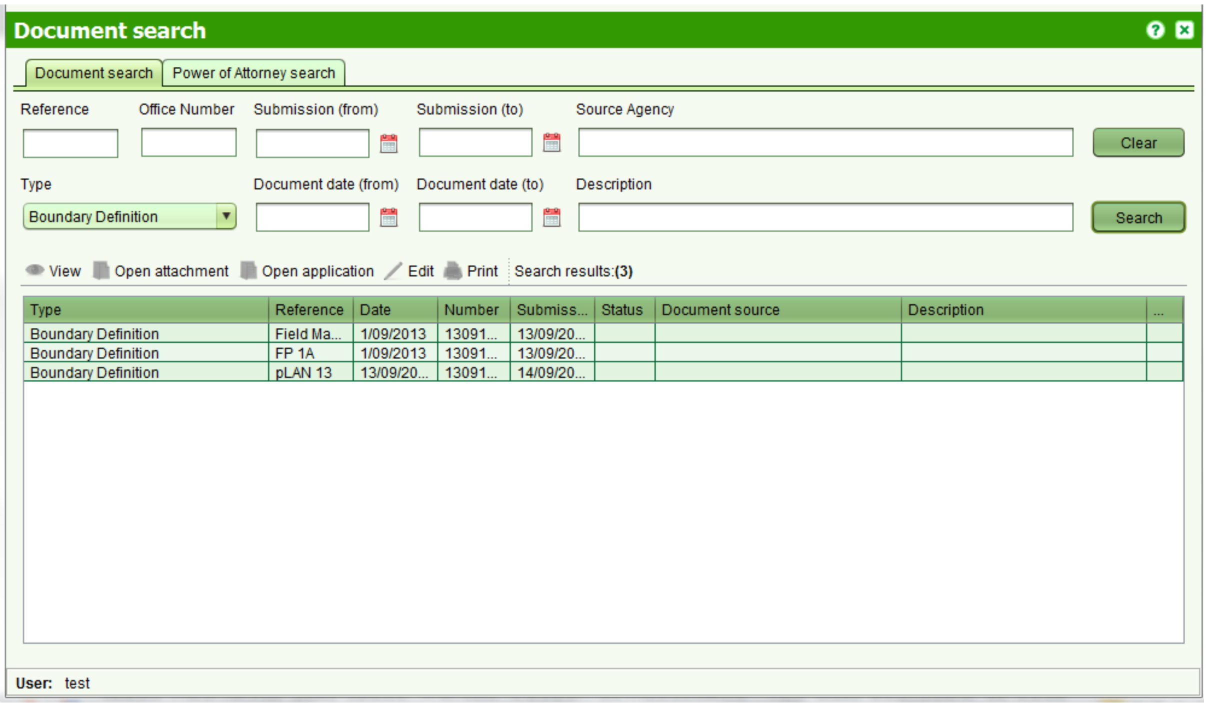


Figure 32 - Document Search

You can search by any combination of Reference, Office Number, Type, Submission date range Document date range, Source Agency or Description. The data applicable to each search field is as follows:

- **Reference** — If the document is a legal or a government document, it may already have an identifying reference number printed or written on the face of it. The reference number can be searched if it was recorded when capturing the document details. This search field supports partial and full matching.
- **Office Number** — The number automatically assigned to the document when it was added into SOLA. This search field supports partial and full matching.
- **Type** — The type of document to search. The document types available for SOLA are discussed in the Document types section of this guide.
- **Submission Date Range** — A date range covering the period when the document was submitted in SOLA.
- **Document Date Range** — The date printed or written on the face of the document. This date can be searched if it was recorded when capturing the document details. If the document was not dated, then this date range should remain blank.
- **Source Agency** — The source of the document, e.g. the name of the firm or bank that created the document. This search field supports partial and full matching.

- Description — A description given to the document to provide a summary of its content. This search field supports partial and full matching.

To view the details recorded for a document, select the document in the Search results list and click the View toolbar button. The Open attachment toolbar button can be used to open the image of the document if an image has been linked to it. To edit the details of the document, select the Edit toolbar button. You can update the details captured for the document as well as attach a scanned image to the document.

The Print toolbar button is not currently implemented. To print a document, open the document attachment and print the document using the print menu options available from the default document viewer.

5.9.1 Also See

- Documents How To
    - Add a Document to an Application

5.10 Party Search

The Party Search screen allows you to locate parties which include both people (Natural Person) and organizations/groups (Non-natural Person) that are associated to property or property transactions. You can also add, edit, remove or view party details from this screen. It can be accessed by selecting Party or Search > Party.

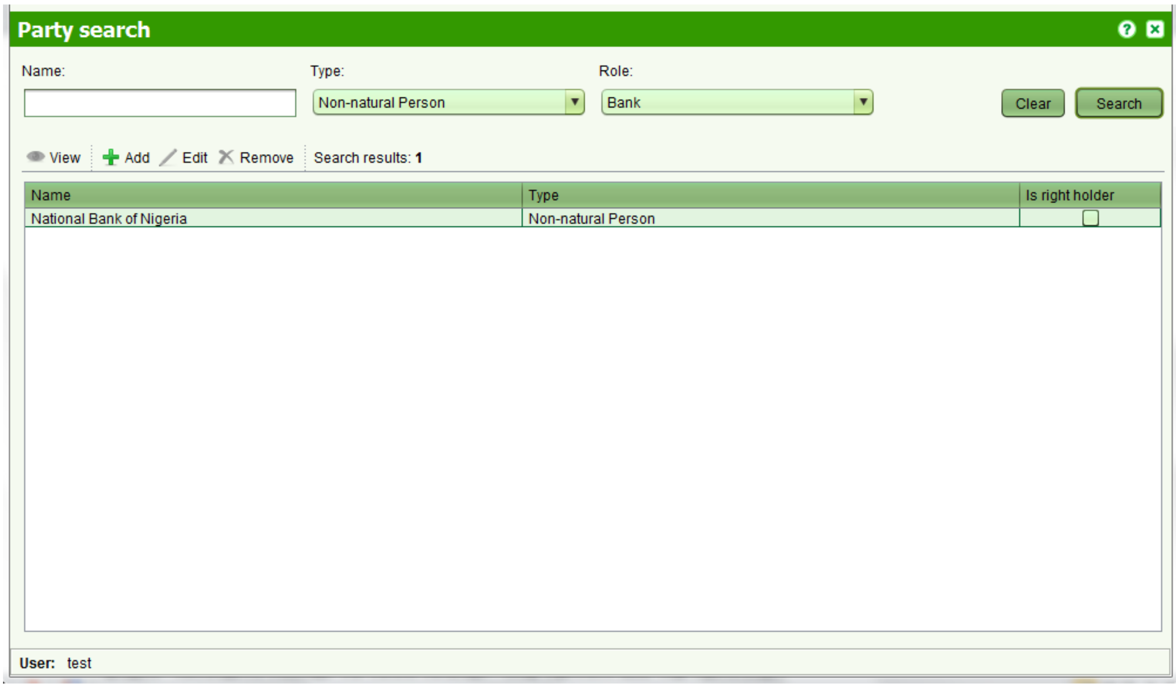


Figure 33 - Parties

You can search by any combination of Name, Type and Role. The Name also supports partial and full matching. SOLA makes no attempt to automatically link or de-duplicate new party records. This can result in an individual or organization/group being listed multiple times in the search results.

The Is right holder flag indicates whether the party has a direct association to a property as an owner or as a named party for another property right. Parties that are flagged as right holders cannot be edited or removed using this screen. Instead changes to the right holder details can only be made using the appropriate service.

Using this screen you can add a new party by clicking Add or edit existing parties that are not flagged as right holders by selecting a search result and clicking Edit. Both actions will open the Persons Details screen allowing you to enter details for an individual or an entity. It is also possible to add new parties as well as edit parties using other functions in SOLA such as contact persons, property owners and right holders.

To remove an existing party, select it and click Remove. If the party is not linked as an agent, property owner or right holder, the record will be removed.
If you simply need to view the party details, select it and click View.

5.10.1 Also See

- SOLA Systematic Screens
    - Party Details
- General How To
    - Add or edit banks

5.11 Party Details

The Party Details screen allows you to create new parties as well as edit party details. This screen can be accessed by multiple functions in SOLA including the Party Search screen.

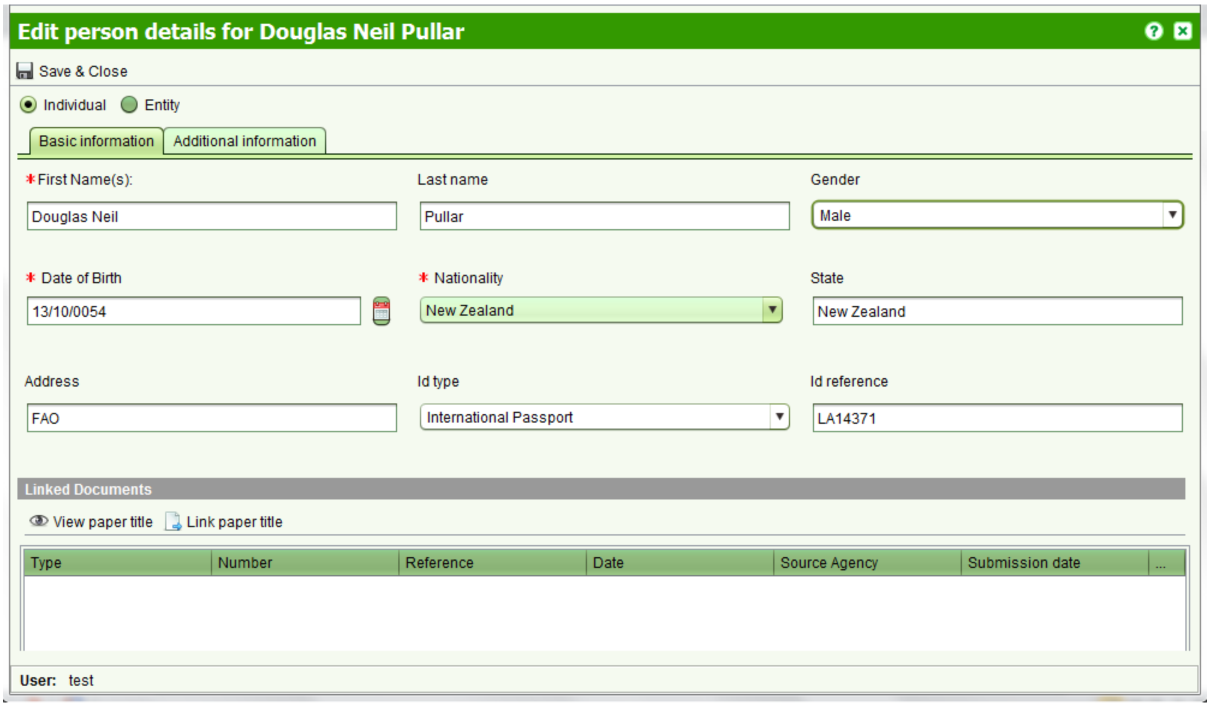


Figure 34 – Party Details

You can enter details for an entity (i.e. organization, group or company) or an individual. The basic information required includes the name of the party, gender and legal status with additional information such as contact information and alias details entered as required on the Additional Information tab. Once the necessary party details have been entered click Save & Close to create or update the party.

5.11.1 Also See

- SOLA Systematic Screens
    - Party Search
- General How To
    - Add or edit banks
- Systematic Registration How To
    - Lodge Systematic Registration Claims

5.12 User Profile

Every user is able to update their name details and change their password from the User Profile screen. It can be accessed by clicking User profile toolbar icon.

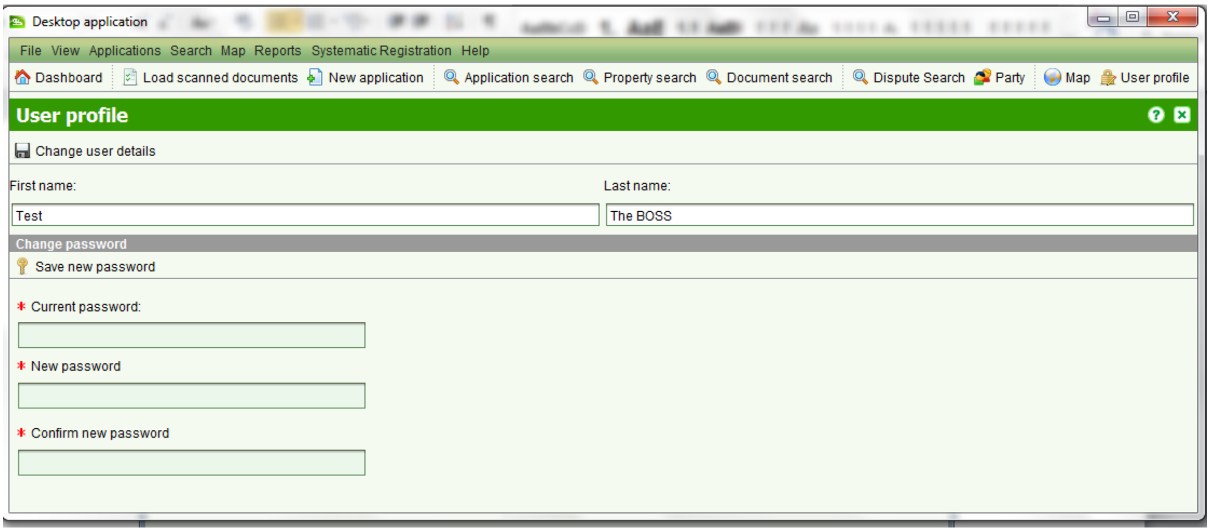


Figure 35 - User Profile

To change your first or last name details, update the First or Last name and click Change user details. Changing your first or last name does not affect the username you use to login to SOLA.

To change your password, enter your current password in the text field provided and enter your new password twice then click Save new password. New passwords must be at least 5 characters in length. Also note that changing your password will automatically exit the application. If the application does not close automatically, you will need to close it manually before continuing.

5.12.1 Also See

- General How To
    - Log In

5.13 Record Objection

Objections to Systematic Registration claims can be recorded once a Systematic Registration Disputes form has been completed and signed by a person(s) disputing some part of a Systematic Registration Claim that has been received. Typically objections are recorded during the public display period. To record an objection (dispute) the application of the original Systematic Registration claim must be identified and a Disputes and Court Case service added to the application. Start the Disputes service and the Disputes Form will be displayed and available to record details about the objection (dispute) and the person making the objection.

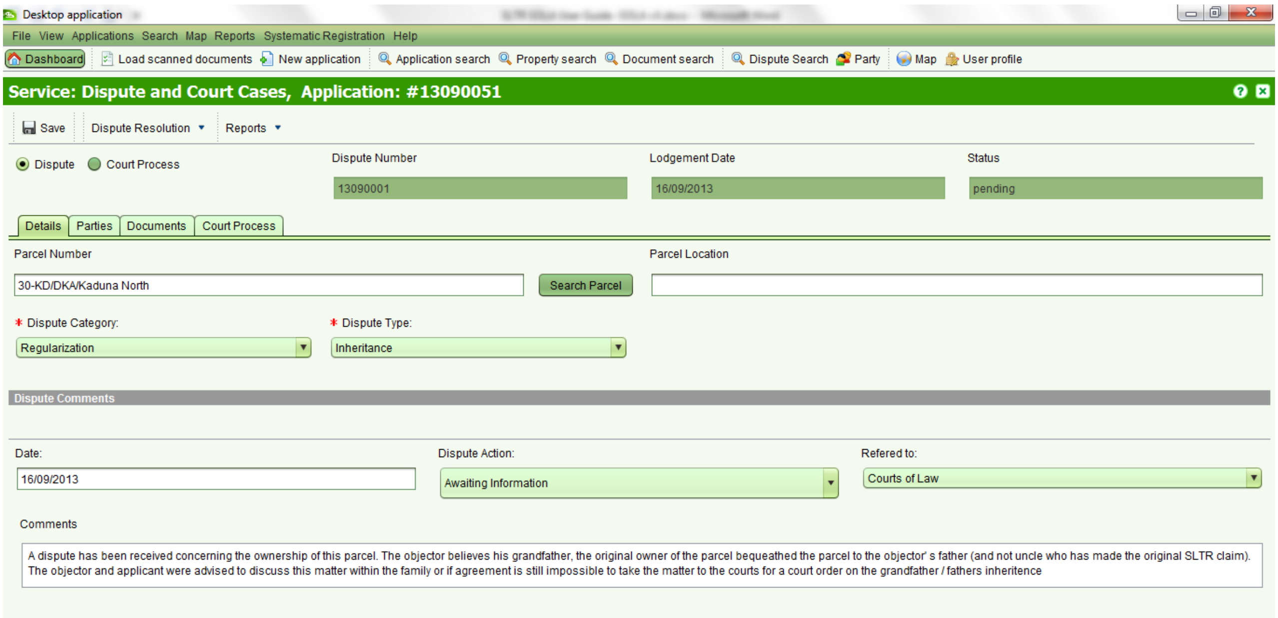


Figure 36 - Objection Details

The Disputes and Court Processes screen can capture the parcel that is the subject of the dispute, summary details about the dispute including the parties involved, any documents supporting the dispute as well as a history of comments relating to the dispute.

Once the dispute is resolved, the dispute service should be cancelled and this will allow the Systematic Registration claim to proceed and be approved.

5.13.1 Also See

- SOLA Systematic Concepts
    - Services

5.14 Record New Parcels

The Record Completed Field Map screen allows you to create new parcels. The details for new parcels can be obtained from:

i. heads up digitizing from an image of a marked up Field Map
ii. csv file imported from a GPS or
iii. by entering the coordinates for survey points.

The Change to Cadastre screen can be accessed by starting the Change to Cadastre service from the Application Details Service tab.

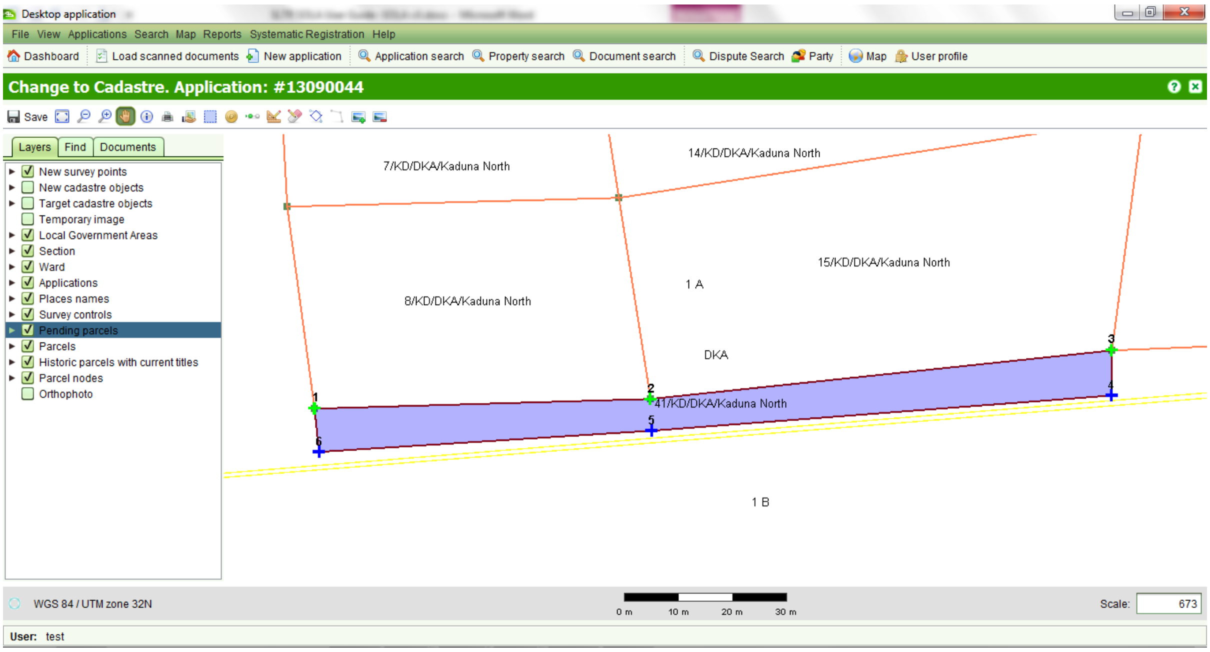


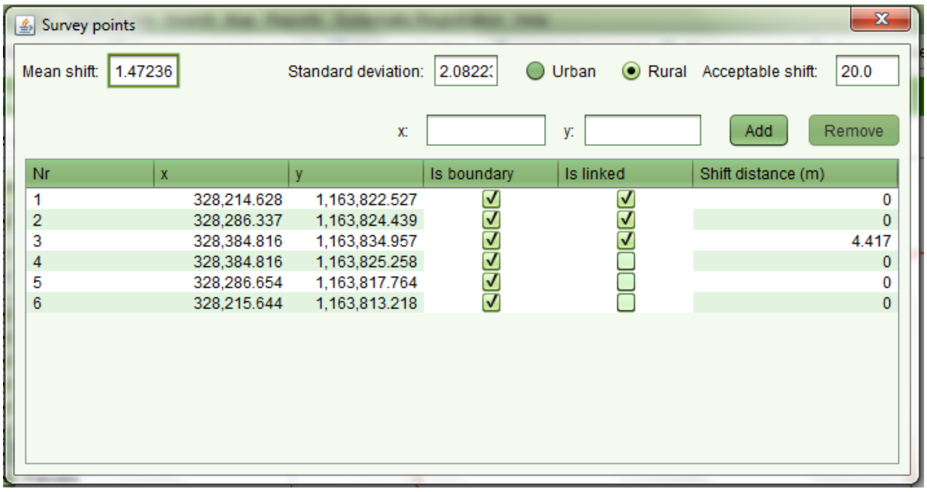
Figure 37 – Record New Parcels

The Record New Parcels screen extends the SOLA Map Viewer with additional tools to aid spatial editing of parcels. The additional tools provided are:

- Survey Points screen
- Create / Link Survey Points
- Create New Parcel
- Parcel List screen
- Select a boundary to change
- Change selected boundary
- Add image
- Remove added image

5.14.1 Survey Points

Survey points are defined by a pair of UTM coordinates. They can be located directly on the map via a single click with the Create / Link Survey Points tool , loaded from a survey data file or the coordinates can be manually entered using the Survey Points screen which can be accessed using the Survey Points tool .



Nr	x	y	Is boundary	Is linked	Shift distance (m)
1	328,214.628	1,163,822.527	✓	✓	0
2	328,286.337	1,163,824.439	✓	✓	0
3	328,384.816	1,163,834.957	✓	✓	4.417
4	328,384.816	1,163,825.258	✓	☐	0
5	328,286.654	1,163,817.764	✓	☐	0
6	328,215.644	1,163,813.218	✓	☐	0

Figure 38 - Survey Points Screen

By default, new survey points are created as boundary points. You can change a survey point to a traverse point by clearing the 'Is boundary' checkbox. Traverse points are displayed on the map as red triangles.

You can also link a boundary point to the node of an existing parcel using the Create / Link Survey Points tool . Simply select the new boundary point and drag it close to the target parcel node. The new boundary point will snap to the location of the target parcel node and the blue cross will change to a green cross to confirm the linkage. The Survey Points screen also indicates when the boundary point is linked. To unlink the boundary point, clear the 'Is linked' check box.

If you need to delete a survey point that has been added in error, select the point from the list and click the Remove button.

GPS coordinate data can be loaded from a Comma Separated Values (CSV) text file. Loading a CSV coordinate file requires attaching a .csv file as a document to the application and using the Add Points button on the Documents tab of Change to Cadastre to import the data. Imports through Trimble Pathfinder software should note the line number for first point should be modified to 0 and the default value of 1 overwritten (the Trimble CSV files have no headers in the first row of the file). For details on the file format and the steps required to import a survey data file see Import a Survey Data File.

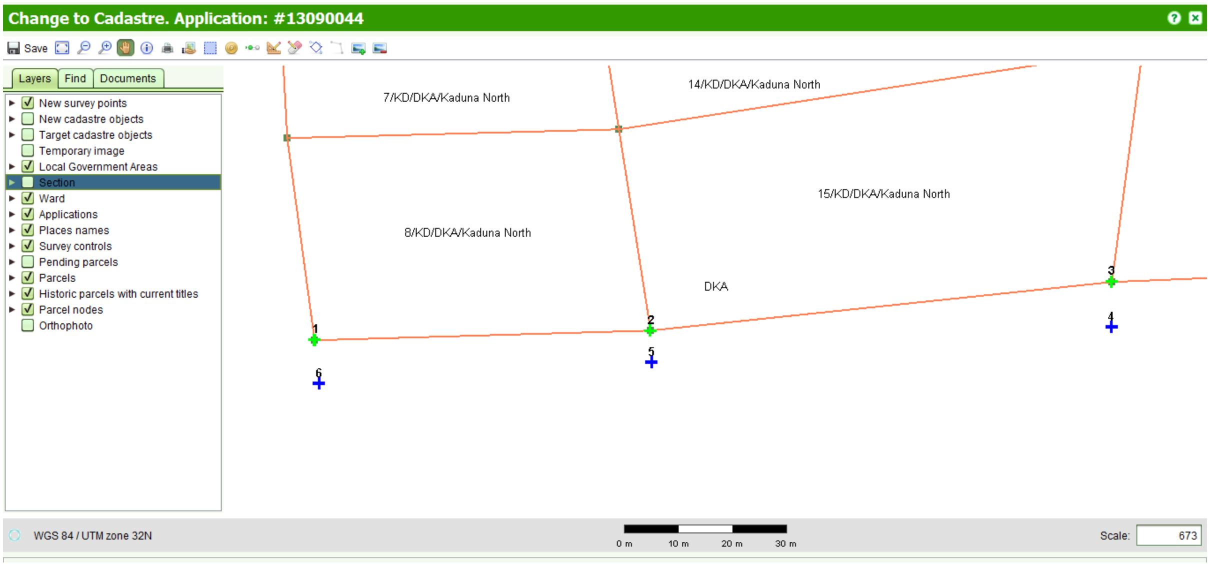


Figure 39 - Linked Boundary Points

5.14.2 Heads up Digitizing

To assist capturing the location of survey points from the marked up Field Map, you can load an image of the marked up Field Map into the SOLA Map Viewer and use the mouse to capture the location of the new survey points.

To add a plan image to the map you must first have an image file of the scanned Field Map (marked up with boundaries) available on a shared network drive. The file formats supported by the SOLA Map Viewer are TIFF, PNG and JPEG. If you have an image in a different format (e.g. PDF), then you will need to convert the file to one of the accepted image formats before it can be displayed in the Map Viewer.

The Add Image tool works by matching two points you select on the map with two points you select from the image. For the best match accuracy, the first point you select should be at the bottom left of the plan image and the second point at the top right (or top left and bottom right). The image is then scaled and displayed in the Map Viewer accordingly. Possibly Section corners (coloured in yellow) are good points to use for this purpose.

Note that the current Add image tool does not rotate the image and requires the plan to have a standard North orientation. If the plan does not have a standard North orientation, use an appropriate imaging software package (e.g. Microsoft Office Picture Manager) to rotate the plan image so that North for the plan is the top of the computer screen before adding the image to the map.

5.14.3 Creating New Parcels

You can create new parcels using the Create New Parcel tool . Using the tool, single click each survey point of the new parcel in sequence in either a clockwise or anti-clockwise direction and double click on the final survey point to close the parcel boundary. You will then be prompted with the Parcel properties dialog.

If you make a mistake while forming the new parcel, right click to cancel the shape and start again.

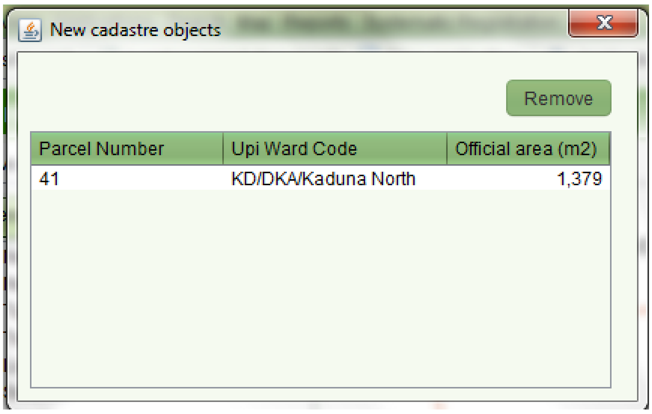


Figure 40 - Parcel properties

The details in the figure above will be displayed when you click on toolbar icon. The parcel number and the area can be modified by clicking on those fields and entering new values.

5.14.4 Parcel Numbering

Parcels are assigned a sequential number based on the grid in which they are located. You will note in the previous screen shot that the new parcel is temporarily assigned the number tmp-2. SOLA will automatically assign the appropriate number for the new parcel when you Save the Change to Cadastre.

5.14.5 Editing or Removing a New Parcel

If you need to further update the details for the new parcel, use the Parcel List tool to open the Parcel List screen. From here you can select the parcel and Edit its details as required using the Parcel properties dialog. Once you have completed your updates in the Parcel properties dialog, Save and Close to redisplay the Parcel List screen or Cancel if you choose not to save your changes.

If you decide to remove the new parcel, select it in the Parcel List screen and choose Remove.

5.14.6 Creating Parcels with Irregular Boundaries

The Create New Parcel tool allows you to create new parcels with simple right-line boundaries where the start and end point for each boundary line must be a survey point. If the parcel requires an irregular boundary (a.k.a. natural boundary) then you need to use the Boundary Change tools to modify the right line boundary line of a new parcel.

IMPORTANT: Before using the Boundary Change tools, ensure you add all existing parcels that will share the irregular boundary as target parcels. Only modifying a parcel on one side of the boundary may result in gaps and overlaps forming in the cadastral network. To do this may require to you add parcels that are not recorded on the plan. You also need to re-create new parcels over all target parcels using the Create New Parcels tool prior to using the Boundary Change tools. The exception to this rule is where the irregular boundary will form the shoreline of a lake or the sea. In this case it is unlikely there will be an adjacent parcel to update.

The Select Boundary tool can be used to identify the boundary line(s) of a new parcel that must be changed into an irregular boundary. Use the tool to select the start and end points of the irregular boundary by dragging a small selection box around the appropriate new parcel node when prompted to do so by the tool.

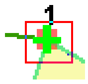


Figure 41 – Selecting a Parcel Node

The order that you select the start and end points for the new irregular boundary is important. The tool will highlight all parcel boundary line(s) in a clockwise direction from the start point to the end point. The highlighted boundary lines indicate the boundary lines that will be replaced by the new irregular boundary. If the wrong sequence of boundary lines is highlighted, repeat the selection ensuring the end point is selected as the start point and vice versa.

Selecting a boundary to change will enable the Change Boundary tool . Use this tool to reshape the parcel boundary using the mouse.

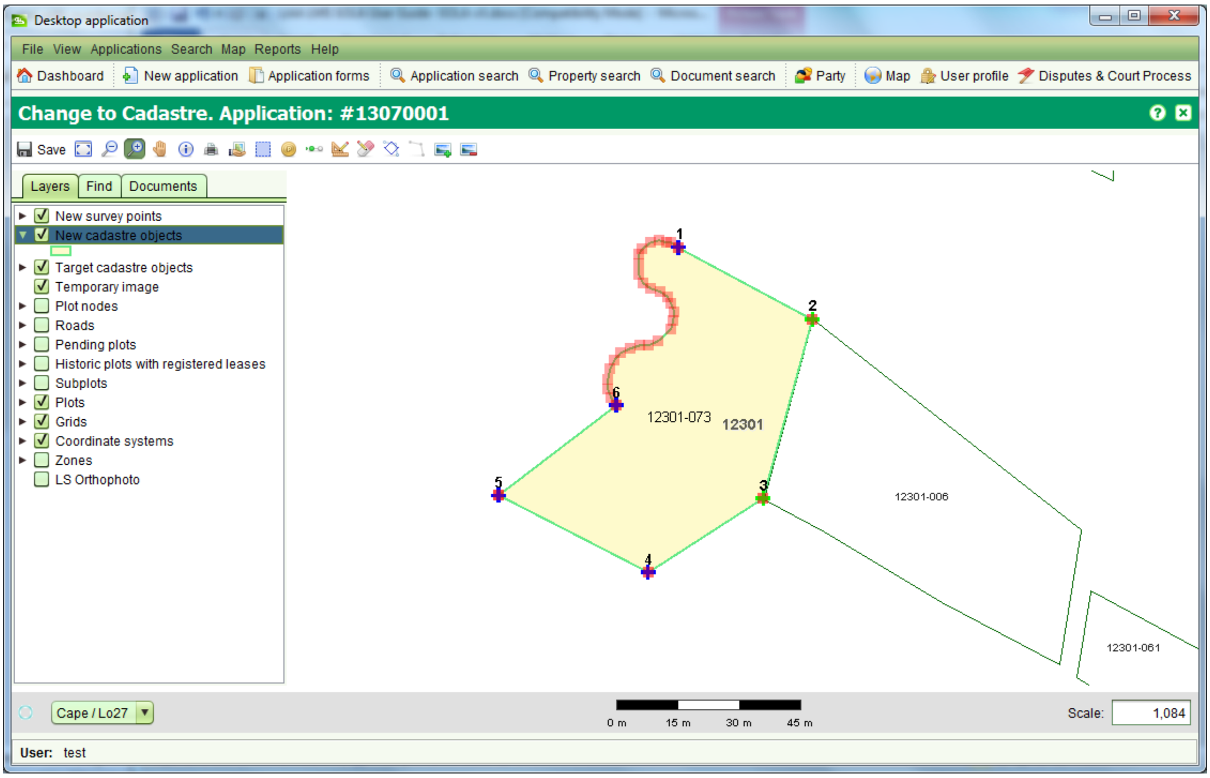


Figure 42 - Irregular Parcel Boundary

If the new boundary covers a large area, it can be difficult using the Change Boundary tool to create the new boundary in one go. In this situation, create an initial boundary that approximately represents the new boundary you require. You can then zoom in and use the Boundary Change tools to improve segments of the initial boundary as required.

5.14.7 Approving a Plan

Changes made to the cadastre remain pending until the application containing the Change to Cadastre service is approved. You can approve the application by completing all services on the application and approving the application using the Approve tool in the Application action dropdown. The new parcels will then show as current parcels in the SOLA Map Viewer.

5.14.8 Also See

- SOLA Systematic Concepts
  - Services

- SOLA Systematic Screens
    - SOLA Map Viewer
    - Application Details
- Survey How To

5.15 Modify Existing Parcels

The Modify Existing Parcels screen allows you to change the boundaries of an existing parcel both entirely and point by point (adding nodes and changing node coordinates) outside of the receipt of a survey plan. It can be accessed by starting a Redefine Cadastre service from the Application Details Service tab.

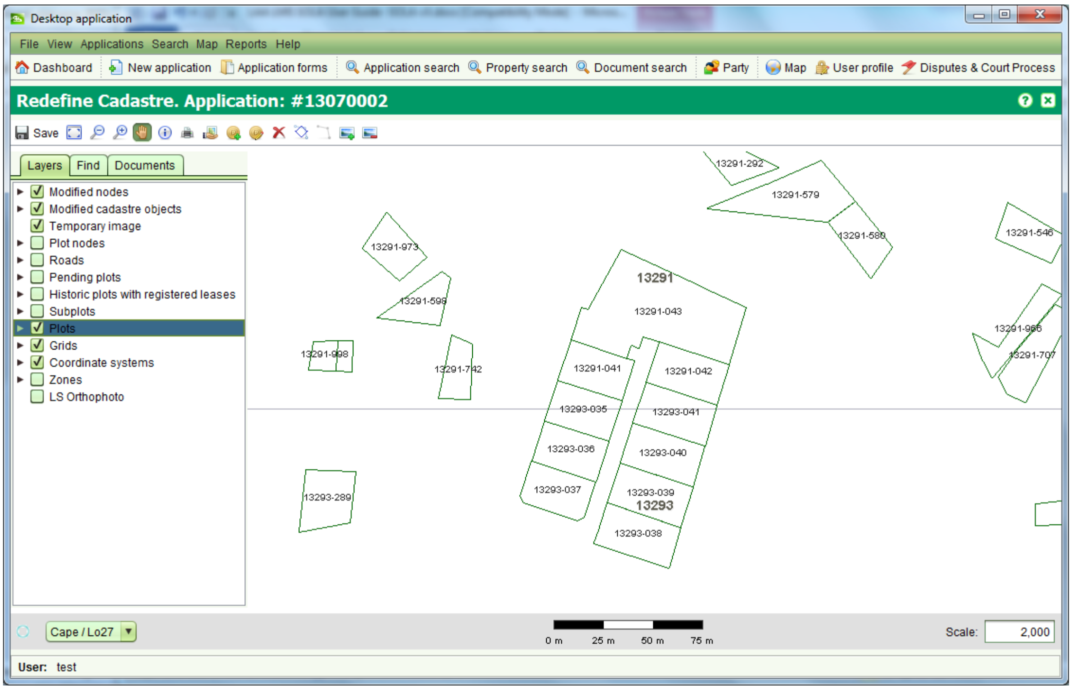


Figure 43 – Redefine Cadastre

TO BE UPDATED

The Redefine Cadastre screen extends the SOLA Map Viewer with additional tools to aid spatial editing of parcels. The additional tools provided are:

- Add Node
- Modify Node
- Reset changes
- Select a boundary to change
- Change selected boundary
- Add image
- Remove added image

5.15.1 Nodes

Nodes represent the fixed points of the parcel boundary. New nodes can be added using the Add Node tool and existing nodes can be relocated using the Modify Node tool .

To add a new node, use the Add Node tool to drag a small selection box around the approximate location for the new node. Note that the selection box must be on top of an existing boundary. If the selection box is not on top of an existing boundary, the tool will not work.

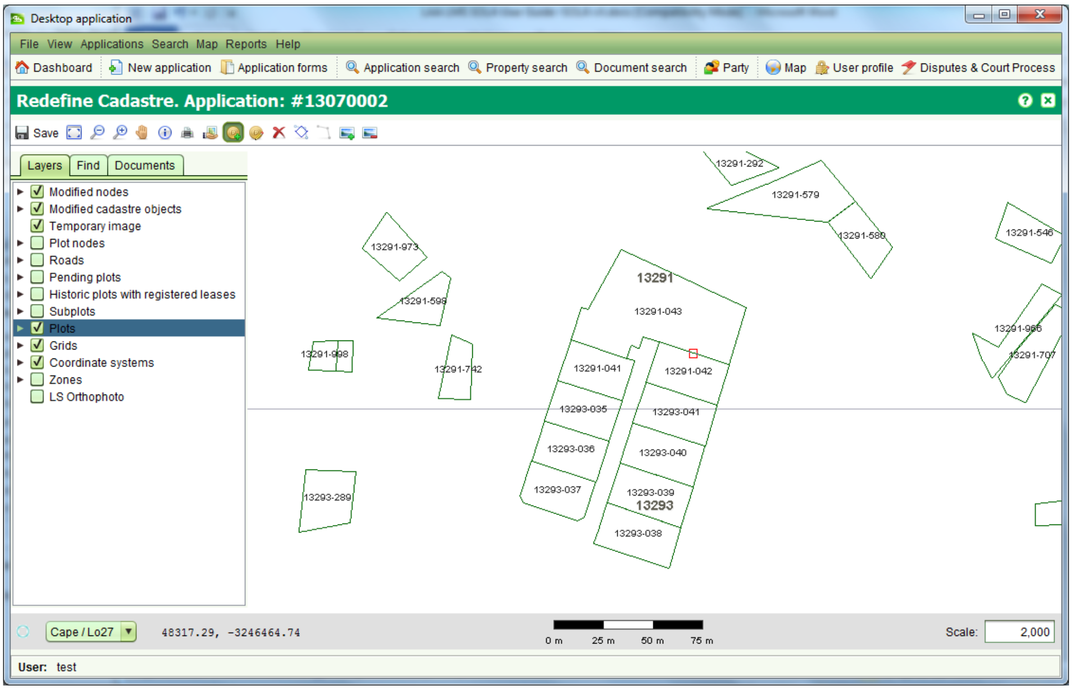


Figure 44 – Select the location approximate for a new node

TO BE UPDATED

You will then be prompted to enter the coordinates for the new node. Enter the appropriate coordinate value and click the Modify button. If you make an error, click Remove or close the dialog. This will cancel the add process.

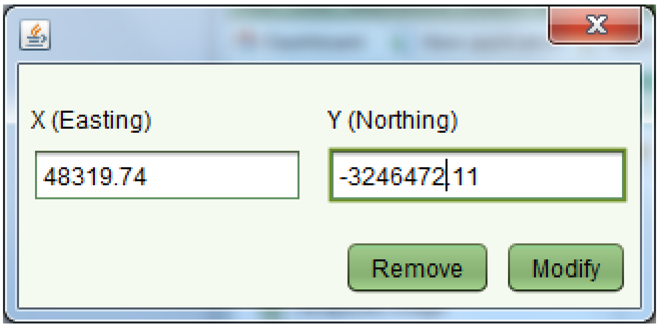


Figure 45 - Node Coordinate dialog

TO BE UPDATED

The boundaries of the two adjacent parcels will be modified to include the new node. The new parcel boundaries will appear in light green while the original boundary will remain dark green so that it is possible to differentiate between the two. Note that just like Change to Cadastre, changes made to the cadastral network remain pending until the application containing the Redefine Cadastre service is approved.

The Modify Node tool works in a similar way to the Add Node tool . Rather than selecting a boundary, drag the selection box around an existing node. The Node coordinate dialog will reappear and you will be able to modify the coordinate of the node or remove the node altogether by clicking the Remove button.

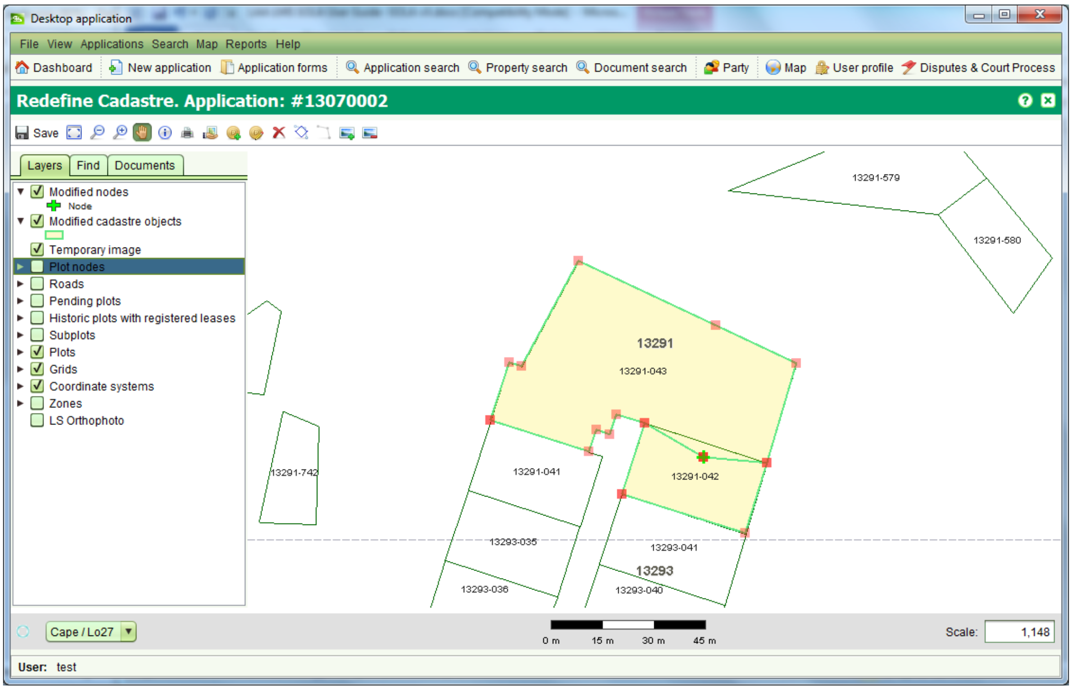


Figure 46 – Pending Parcels with updated boundaries

TO BE UPDATED

5.15.2 Boundaries

The Boundary Change tools in Redefine Cadastre work in much the same way as the Boundary Change tools in Change to Cadastre. The main difference is that the Boundary Change tools in Redefine Cadastre allow you to redefine the boundary of an existing parcel without having to create a new parcel. The Select Boundary tool also automatically selects both parcels adjacent to the selected boundary to ensure the redefined boundary is shared by the parcels on both sides avoiding gaps and overlaps in the cadastral network.

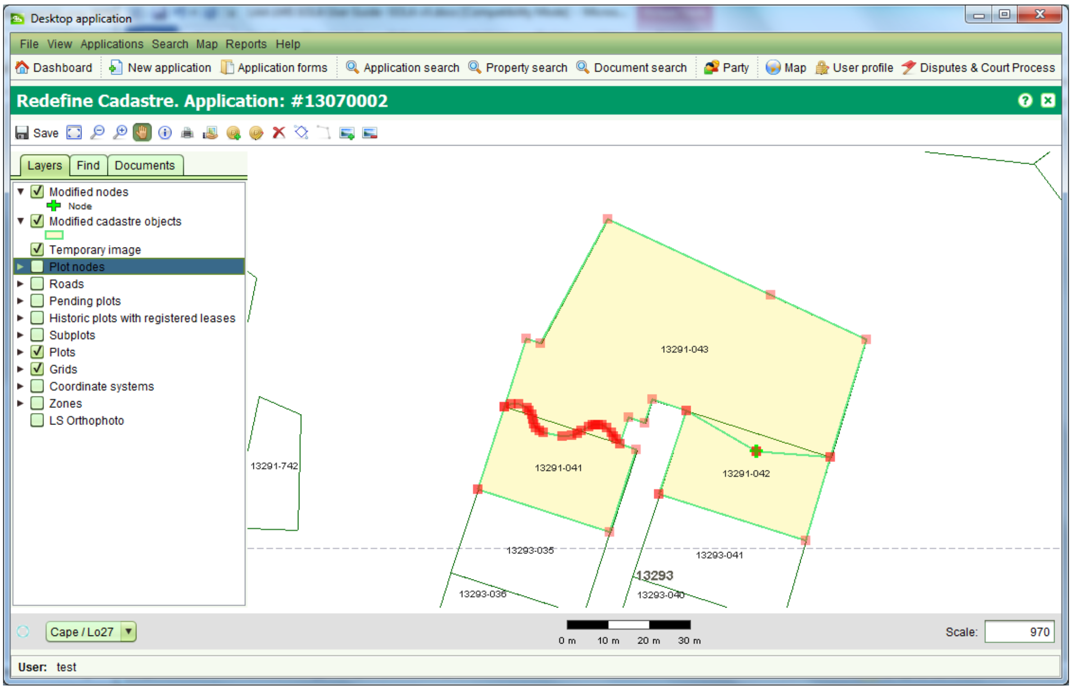


Figure 47 – Boundary Change

TO BE UPDATED

5.15.3 Cancelling Change Map

If you make a mistake while using Redefine Cadastre, you can remove all your changes using the Reset Changes tool . This tool will remove all pending changes, so use it with care. If you use it in error, close the Redefine Cadastre screen without saving and open the screen again. Any changes you previously saved should remain.

5.15.4 Also See

- SOLA Systematic Concepts
  - Services
- SOLA Systematic Screens
  - SOLA Map Viewer
  - Application Details
- Survey How To
  - Record a Completed Field Map

6. General How To

6.1 Log In

Launch the SOLA Systematic Desktop from the shortcut on your computer desktop. At the Login screen, enter your SOLA Systematic username and password details and click the Login button. If you are not sure what your username is, or require your password to be reset, contact the System Administrator.

Notes

- For the demonstration version of SOLA Systematic, you can login using the following credentials

User	**test**
Password	**test**

6.1.1 Also See

- SOLA Systematic Screens
  - Dashboard and Main Menu
  - User Profile
- General How To
  - Change your Password

6.2 Change Language

SOLA Systematic Desktop currently only supports English, language for the display of labels, messages and reference values. However, additional languages may be added to Systematic Registration. Should that happen, to change the language, select your preferred language from the View > Language menu option on the main menu. Once a selection is made, SOLA will automatically restart displaying the selected language.

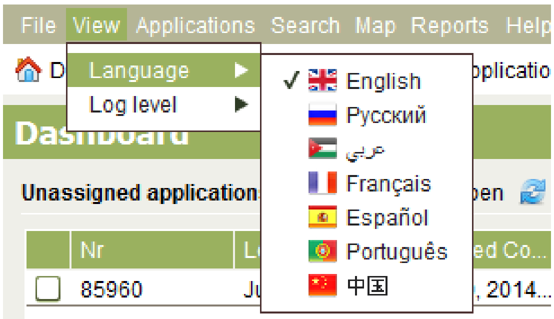


Figure 48 - Change Language

6.2.1 Also See

- Registry Desktop Screens
  - Dashboard and Main Menu

6.3 Change Your Password

Users are required to change their password at regular intervals to reduce the risk of SOLA Systematic's audit and security features from being compromised. From time to time you may be prompted with the following message when logging into SOLA Systematic.

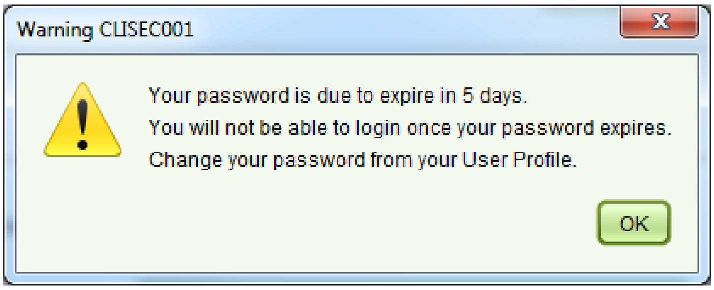


Figure 49 - Password Due to Expire Message

When you click OK to this prompt, the User Profile screen will be displayed allowing you to change your password.

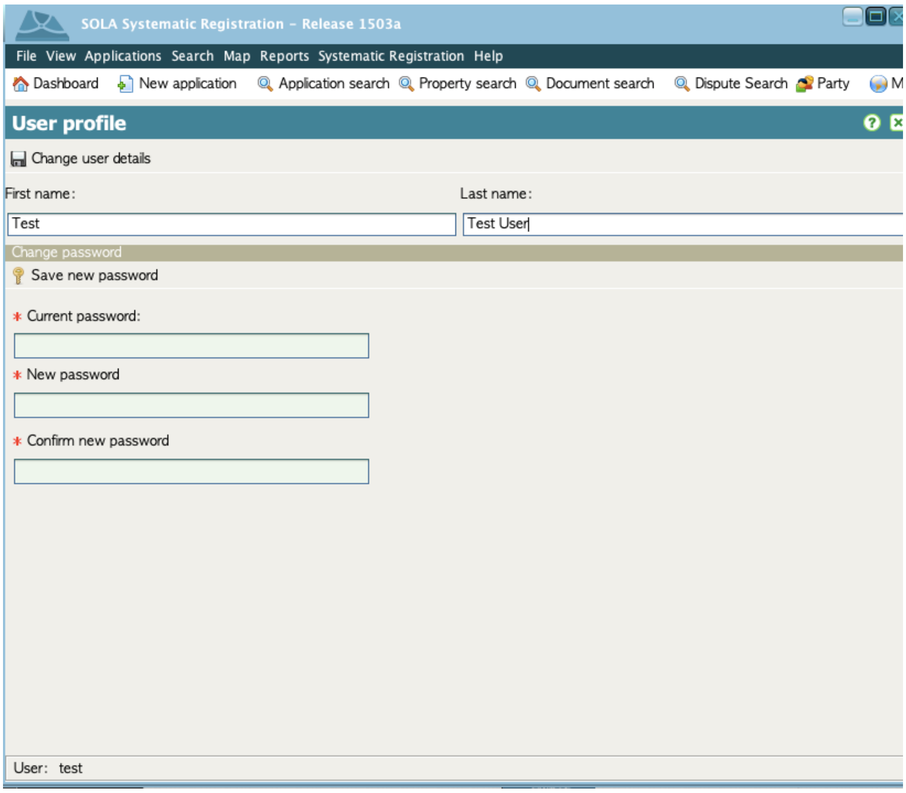


Figure 50 - User Profile Change Password

Steps

1. Enter your current password in the Current Password field.
2. Enter your new password in the New password field. Your new password must differ from your old password by at least one character and have a minimum length of 5 characters.
3. Re-enter your new password in the Confirm new password field. Be aware that passwords are case sensitive so you must re-enter the password exactly.
4. Click Save new password to change your password.
5. If your new password is accepted a message will display stating that your password was successfully changed and SOLA Systematic will close.
6. Restart SOLA Systematic and login using your new password.

SOLA Systematic will warn you for up to 10 days that your password is due to expire. If you fail to change your password during this period, you will be locked out and you will not be able to login. In this situation, contact the System Administrator so they can change your password for you. Note that if the Administrator resets your password, you will be prompted to change it again the next time you successfully login to SOLA Systematic.

If you intend to take extended leave or you feel your password has been compromised then you should change your password immediately without waiting for the password expiry message to appear. To change your password at any time, open the User Profile and follow the steps as above.

6.3.1 Also See

- SOLA Systematic Screens
    - Dashboard and Main Menu
    - User Profile
- General How To
    - Log In

6.4 Lodge a New Application

To create a new application, access the Application Details screen from the Applications > New Applications menu or selecting

The minimum information required for a new application are Contact Person details including first name, last name and address and at least one service. Other information can be entered has appropriate. Once the necessary information has been entered, save the application. This will lodge the application, assign an application number and display the Lodgement Notice for your review. You can choose to print or save the Lodgement Notice.

6.4.1 Also see

- SOLA Systematic Concepts
- SOLA Systematic Screens
    - Application Details
- General How To
    - Calculate Fees
    - Verify Property Details
    - Add location for Application
- Documents How To
    - Add a Document to an Application
- Land Registration How To
    - Lodge an Application for Registration Services
- Survey How To
    - Record a Completed Field Map
    - Redefine Cadastre

6.5 Edit an Application

To edit an application, select the application in the assigned or unassigned application lists on the Dashboard and choose Edit. If the application is not displayed in the application lists, use the Search Application screen to locate it and click the Edit button. This will open the Application Details screen allowing you to edit the application details and save changes.

6.5.1 Also see

- SOLA Systematic Screens
    - Application Search
    - Application Details Screen

6.6 Assign an Application

To assign an application, you must first ensure the Paid flag on the Services tab is checked. If you have permission to set the Paid flag, you can do this by editing the application and checking the Paid checkbox on the Services tab. Make sure to Save your changes.

Select the application to assign by checking the checkbox in the Unassigned applications list and click the Assign tool. This will open the Application Assignment dialog. Your name should be the default selection in the Assignee drop down. Click the Assign button to assign the application. When the Assign action is complete, you will be returned to the Dashboard and the assigned application will appear in the Assigned applications list.

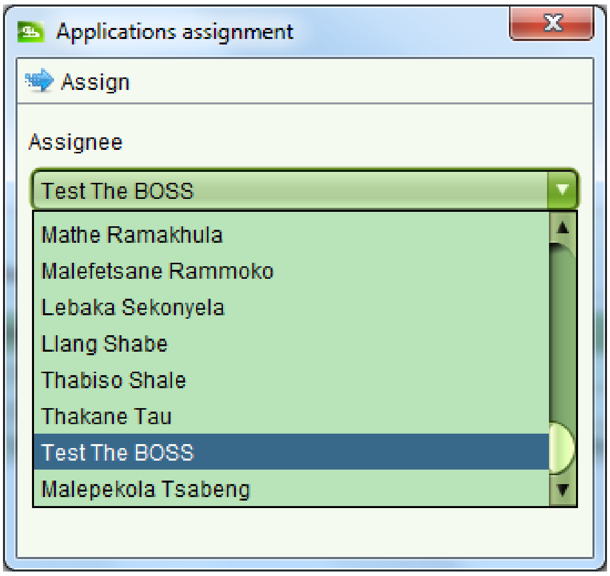


Figure 51 - Application Assignment

TO BE UPDATED

Typically users will only be able to assign applications to themselves (i.e. they will be able to pull work), however team leaders will be able to manage the workload of their teams and will be able to assign and reassign applications to other users by selecting the appropriate user from the Assignee drop down list.

If you need to bulk assign applications to the same user, simply check all of the applications you wish to assign before clicking the Assign tool.

6.6.1 Also see

- SOLA Systematic Concepts
    - Application Lifecycle
- SOLA Systematic Screens
    - Application Search
    - Application Details
- General How To
    - Edit an application
    - Un-assign an application

6.7 Un-assign an Application

To un-assign an application, select the application to un-assign by checking the checkbox in your Assigned applications list and click the Unassign tool.

You can also bulk un-assign applications by checking all applications you wish to un-assign before clicking the Unassign tool.

6.7.1 Also see

- SOLA Systematic Concepts
    - Application Lifecycle
- SOLA Systematic Screens
    - Application Search
    - Application Details
- General How To
    - Edit an application
    - Assign an application

6.8 Cancel, Withdraw or Lapse an Application

If you have the appropriate security roles, you can cancel, withdraw or lapse an application using the Application action dropdown in the Application Details screen. These actions are enabled depending on the state of the application. For details refer to SOLA Systematic Concepts – Application Lifecycle.

6.8.1 Also see

- SOLA Systematic Screens
    - Application Details

6.9 Add or Edit Systematic Registration Parties

Systematic Registration team member roles and other specialized roles such as Authorised Representatives and Lending Agencies need to be identified using SOLA Web Admin.

Before adding a new party you should first search to see whether the person who performs a specialist role in SOLA Systematic is already recorded in the SOLA Systematic database. You can either search all parties recorded in the database or be more specific by search for parties with a specific role.

If the party already exists then click the Edit tool. This will open the Party Details screen.

If party does not exist, click on the **Add** button. As you enter the Party Details, make sure you add the role this party takes on in your systematic registration project. For instance, Representative require the Authorised Representative and Lending Agencies require the "bank" <u>role</u>**.**

If you need to remove a Representative or Lending Agency so they are no longer available for selection in SOLA Systematic (when lodging a new application or modifying loan (including mortgage) details use SOLA Web Admin to mark the Party as not active.

Also see

- SOLA Systematic Screens
    - Party Search
    - Party Details

6.10 View the Lodgement Report

The Lodgement Report lists information on the number of applications and services processed during a given time period. It can be accessed using the Reports > Lodgement Report menu option in the SOLA Systematic main menu. Enter the appropriate time interval in the dialog displayed and click View Report to generate the Lodgement Report.

This report is useful in systematic registration as it reports on the number of Systematic Registration Claims and Field Maps (Cadastre Change) have been entered into SOLA Systematic for a particular time interval.

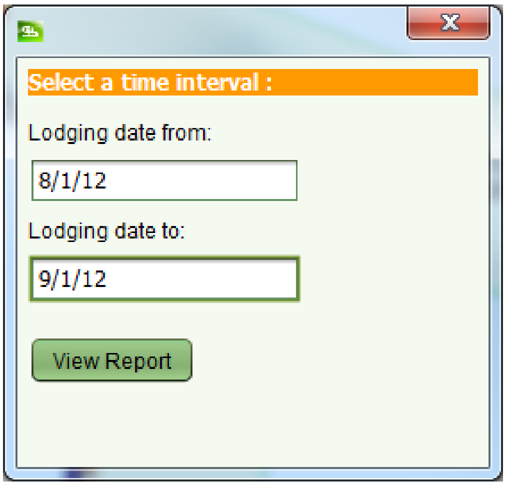


Figure 52 - Lodgement Report Interval

7. Documents How To

Documents are records created in SOLA that capture summary details about legal, official or other documentation supplied by the applicant to support their request for changes to the land registry and/or cadastre information.

7.1 Add a Document to an Application

SOLA allows documents to be added and/or linked to applications, properties and RRRs. The primary way to add documents into SOLA is via the Documents tab on the Application Details screen.

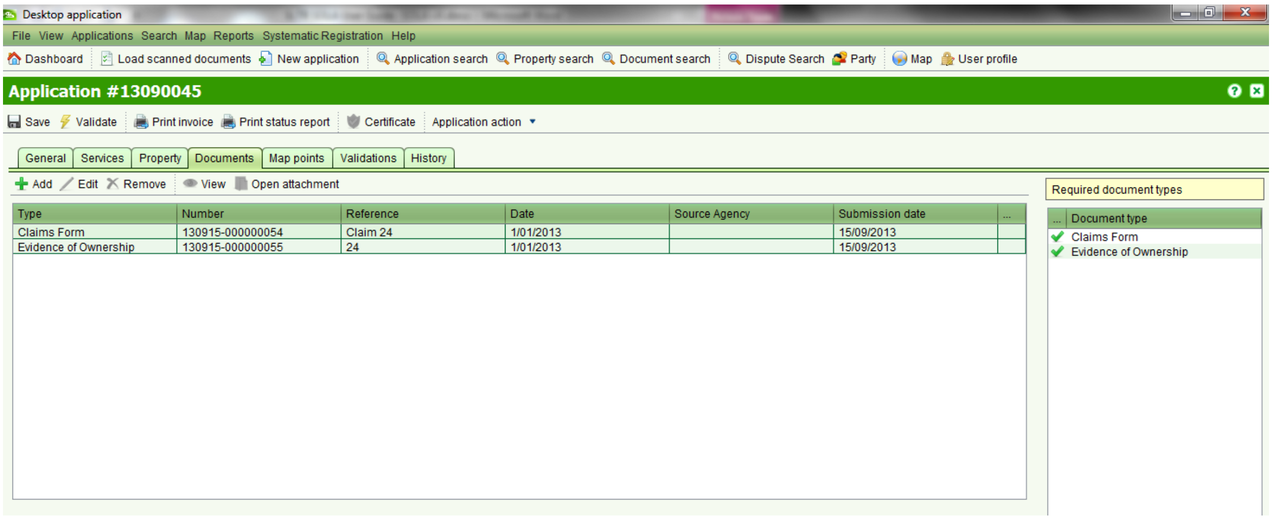


Figure 53 - Application Details Documents tab

To add a document to an application, use the ✚ Add tool on the Documents tab. This will open the Add Document dialog.

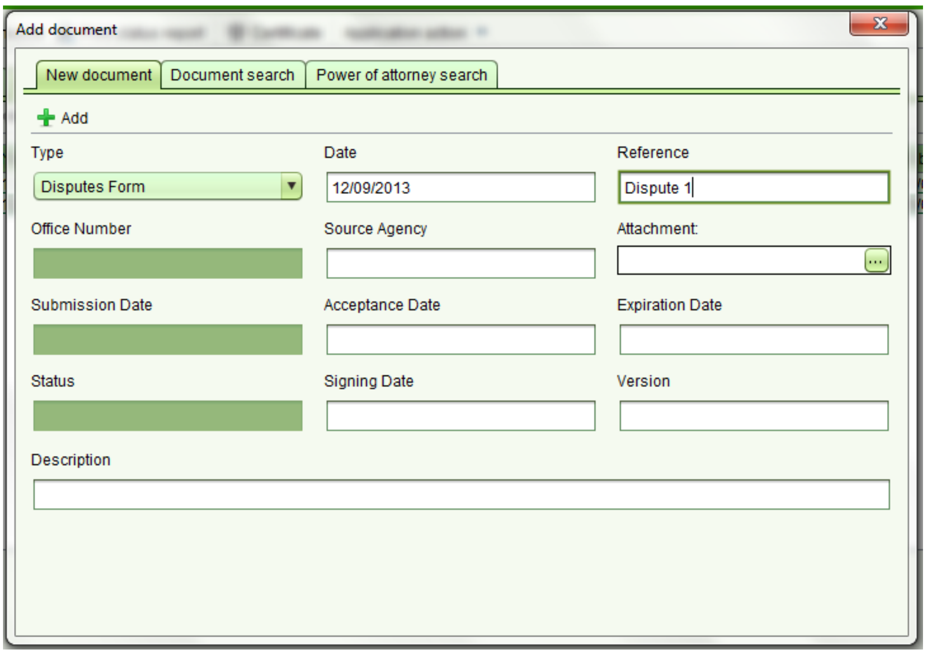


Figure 54 - Add Document dialog

Enter the necessary details for the document as required and click ✚ Add to add the new document to the application. Note that when you click ✚ Add, the form will be cleared and remain open so that it is ready to capture details for the next document.

The details that can be captured for the document are:

• Type	Mandatory. The type of document to search. The document types available for SOLA are discussed in the Document types section of this guide.
• Date	Mandatory. The date printed or written on the face of the document. This date can be searched if it was recorded when capturing the document details. If the document was not dated, then enter today's date.
• Reference (Deed Number)	Recommended. If the document is a legal or a government document, it may already have an identifying reference number or deed number printed or written on the face of it. This reference number should be entered here. If there is no identifying number on the document, this field can remain blank.
• Office Number	The office number field is not editable. SOLA will automatically assign an office number when the document record is created.
• Source Agency	Optional. The source of the document, e.g. the name of the firm or bank that created the document. This search field supports partial and full matching.
• Attachment	Recommended. The name of the file that contains the image of the document. Use the ellipses button "..." to open the File Attachment dialog and attach a file.
• Submission Date	Optional. The date the document was first recorded in SOLA. This field is not editable and is automatically populated by SOLA. It can be used a search field in the Document Search.
• Acceptance Date	Optional. The date the document was accepted by the agency or organization that registered the document. Not applicable for all documents.
• Expiration Date	Optional. The date the document will expire. Not applicable for all documents.
• Status	The status of the document. Automatically populated by SOLA for registered documents like Power of Attorney and Notarial Bonds.
• Signing Date	Optional. The date the document was signed by all parties. Not applicable for all documents.
• Version	Optional. The version of the document. Not applicable for all documents.
• Description	A description given to the document to provide a summary of its content. The details of this field can be searched from Document Search.

The Add Document dialog also includes a Document Search tab that allow you to search existing SOLA documents for a file that was previously attached. This can be a useful way to reference other documentation that may be relevant to the application. Once you have located the existing document you wish to link, use ✔ Select it to add into the application.

Steps

1. On the Documents tab use the Add tool to open the Add Document dialog
2. Enter the document type and date
3. If an attachment is available or the file to attach has previously been uploaded into SOLA, click the "..." button in the Attachment field and locate the file.
4. Complete any remaining details describing the document as necessary
5. Once all of the document details are correct and the appropriate file is attached, click the Add button to add the document to the application. A paperclip icon is displayed in the documents list to indicate the documents that have attachments.
6. Save the application to ensure the new document is created as well as any file attachment.

Notes

- The Required Document Types list box shows the document types that must be included with the application. Be sure to add all required documents otherwise it will not be possible to approve the application.
- If you attach the wrong file as an attachment, use the remove icon in the Attachment field to remove the file (if prior to Add) or Remove the document record from the Documents list and re-add it.
- If you need to change or update the document details, select the document in the Documents list and use the Edit tool. This will open the Add Document dialog in edit mode.
- Power of Attorney and Standard Documents must be registered in SOLA before they can be located using the Document searches.
- It is not possible to update the file attachment for Power of Attorney and Standard Documents. Ensure you link these documents with the appropriate attachments when the documents are added to the application.

7.1.1 Also see

- SOLA Systematic Concepts
    - Documents
- SOLA Systematic Screens
    - Application Details
    - Document Search

7.2 Attach a File to a New Document

To attach a file to a new document, click the "..." button in the Attachment text field of the Add Document dialog. The File Attachment dialog will display and you will be able to use it to select a file from your local computer file system or the remote file location configured for SOLA.

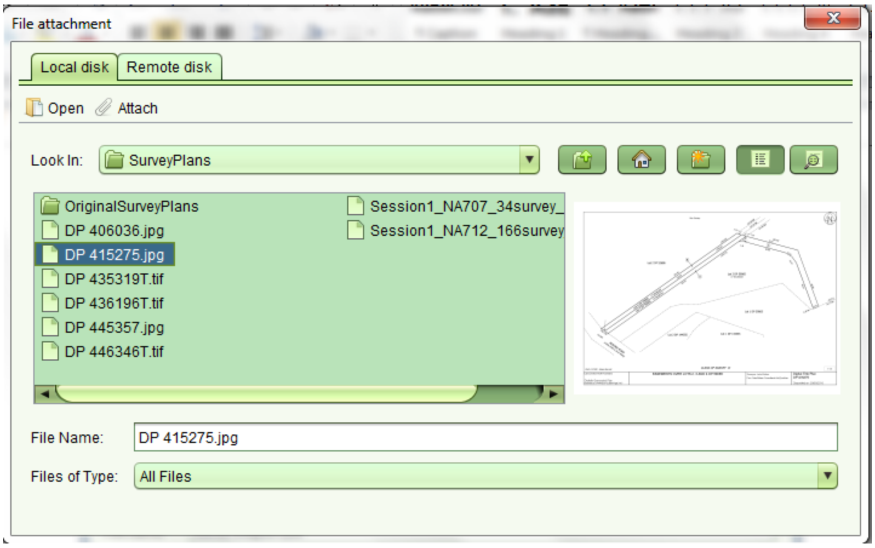


Figure 55 - File Attachment Local disk tab

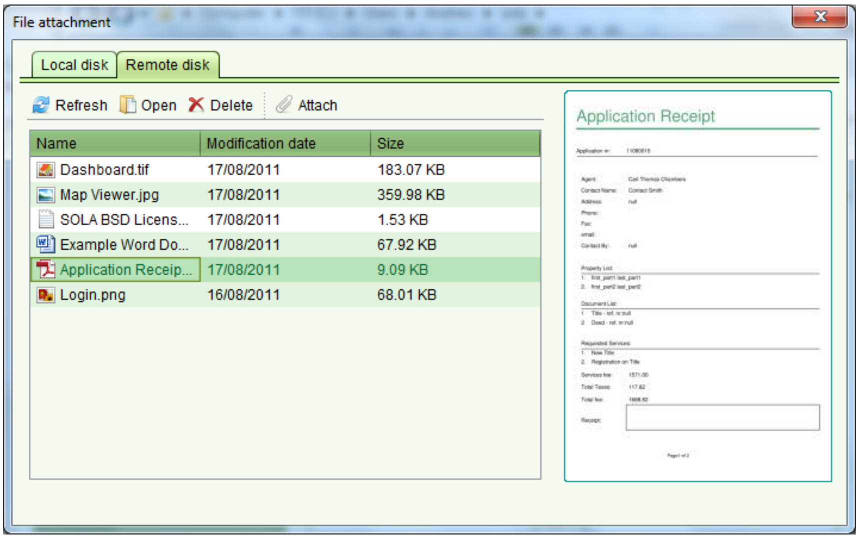


Figure 56 - File Attachment Remote disk tab

The Remote disk view displays files that have been placed in a specific network file system location e.g. the output folder configured for a network attached scanner. Thumbnail previews are supported for standard image formats (png, tiff, jpg) as well as PDF.

Once you have chosen the document to attach, click the Attach button on the appropriate tab of the File Attachment dialog. This will return you to the Add Documents dialog and the filename of the attachment will be display in the Attachment text field along with a remove icon . If you select the wrong file as the attachment, you can click the remove icon to remove the file attachment.

Notes

- The maximum size of a file that can be attached into SOLA is 100Mb. Files larger than this should be resized or split and added as 2 or more documents.
- If you successfully attach a file from the Remote disk, the file will be automatically deleted from the remote file location.

7.2.1 Also see

- SOLA Systematic Concepts
  - Documents

- SOLA Systematic Screens
  - Application Details
  - Document Search
- Documents How To

7.3 Add or Update a File Attachment on an Existing Document

You can edit document details and/or change the attachment using the Edit tool on the Document tab of the Application Details screen or using the Edit tool from the Document Search screen. When using Document Search, you first need to locate the document to edit.

The following describes the steps when using Document Search.

Steps

1. From the Dashboard, click Document search
2. Use the search to locate the document to update using its SOLA Number or any other relevant search criteria
3. Select the document to update in the results list and click the Edit tool to open the Document Details screen

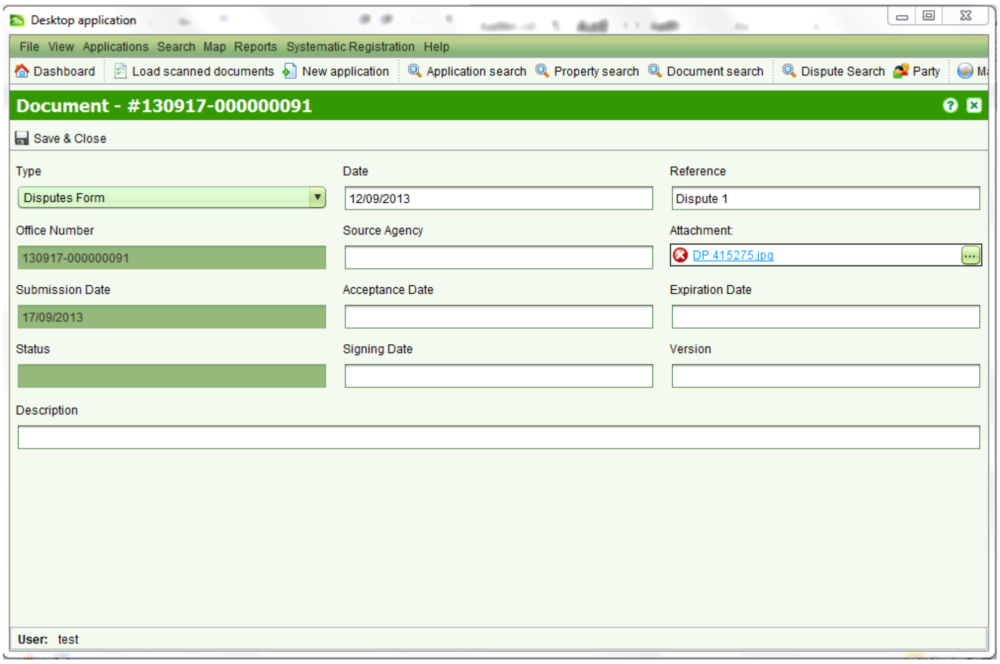


Figure 57 - Document Details

4. Edit the document information and/or change the file attachment as required
5. Click Save & Close to save the changes.

7.3.1 Also see

- SOLA Systematic Concepts
  - Documents
- SOLA Systematic Screens
  - Application Details
  - Document Search
- Documents How To

8. Systematic Registration Mapping How To

8.1 Record a Completed Field Map

When the marking up of Field Maps with the parcel boundaries is completed the Systematic Registration Demarcation Officer passes these Field Maps to the Systematic Registration GIS Officer for recording within SOLA Systematic. The Field Map is scanned and the image file saved to the specified shared folder for Field Map image files.

8.1.1 Lodge an Application

The first step of the Systematic Registration GIS Officer to record a Field Map is to lodge a new application in SOLA containing a Change to Cadastre service.

Steps

1. From the Dashboard select the New application tool to open the Application Details screen.
2. On the General tab, enter the name of Demarcation Officer as the Applicant
3. On the Services tab, add the Change to Cadastre service to the application.
4. On the Documents tab, record each of the physical documents provided by the surveyor. At a minimum the Change to Cadastre services requires a Field Map document.
    a. Ensure you select the appropriate document type and record the document date (i.e. the date recorded on the face of the physical document) or today' s date if the physical document is not dated.
    b. Enter a reference number for the document and a description. The reference number should be taken from the physical document. . If the physical document does not have any reference number, then enter the application number, period and document sequence number (e.g. 120001.03).
    c. The Source Agency is the name of the organization that created the physical document. E.g. For the plan, the name of the surveyors firm or the surveyors name can be entered here. This field is optional and can be left blank.
    d. If you have scanned the document, use the Attachment field to link in the scanned image. If you have not yet scanned the document, you will need to do this at a later stage and link it into the document using the Edit Document functionality available from Document Search.

2. Click the Save button. This will lodge the application and produce a lodgement notice. There is no need to print this notice (in this situation).

8.1.2 Assign the Application

Before work can begin on recording the survey information in SOLA, the application must be assigned to the Systematic Registration GIS Officer. Assignment of the application indicates that the recording of the Field Map is underway.

Steps

1. From the SOLA Dashboard, check the Unassigned applications list to confirm the fee field is shown (with a tick). If the fee field does not have a tick value it will not be possible to assign the application.
2. Select the application in the Unassigned applications list and click the Assign tool. This will open the Application Assignment dialog.
3. Click the Assign button to assign the application. When the Assign action is complete, you will be returned to the Dashboard and the assigned application will appear in your Assigned applications list.

Typically users will only be able to assign applications to themselves (i.e. they will be able to pull work), however team leaders will be able to manage the workload of their teams and will be able to assign and reassign applications to other users. Note that the Unassign and Assign tools can be used reassign the application to another user if necessary

8.1.3 Change to Cadastre Service

The Change to Cadastre service provides tools that allow you to modify the existing cadastral network. The following describes the basic process flow for capturing survey information. Variations to this basic flow are possible.

Steps

1. From the Dashboard, Open the application from your Assigned applications list.
2. On the Services tab, select the Change to Cadastre service and click the Start tool. This will open the Change to Cadastre screen.
3. If the Map Viewer is not already zoomed to the location of the survey, use the map search or the map navigation tools to locate the area of the survey.
4. Add the Field Map image into the Map Viewer using the tool.
5. Capture the survey points for the plan. You can do this by using the Create / Link Survey Points tool to locate survey points directly on the Map Viewer using the mouse, load new coordinates from a survey data file or use the Survey Points screen to manually enter the new coordinate details.
6. Use the Create / Link Survey Points tool to link survey points that represent existing boundary marks defining existing parcels already captured in SOLA. This step is important because it ties the new survey data to the existing cadastral network. Once linked, a survey point will change from being a blue plus to a green plus.
7. Use the Survey Points screen to identify any traverse points from the plan by de-selecting/unchecking the 'Is boundary' checkbox.
8. Create the new parcels from the plan using the Create New Parcel tool . New parcels will automatically get assigned the appropriate parcel number when they are saved.
9. Use the Parcel List tool to open the Parcel List screen and if the parcel UPI has been already pre-allocated in the field you need to enter this number in the parcel UPI field.
10. Save the new details you have recorded. Please note that if you have entered a non-unique parcel UPI value, an error message will appear and you will need to amend the parcel UPI value in order to save the new details.
11. Once all of the relevant information from the survey has been captured into SOLA, return to the Services tab of the Application Details screen, select the Change to Cadastre service and click the Complete tool. This will run the SOLA business rules to validate the application data. If there is a critical failure, you must remedy the failure as it will not be possible to approve the application otherwise.

Notes

- Use Save on the Change to Cadastre screen regularly.

9. The act of saving and/or completing the service will cause the SOLA business rules to run validating the state of the data. If you receive rule failures, check Troubleshooting SOLA Systematic

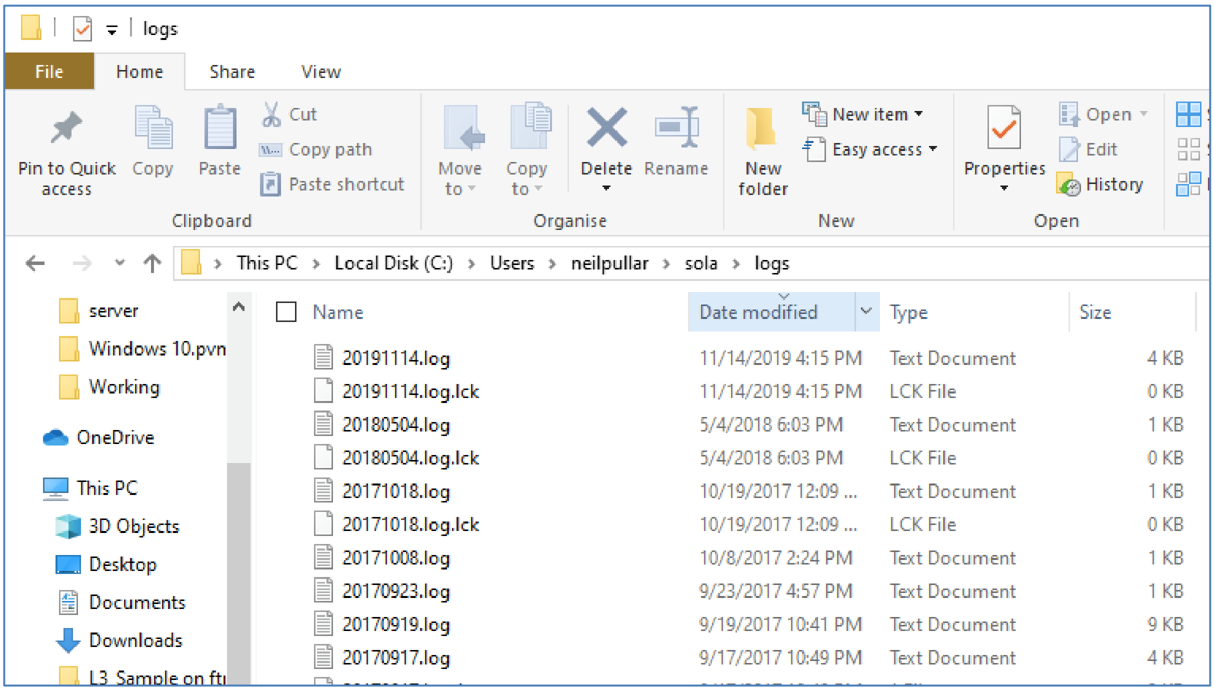
9.1 Logging

From time to time you may encounter unexpected issues while trying to run SOLA Systematic. Usually the error message will recommend a course of action, but occasionally you may encounter a technical issue that requires further investigation by the IT Support Team or another SOLA technical person. To assist that investigation you may be asked to provide a copy of the log files supporting SOLA Systematic. The logs capture exception information and status messages that can help a technical person to determine the cause of a particular issue.

This section describes the two logs available with SOLA Systematic; the SOLA Application Log and Java Runtime Environment (JRE) logging. It also describes how to access information from those logs.

9.1.1 SOLA Application Log

The SOLA Web Start application (i.e. SOLA Systematic Desktop Client software) creates an application log file on your local computer to capture exceptions and various status messages. You can find those log files at the following directory location **<User Home Directory>/sola/logs**.



Location of SOLA Application Log in Windows 10

The name of the log file will be DesktopApplication_<date>.log (for SOLA State Land Desktop). Simply open the appropriate log and copy the text from the log file into your email reply or issue ticket.

Note that your <User Home Directory> will depend on the operating system of your computer. For example, under Windows 10 this will be C:\Users\<Your Windows User Name>.

9.1.2 Java Runtime Environment (JRE) Logging

SOLA is a Java application and the Java Runtime Environment (JRE) also provides a detailed logging capability. The advantage of using JRE Logging is that every exception and/or status message is reported whereas the SOLA Application Logs only capture SOLA specific exceptions and messages and may not necessarily capture the true cause of an issue.

JRE Logging is **not** turned on by default. You need to use the Java Control Panel to turn on the Java Console which can then be used to turn on JRE Logging as required. To turn on the Java Console and JRE Logging

1. From the Control Panel, choose the **Java** icon.
2. On the Java Control Panel, click the Advanced tab and expand the **Java console** node to select the **Show console** option.
3. Click the OK button to close the Java Control Panel and save changes.

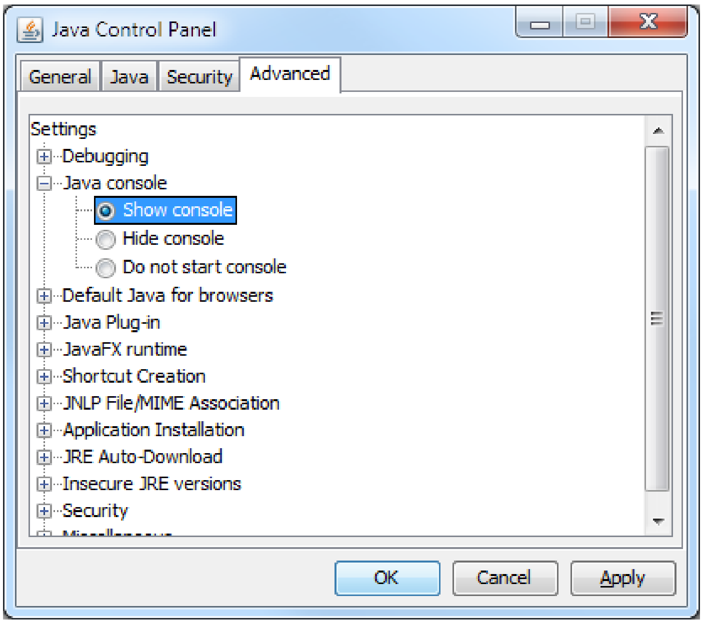


Figure 96 - Java Control Panel Advanced tab

4. Start the SOLA Web Start application by double clicking the appropriate desktop shortcut. You will notice the Java Console display along with the SOLA login page.
5. Click the Java Console so that it has focus and press **5**. The message **Trace level set to 5: all ...completed** should display in the console. Pressing 5 turns on logging to its maximum level.

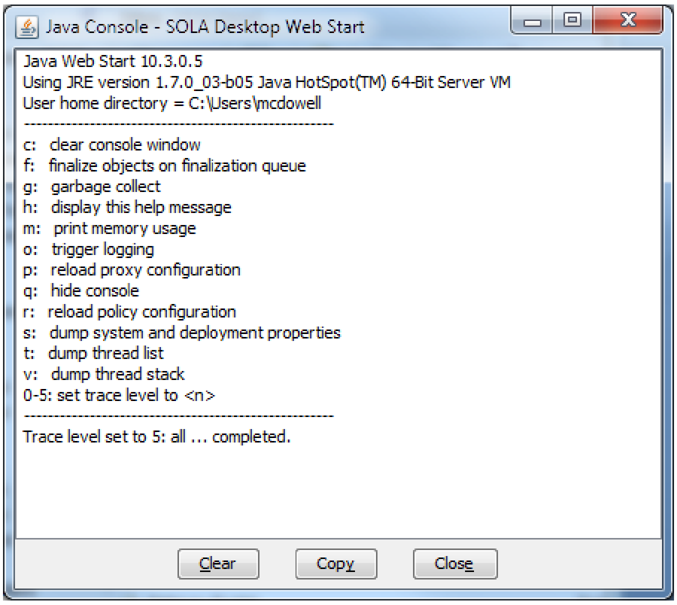


Figure 97 - Java Console with logging turned on

6. As you use the SOLA application, messages will be output to the console. Repeat the actions that cause the issue to occur.

7. After successfully repeating the issue, click the **Copy** button on the Java Console and paste the contents of the JRE log into your email reply or issue ticket.

Be aware that JRE Logging will only be turned on for the duration of your current session. If you restart the SOLA Web Start application, JRE Logging will be turned off until you set the logging level in the Java Console.

9.2 Known Issues

This section lists some known issues and may help to resolve problems that you are encountering. Issues described here include

1. Unable to login
2. Installation issues (refer to sections **Error! Reference source not found.** & 4.4)
3. Reporting of Issues

9.2.1 Unable to login

While attempting to login to SOLA Systematic you may get a message indicating your user name and password could not be verified. This message can be caused by a number of different reasons most of which will require IT Support to assist you.

Cause	**Description**	**Resolution**
Invalid user credentials		Enter valid user credentials. If you cannot remember your user credentials, contact IT Support to reset your password.
User account is disabled		Contact IT Support to verify if your account is enabled.
Application services are unavailable	The SOLA Systematic Web Start application uses web services on the SOLA Systematic Application Server to process information. If the web services are unavailable due to a problem with the network or the SOLA Systematic Application Server, you will receive the user name and password could not be verified message.	Contact IT Support to restart the SOLA Application Server.

9.2.2 Installation Issues

Most installation issues appear to result from problems with the computing infrastructure used by SOLA Systematic. Some of the more common problems are described in sections **Error! Reference source not found.** & 4.4.

9.2.3 Reporting Issues

The Github Issues reporting feature is now used to record and track issues with the SOLA Registry software. You can view details of known issues and workarounds here https://github.com/SOLA-SR-FAO/code/issues .

10. Release Notes

This section summarises the changes made to SOLA Registry or it's configuration as part of each new release.

10.1 Release 1503a

Ticket	Title	Change Summary
-	Initial Release	Generic version of (Nigeria) SOLA SLTR.

Appendix 1 – SOLA Business Rules

This appendix can be used to determine the remedial action that should be undertaken when a SOLA business rule fails.

Code	Message	Remedial Action
AP010	Check that relationship to previous title has been defined in History Tab for the new title(s)	An application including a new freehold service must also terminate the parent title(s) with a cancel title service.
AP020	In the Application Document Tab determine (in right hand column) the unchecked required document types and add these documents to the Application	All documents required for the services in this application are present.
AP030	Search titles and locate the current title referencefor the property used in the application	All the titles identified for the application must be current.
AP040	Add a service to the Application	An application must have at least one service
AP050	Order the services in the application so that the Cancel Title occurs last	New Freehold title service must come before Cancel Title service in the application.
AP060	Create a service to cancel the titles to be superseded by the new titles	When a new title is created there must be a cancel title service in the application for the parent title.
AP070	Check that all services have been completed (or cancelled)	All services in the application must have the status 'cancelled' or 'completed'.
AP080	Check that all services have been completed (or cancelled)	Within an application
AP090	Check property form and ensure the primary right checkbox is checked for one right (usually ownership)	A single primary right (such as ownership) must be identified whenever a new title record is created
AP100	Manually check that all current rights have been transferred to new titles or cancelled and add new services to cancel redundant rights (or restrictions)	All rights and restrictions from existing title(s) must be accounted for in the new titles created in this application.
AP110	Add another Remove Caveat or Vary Caveat service to the application	The identified property has a current or pending caveat registered on the title. The application must include a cancel or waiver/vary caveat service for registration to proceed.
AP120	Attach a more recent title image	The scanned image of the title should be less than one week old.
AP130	Add scanned image of personal ID or person verification form	Personal identification verification should be attached to the application.
AP140	Deal with caveat lodged on same property by a different application	The identified property is affected by another live application that includes a service to register a caveat. An application with a cancel or waiver/vary caveat service must be registered before this application can proceed.
AP150	Check the applicant's name,whether they are appropriately verified (attach scanned images of personal id) and	The applicants name should be the same as (one of) the current owner(s)

Code	Message	Remedial Action
	whether the application is authorised to initiate the services requested in the application	
AP160	Check the date of the document and amend where necessary	Documents should have dates formalised by source agency that are not in the future.
AP170	Verify there is a good reason for these services to be provided as back office services	There are services in this application that should be dealt in the front office. These services are of type: serviceEnquiry
AP180	Add a Convert to Digital Title service to the application	An application can be associated with a property which should have a digital title record.
AP190	Add a scanned image (or other source file) to the document record	Documents lodged with an application should have a scanned image file (or other source file) attached
AP200	Verify the identified primary right is permissible as a primary right	An allowable primary right (ownership, apartment, State ownership, lease) must be identified for a new title
AP210	Verify the identifier for the title (Cof))	Invalid identifier for title
AP220	Verify if the period of public display is over	The publication period must be completed.
AP230	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	All rights and restrictions on the title to be cancelled must be transfered or cancelled in this application.
BA020	Identify other application for same property and complete that application before proceeding with this application	Pending registration actions (from other applications) affecting the title to be cancelled should be cancelled
BA030	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have an associated parcel (or cadastre object)
BA040	Make sure cadastre object is compatible with title (usually a 'parcel')	Title should have compatible parcel (or cadastre object) description (appellation)
BA050	Review official area(s) of both the title and the corresponding parcel(s) and correct official area where appropriate	Title area should only differ from parcel area(s) by less than 1%
BA060	Check spelling of owner names and where new owners are to be recorded for new titles attached scanned documents to the ownership right collaborating the change in ownership	Owners of new titles should be the same as owners of underlying titles
BA070	Verify that a primary right has been specified	A title must have a valid primary right
BO010	Verify that the cadastre object (parcel) is a closed figure	Cadastre objects must have a valid closed polygon.
BO020	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	Cadastre objects must not overlap with existing cadastre objects.

Code	Message	Remedial Action
BO030	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	New cadastre objects must not overlap with other new cadastre objects.
BO040	Revise the parcel identifier to make sure it is unique	Cadastre objects with must have unique names.
CA060	Check that there are no additional, unexpected parcel records in Cadastre Change service form and that all parcels are properly formed polygons	The union of the target parcels must be a polygon
CA080	Identify other application dealing with target parcels and complete that application before proceeding with this application	There should be no pending changes for any of target parcels
CA100	Check parcel description/appellation is valid and amend where necessary	The parcel (cadastre object) should have a valid form of description (appellation)
CA120	Check the official areas for both the new parcels and the official areas of the to be superseded parcels	The difference between the total of the new parcels official areas and the total of the old parcels official areas should not be greater than 0.1%
CA140	Check the official areas for the new parcels as they differ significantly from the system calculated areas	The difference between the new official parcel area and the new calculated area should be less than 1%
CA150	Modify parcel redefinition changes as it appears the changes have caused overlaps	New polygons do not overlap with each other.
CA170	Modify parcel redefinition changes as it appears the combined areas of the parcels affected has changed.	The union of the new polygons must be the same as the union of the old polygons
CA190	Create new parcel polygons	New cadastral objects must be defined
CA200	Add survey points through on screen digitising or the import of a CSV file of survey points	There are at least 3 survey points present
CA220	Ensure all boundary nodes are included in polygons and that new boundary points coincident with existing boundary nodes have been linked	The union of new parcel polygons is the same with the union of the target parcel polygons
CA240	Identify the target parcel(s)	Target parcel(s) must be selected
CA250	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	The new parcel polygons must not overlap
CA260	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	New polygons do not overlap with existing ones
CA270	Identify a (spatial) parcel for the title (CofO)	All property must have an associated cadastre object.
CA280	Process more Systematic Registration claims through to complete status for the parcels in this section	At least 90% of the parcels must have an associated Systematic Application with complete status.

Code	Message	Remedial Action
GE010	Revise the spatial unit group identifier to ensure it is unique	Spatial unit groups must be unique.
RR010	Deal with requirements of caveat and then create new application with a Remove Caveat or Vary Caveat service and process. Once approve return to other applications that have been waiting for the caveat to be dealt with	Caveat should not prevent registration proceeding.
RR020	Review all mortgages on the title and revise rank of new mortgage accordingly	The rank of a new mortgage must not be the same as an existing mortgage registered on the same title
RR030	Review other applications for the same property and ensure their approval prior to actioning the subsequent changes	There are no other pending actions on the rights and restrictions being changed or removed on this application
RR040	Add rightholders names in the form defining the right	These rights (and restrictions) must have a recorded party (or parties)
RR050	Modify the shares so that they total to 1	The sum of the shares (in ownership rights) must total to 1
S0020	Revise attached source file to one that has current status	Document (source file) must not be duplicated
SO030	Add only allowable file types	Document to be registered must have an allowable and current source type
SV020	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have Parcels
SV030	Add a scanned image (or other source file) to the document record	Documents associated with a service must have a scanned image file (or other source file) attached
SV040	Add or link a current document to the right (or restriction) that is being created, varied or cancelled	Documents supporting rights (or restrictions) must have current status
SV050	Add a scanned image of the Power of Attorney to the application	Service 'req_type' must have must have one associated Power of Attorney document
SV060	Start service and complete all required data entry before attempting to complete service	Service 'req_type' must have been started and some changes made in the system
SV070	Record the current right in the system through a separate service before actioning the service that varies or cancels the right	For cancellation or variation of rights (or restrictions)
SV080	Check that the correct parcels have been identified for the parcel and that the total of the official parcel areas is within the specified limits with the given official total title area	Title has the same area as the combined area of its associated parcels
SV090	Check that existing mortgage holders have agreed to new mortgage being registered	For the Register Mortgage service the identified title has no existing mortgages

Code	Message	Remedial Action
SV110	Verify the reported value of the property and the mortgage amount	For the Register Mortgage service
SV120	Manually check that the owner name (recorded on the Power of Attorney) is the same as the recorded rightholder's name	Name of person identified in Power of Attorney should match a (one of the) current owner(s)
SV130	Confirm whether there is already a digital record of this title	For the Convert Title service there must be no existing digital title record (including the recording of a primary (ownership) right) for the identified title
SV140	Add the required documents to this application	All documents required for the service 'req_type' are present.
SV150	Add a personal ID record image to this application	Within the application for the service a personal identification verification should be attached.
SV160	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	For the service 'req_type' the title must be terminated (after all rights recorded on the title are transferred or cancelled).

Appendix 2 – Features of SOLA Systematic

The SOLA Systematic application supports the following feature list:

Case Management

1. Personal dashboard for each user showing all unassigned applications along with the applications currently assigned to them.
2. Users can assign themselves to applications (i.e. pull workflow)
3. Power users can manage the workload of other users by assigning and un-assigning applications
4. Applications can be re-assigned allowing different users to work on different parts of an application
5. Details that can be captured on the application include
    a. Agent and contact person information
    b. Services that indicate the type of changes the application will make to the land registry records
    c. Property records affected by the application
    d. The fee paid and receipt details
    e. Documentation supporting the application
    f. Approximate location of the application can be noted on the map
6. Lodgement checklist available so the user can ensure the necessary documentation is provided when the application is lodged
7. User can validate the property references provided with the application to confirm they are valid and recorded in Registry
8. Lodging an application assigns a unique number, calculates the fee and generates a lodgement notice
9. An application can have one or more services
10. The services supported by Registry can be configured to match those required by the land administration agency
11. The services users can work on can be controlled using security roles
12. Applications transition into different states as they are processed
13. Applications can be lodged, requisitioned, cancelled, withdrawn, lapsed, approved and completed
14. Changes to land registry records do not become live until an application is approved
15. Users can record when notifications are sent to the agent or contact
16. The history of changes to an application (who did what and when) can be viewed
17. The status of the application including the history log can be printed
18. An application statistics report is available that lists lodgements, requisitions and approvals over a given period

Search

1. Search applications by application number, date of lodgement, agent name, contact person name or document reference
2. Search properties (a.k.a. titles) by property reference or owner name
3. Search parties by name or party role
4. Search documents by document reference number, date submitted, document type, document source or description
5. Search spatial records using Map Find (supports zoom to and highlight of selected result)
6. The spatial searches supported by Registry can be configured to match those required by the land administration agency
7. Partial/wildcard matching is supported for text based search criteria

Map Viewer

1. Layer control to manage data displayed on the map
2. The layers supported by the Map Viewer can be configured to match those required by the land administration agency
3. Layer symbology defined using Style Layer Descriptor (SLD) OGC standard
4. Auto sizing scale bar displayed to help gauge distances on the map
5. Editable map scale to allow fast zooming of the map
6. Mouse enabled map navigation and map editing tools
7. Context sensitive map editing tools (depending on the service being worked on)
8. Map printing with page size and orientation selection
9. Information tool to summarize spatial object details
10. Supports orthophoto layers
11. Extract selected spatial objects to KML for display in other GIS tools (e.g. Google Earth)

Document Management

1. Attached scanned documents to an application from the local computer or a preconfigured network folder
2. Attach files up to 100Mb
3. Change or remove the attachment for an existing document
4. Cross link new documents with attachments previously loaded into SOLA
5. View a thumbnail preview of a document prior to attaching it (PDF and image formats only)
6. View attachments using the default application for that file type
7. Client side document cache that is auto sizing to prevent excessive disk usage
8. Register Power of Attorney and Standard Memorandum documents for reference by later applications

Cadastral Editing

1. Create new cadastral objects by subdividing and/or amalgamating existing cadastral objects
2. Capture survey points using the mouse, manually entering the survey coordinates or importing survey coordinate data from a CSV data file
3. Add nodes to existing cadastral objects
4. Modify the boundaries of existing cadastral objects
5. Capture irregular boundaries
6. Digitize survey information from an image of the plan
7. Link or snap survey points to existing cadastral object nodes
8. Calculate the variances between survey point coordinates and existing cadastral object nodes
9. Identify traverse points from the survey
10. Record the official area for new parcels
11. Validate spatial changes to avoid gaps and overlaps in the cadastral network

Systematic Registration

1. Predefined systematic registration roles can be modified to reflect local practices
2. Mapping can be loaded into SOLA Systematic
3. Adjudication teams field collected systematic application forms data entry
4. Upload of scanned documents

5. Loading of adjudication teams digital photos of claimants, supporting documents and property features
6. Spatial definition of Public Display Areas
7. Spatial definition of Daily Work Unit Areas for each adjudication and mapping team
8. Spatial definition of road centrelines and names
9. Map and record parcels with existing land certificates
10. Prepare Public Display Listings & Map Plots
11. Record Objections
12. Record Dispute Resolution
13. Print new Land Certificates Individually or multiple as a block of certificates
14. Prepare Land Certificate signing / delegation to sign lists
15. Prepare individual parcel plans
16. Prepare various systematic registration reports on progress, metrics of completed certificates and gender reports

Land Certificate Management

1. Create new land certificates (a.k.a. properties) and record ownership, mortgage and other rights (and restrictions) on the title
2. The rights and restrictions supported by SOLA can be configured to match those required by the land administration agency
3. Memorials/notations are added to the land certificate
4. A share is expressed as a fraction and can be allocated to one or more parties
5. Print Land Certificates

Gender Safeguards

1. Individual parties can have their private information protected to prevent disclosure of their information to other parties
2. One party (the notifiable party) can register a relationship with another party (the target party) and obtain notification if there are changes to the target parties property rights or interests
3. Report illustrating property ownership by gender

Business Rules

1. Automated validation of application using configurable business rules
2. Rules executed just prior to changes in state of an application or service
3. Rules can also be manually executed using the Validate action
4. Rules to execute at a particular stage can be configured with the same rule executing at multiple stages
5. Severity rating for a rule can be configured based on the stage of execution
6. The failure of a critical rule aborts the current action
7. Rules are defined as SQL statements and can be versioned
8. New versions of rules can be uploaded into SOLA and configured to come into force at a future date without requiring redeployment of SOLA

System Administration

1. Add, edit and disable reference data values (e.g. service types, document types, RRR types, etc)
2. Version business rules and change business rule severity
3. Add, edit and disable user accounts
4. Configure security roles into groups and assign groups to users

5. User passwords expire at regular intervals determined by the system administrator.

General

1. Context sensitive online help
2. User profile to record user preferences and change password
3. All screen labels, messaging, database reference codes and online help documentation supports localization to different languages
4. General information enquiries can be logged and dealt with as applications
5. Secure individual data records so that only users with appropriate permissions can view those records
6. Email service to send email notifications

Technical

1. PostgreSQL database (supported versions v9+) with PostGIS spatial database extension (supports v1.5+ and v2+)
2. Database table structures based on the Land Administration Domain Model (LADM)
3. Web service architecture developed using Java Enterprise Edition (Java EE 8) and hosted in a JEE 8 compatible application server (Payara Server v5)
4. Uses the Metro Web Service stack compatible with .NET and Java web service technologies (WSIT compatible) and WS-Security
5. Java Web Start used for deployment
6. Java 8 JRE required on all client computers
7. Patches and enhancements to the SOLA Systematic Desktop application are automatically downloaded by Java Web Start
8. Implements optimistic concurrency control to prevent loss of information due to concurrent data edits
9. The details for every exception that occurs on the server or the client are recorded in a log file to assist debugging and issue resolution.
10. The source code for SOLA Systematic is licensed under the Berkeley Software Distribution (BSD) 3-clause license
11. SOLA Systematic can run on both Windows and Unix based operating systems
12. SOLA Systematic does not require a geospatial data server, but it can integrate with any Web Map Service (WMS) capable server for display of orthophotos and other spatial data

Appendix 3 – Trimble Pathfinder Software Configuration for SOLA Registry Export CSV File

SOLA CSV Format definition:
First column: Is a unique identifier of the point within the file. It can start with 1 and incrementing by one.
Second column: X coordinate.(Easting)
Third column: Y coordinate. (Northing)
The values are separated by commas
Example:

Id,X,Y

1,570559.75,5931649.69

In this example the coordinate system will be UTM, Zone 31N and the datum is WGS84.

Setup:

1. Start Pathfinder Office and create/select a project.
2. Select **Utilities** > **Export** and **New**:

3. In the New Setup Window enter a Setup name (for example: _Sola CSV).

Note: The underscore will bring the Sola format to the top of the list later on.

4. Select **New Setup** and scroll for **Configurable ASCII** and tap **OK**

The Export Setup Properties Window will open.

5. Select the **Coordinate System** Tap.
6. Select **Use Export Coordinate System** and tap **Change…**

The Export Window will open.

7. Select **System**: UTM

   Zone: 31 North
   Datum: WGS84
   OK

The Export Setup Properties Window will open again.

8. Select the **Configurable ASCII** Tab and **New**…
9. Enter a name for your new format (Example SOLA)

   OK

The **ASCII Export Template Editor** page will open.

10. Enter the **Output File Extension** : CSV
11. **Apply to** : Points only
12. Select the **Field Format** : Delimited
13. Select the **Delimiters Field** : Comma (,)
14. Select the following output definitions from the Macro Palette with left mouse click:

{Feature ID}
{Easting}
{Northing}
OK
<u>Note:</u> Easting refers to the eastward-measured distance (or the x-coordinate) and Northing refers to the northward-measured distance (or the y-coordinate).

To use the define Export system select Select **Utilities** > **Export,** select your data file and **Choose an Export Setup:**

- to determine how those failures can be remedied.
- Additional information on using the Change to Cadastre tools can be found in the Change to Cadastre section.

10.1.1 Approving the Systematic Registration Mapping

All new parcels recorded from Field Maps remain displayed as pending parcels until the application is approved by the Systematic Registration team leader. This isdone using the Approve action in the Application action dropdown.

Steps

1. Open the application from your Assigned applications list and use the Validate tool to check the status of the application data. If there are any rule failures, review the application data and correct the issues as appropriate before proceeding to approve the application.
2. Use the Approve action in the Application action dropdown to approve the application. This will update the status of the application to Approved as well as adding the new parcels created in the application in the layer of approved parcels (and removing them from the pending parcel layer).

10.1.2 Also See

- SOLA Systematic Concepts
  - Application Lifecycle
  - Services
  - Business Rules
- SOLA Systematic Screens
  - Dashboard and Main Menu
  - SOLA Map Viewer
  - Application Search
  - Application Details
  - Change to Cadastre
- General How To
  - Assign an Application
  - Calculate Fees

  - Verify Property Details
  - Add location for Application
- Documents How To
  - Add a Document to an Application
  - Attach a File to a New Document
  - Add or Update a File Attachment on an Existing Document
- Systematic Registration How To
  - Lodge Systematic Registration Claim

10.2 Redefine the Cadastre

The Redefine Cadastre screen allows you to change the boundaries of an existing parcel both entirely and point by point (adding nodes and changing node coordinates) outside of the receipt of a survey plan. The parcel UPI remains unchanged. This may be a result of the resolution of an objection arising from a boundary dispute or general maintenance or correction of erroneous boundary data in the parcel layers in SOLA Systematic.

10.2.1 Lodge an Application

To redefine the cadastre, you must lodge a new application in SOLA containing a Redefine Cadastre service.

Steps

1. Discuss and confirm the changes required with your team leader.
2. From the Dashboard select the New application tool to open the Application Details screen.
3. On the General tab, enter your details as the contact person.
4. On the Services tab, add the Redefine Cadastre service to the application.
5. You can optionally list the parcels affected by the application on the Parcel tab.
6. On the Documents tab, create a Complete Survey Report document and attach the documentation that describes the change and clarifies why the change is being made. Enter today's date for the document. The other fields can remain blank.
7. On the Services tab, check the Fee Paid checkbox then click the Save button. This will lodge the application and produce the lodgement notice. You can close the lodgement notice without printing it. If you do not have permission to check the Fee Paid checkbox, save the application and arrange for a person with the appropriate privilege to do this for you.

10.2.2 Assign the Application

Before work can begin on changing the map, the application must first get assigned to a Survey staff member. Assignment of the application indicates that work on the application is underway.

Steps

1. Assuming the Fee Paid checkbox is checked, select the application in the Unassigned applications list and click the Assign tool. This will open the Application Assignment dialog.
2. Click the Assign button to assign the application. When the Assign action is complete, you will be returned to the Dashboard and the assigned application will appear in your Assigned applications list.

10.2.3 Redefine Cadastre Service

The Redefine Cadastre service provides tools that allow you to modify the existing cadastral network. The following describes the basic process flow for changing the map. Variations to this basic flow are possible.

Steps

1. From the Dashboard, Open the application from your Assigned applications list.
2. On the Services tab, select the Redefine Cadastre service and click the Start tool. This will open the Redefine Cadastre screen.
3. If the Map Viewer is not already zoomed to the location of the change, use the map search or the map navigation tools to locate the appropriate area.
4. Use Node tools and/or Boundary Change tools to update parcels as required.
5. Once all of the relevant information from the plan has been captured into SOLA, return to the Services tab of the Application Details screen, select the Redefine Cadastre service and click the Complete tool. This will run the SOLA business rules to validate the application data. If there is a critical failure, you must remedy the failure as it will not be possible to approve the application otherwise.

Notes

- Use Save on the Redefine Cadastre screen regularly.

11. The act of saving and/or completing the service will cause the SOLA business rules to run validating the state of the data. If you receive rule failures, check Troubleshooting SOLA Systematic

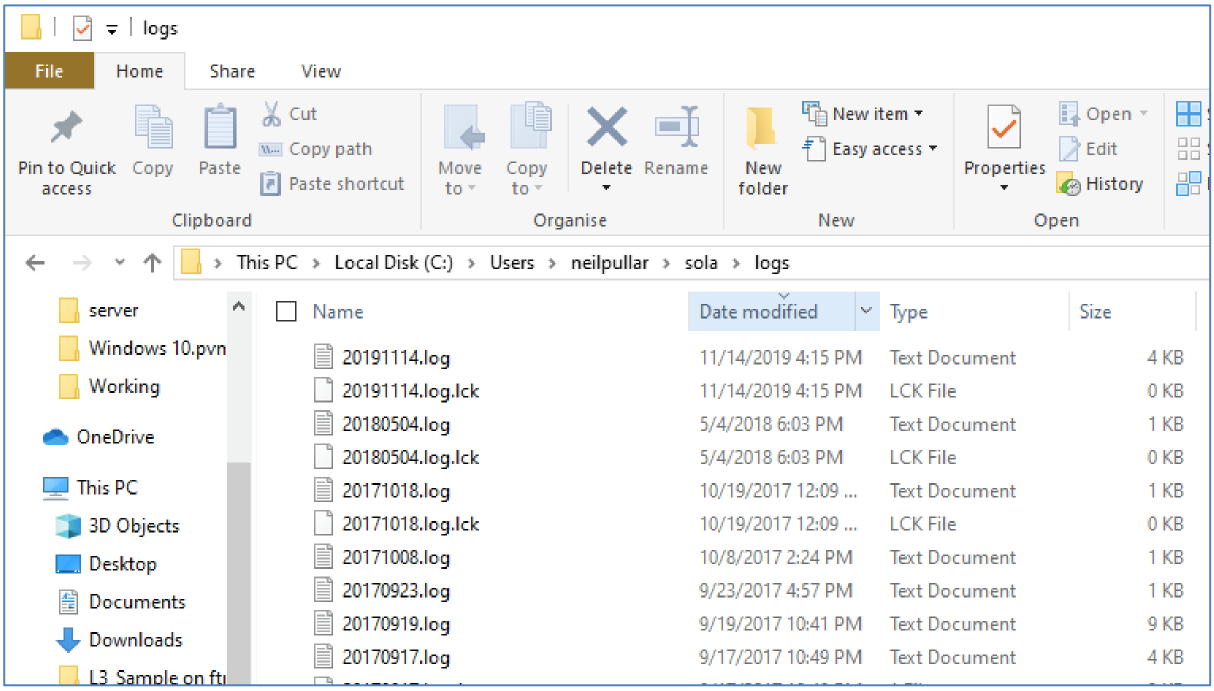
11.1 Logging

From time to time you may encounter unexpected issues while trying to run SOLA Systematic. Usually the error message will recommend a course of action, but occasionally you may encounter a technical issue that requires further investigation by the IT Support Team or another SOLA technical person. To assist that investigation you may be asked to provide a copy of the log files supporting SOLA Systematic. The logs capture exception information and status messages that can help a technical person to determine the cause of a particular issue.

This section describes the two logs available with SOLA Systematic; the SOLA Application Log and Java Runtime Environment (JRE) logging. It also describes how to access information from those logs.

11.1.1 SOLA Application Log

The SOLA Web Start application (i.e. SOLA Systematic Desktop Client software) creates an application log file on your local computer to capture exceptions and various status messages. You can find those log files at the following directory location **<User Home Directory>/sola/logs**.



Location of SOLA Application Log in Windows 10

The name of the log file will be DesktopApplication_<date>.log (for SOLA State Land Desktop). Simply open the appropriate log and copy the text from the log file into your email reply or issue ticket.

Note that your <User Home Directory> will depend on the operating system of your computer. For example, under Windows 10 this will be C:\Users\<Your Windows User Name>.

11.1.2 Java Runtime Environment (JRE) Logging

SOLA is a Java application and the Java Runtime Environment (JRE) also provides a detailed logging capability. The advantage of using JRE Logging is that every exception and/or status message is reported whereas the SOLA Application Logs only capture SOLA specific exceptions and messages and may not necessarily capture the true cause of an issue.

JRE Logging is **not** turned on by default. You need to use the Java Control Panel to turn on the Java Console which can then be used to turn on JRE Logging as required. To turn on the Java Console and JRE Logging

8. From the Control Panel, choose the **Java** icon.
9. On the Java Control Panel, click the Advanced tab and expand the **Java console** node to select the **Show console** option.
10. Click the OK button to close the Java Control Panel and save changes.

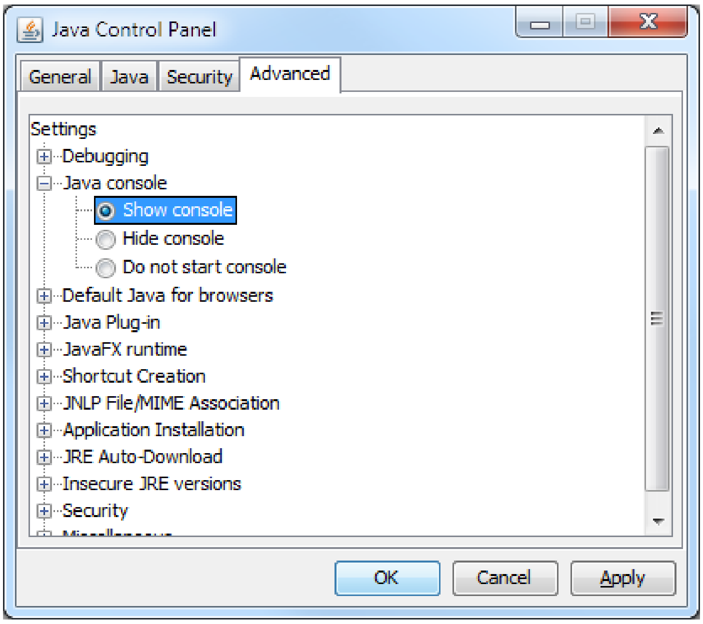


Figure 96 - Java Control Panel Advanced tab

11. Start the SOLA Web Start application by double clicking the appropriate desktop shortcut. You will notice the Java Console display along with the SOLA login page.
12. Click the Java Console so that it has focus and press **5**. The message **Trace level set to 5: all ...completed** should display in the console. Pressing 5 turns on logging to its maximum level.

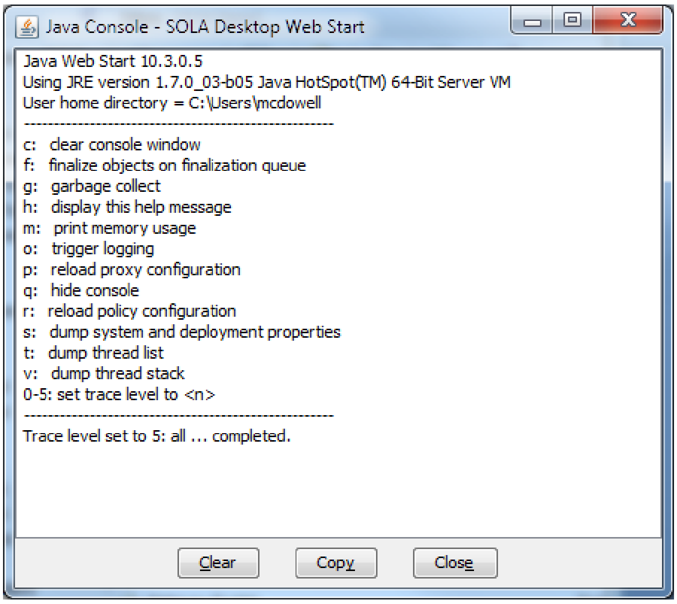


Figure 97 - Java Console with logging turned on

13. As you use the SOLA application, messages will be output to the console. Repeat the actions that cause the issue to occur.
14. After successfully repeating the issue, click the **Copy** button on the Java Console and paste the contents of the JRE log into your email reply or issue ticket.

Be aware that JRE Logging will only be turned on for the duration of your current session. If you restart the SOLA Web Start application, JRE Logging will be turned off until you set the logging level in the Java Console.

11.2 Known Issues

This section lists some known issues and may help to resolve problems that you are encountering. Issues described here include

4. Unable to login
5. Installation issues (refer to sections **Error! Reference source not found.** & 4.4)
6. Reporting of Issues

11.2.1 Unable to login

While attempting to login to SOLA Systematic you may get a message indicating your user name and password could not be verified. This message can be caused by a number of different reasons most of which will require IT Support to assist you.

Cause	Description	Resolution
Invalid user credentials		Enter valid user credentials. If you cannot remember your user credentials, contact IT Support to reset your password.
User account is disabled		Contact IT Support to verify if your account is enabled.
Application services are unavailable	The SOLA Systematic Web Start application uses web services on the SOLA Systematic Application Server to process information. If the web services are unavailable due to a problem with the network or the SOLA Systematic Application Server, you will receive the user name and password could not be verified message.	Contact IT Support to restart the SOLA Application Server.

11.2.2 Installation Issues

Most installation issues appear to result from problems with the computing infrastructure used by SOLA Systematic. Some of the more common problems are described in sections **Error! Reference source not found.** & 4.4.

11.2.3 Reporting Issues

The Github Issues reporting feature is now used to record and track issues with the SOLA Registry software. You can view details of known issues and workarounds here https://github.com/SOLA-SR-FAO/code/issues .

12. Release Notes

This section summarises the changes made to SOLA Registry or it's configuration as part of each new release.

12.1 Release 1503a

Ticket	Title	Change Summary
-	Initial Release	Generic version of (Nigeria) SOLA SLTR.

Appendix 1 – SOLA Business Rules

This appendix can be used to determine the remedial action that should be undertaken when a SOLA business rule fails.

Code	Message	Remedial Action
AP010	Check that relationship to previous title has been defined in History Tab for the new title(s)	An application including a new freehold service must also terminate the parent title(s) with a cancel title service.
AP020	In the Application Document Tab determine (in right hand column) the unchecked required document types and add these documents to the Application	All documents required for the services in this application are present.
AP030	Search titles and locate the current title referencefor the property used in the application	All the titles identified for the application must be current.
AP040	Add a service to the Application	An application must have at least one service
AP050	Order the services in the application so that the Cancel Title occurs last	New Freehold title service must come before Cancel Title service in the application.
AP060	Create a service to cancel the titles to be superseded by the new titles	When a new title is created there must be a cancel title service in the application for the parent title.
AP070	Check that all services have been completed (or cancelled)	All services in the application must have the status 'cancelled' or 'completed'.
AP080	Check that all services have been completed (or cancelled)	Within an application
AP090	Check property form and ensure the primary right checkbox is checked for one right (usually ownership)	A single primary right (such as ownership) must be identified whenever a new title record is created
AP100	Manually check that all current rights have been transferred to new titles or cancelled and add new services to cancel redundant rights (or restrictions)	All rights and restrictions from existing title(s) must be accounted for in the new titles created in this application.
AP110	Add another Remove Caveat or Vary Caveat service to the application	The identified property has a current or pending caveat registered on the title. The application must include a cancel or waiver/vary caveat service for registration to proceed.
AP120	Attach a more recent title image	The scanned image of the title should be less than one week old.
AP130	Add scanned image of personal ID or person verification form	Personal identification verification should be attached to the application.
AP140	Deal with caveat lodged on same property by a different application	The identified property is affected by another live application that includes a service to register a caveat. An application with a cancel or waiver/vary caveat service must be registered before this application can proceed.
AP150	Check the applicant's name,whether they are appropriately verified (attach scanned images of personal id) and	The applicants name should be the same as (one of) the current owner(s)

Code	Message	Remedial Action
	whether the application is authorised to initiate the services requested in the application	
AP160	Check the date of the document and amend where necessary	Documents should have dates formalised by source agency that are not in the future.
AP170	Verify there is a good reason for these services to be provided as back office services	There are services in this application that should be dealt in the front office. These services are of type: serviceEnquiry
AP180	Add a Convert to Digital Title service to the application	An application can be associated with a property which should have a digital title record.
AP190	Add a scanned image (or other source file) to the document record	Documents lodged with an application should have a scanned image file (or other source file) attached
AP200	Verify the identified primary right is permissible as a primary right	An allowable primary right (ownership, apartment, State ownership, lease) must be identified for a new title
AP210	Verify the identifier for the title (Cof))	Invalid identifier for title
AP220	Verify if the period of public display is over	The publication period must be completed.
AP230	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	All rights and restrictions on the title to be cancelled must be transfered or cancelled in this application.
BA020	Identify other application for same property and complete that application before proceeding with this application	Pending registration actions (from other applications) affecting the title to be cancelled should be cancelled
BA030	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have an associated parcel (or cadastre object)
BA040	Make sure cadastre object is compatible with title (usually a 'parcel')	Title should have compatible parcel (or cadastre object) description (appellation)
BA050	Review official area(s) of both the title and the corresponding parcel(s) and correct official area where appropriate	Title area should only differ from parcel area(s) by less than 1%
BA060	Check spelling of owner names and where new owners are to be recorded for new titles attached scanned documents to the ownership right collaborating the change in ownership	Owners of new titles should be the same as owners of underlying titles
BA070	Verify that a primary right has been specified	A title must have a valid primary right
BO010	Verify that the cadastre object (parcel) is a closed figure	Cadastre objects must have a valid closed polygon.
BO020	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	Cadastre objects must not overlap with existing cadastre objects.

Code	Message	Remedial Action
BO030	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	New cadastre objects must not overlap with other new cadastre objects.
BO040	Revise the parcel identifier to make sure it is unique	Cadastre objects with must have unique names.
CA060	Check that there are no additional, unexpected parcel records in Cadastre Change service form and that all parcels are properly formed polygons	The union of the target parcels must be a polygon
CA080	Identify other application dealing with target parcels and complete that application before proceeding with this application	There should be no pending changes for any of target parcels
CA100	Check parcel description/appellation is valid and amend where necessary	The parcel (cadastre object) should have a valid form of description (appellation)
CA120	Check the official areas for both the new parcels and the official areas of the to be superseded parcels	The difference between the total of the new parcels official areas and the total of the old parcels official areas should not be greater than 0.1%
CA140	Check the official areas for the new parcels as they differ significantly from the system calculated areas	The difference between the new official parcel area and the new calculated area should be less than 1%
CA150	Modify parcel redefinition changes as it appears the changes have caused overlaps	New polygons do not overlap with each other.
CA170	Modify parcel redefinition changes as it appears the combined areas of the parcels affected has changed.	The union of the new polygons must be the same as the union of the old polygons
CA190	Create new parcel polygons	New cadastral objects must be defined
CA200	Add survey points through on screen digitising or the import of a CSV file of survey points	There are at least 3 survey points present
CA220	Ensure all boundary nodes are included in polygons and that new boundary points coincident with existing boundary nodes have been linked	The union of new parcel polygons is the same with the union of the target parcel polygons
CA240	Identify the target parcel(s)	Target parcel(s) must be selected
CA250	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	The new parcel polygons must not overlap
CA260	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	New polygons do not overlap with existing ones
CA270	Identify a (spatial) parcel for the title (CofO)	All property must have an associated cadastre object.
CA280	Process more Systematic Registration claims through to complete status for the parcels in this section	At least 90% of the parcels must have an associated Systematic Application with complete status.

Code	Message	Remedial Action
GE010	Revise the spatial unit group identifier to ensure it is unique	Spatial unit groups must be unique.
RR010	Deal with requirements of caveat and then create new application with a Remove Caveat or Vary Caveat service and process. Once approve return to other applications that have been waiting for the caveat to be dealt with	Caveat should not prevent registration proceeding.
RR020	Review all mortgages on the title and revise rank of new mortgage accordingly	The rank of a new mortgage must not be the same as an existing mortgage registered on the same title
RR030	Review other applications for the same property and ensure their approval prior to actioning the subsequent changes	There are no other pending actions on the rights and restrictions being changed or removed on this application
RR040	Add rightholders names in the form defining the right	These rights (and restrictions) must have a recorded party (or parties)
RR050	Modify the shares so that they total to 1	The sum of the shares (in ownership rights) must total to 1
S0020	Revise attached source file to one that has current status	Document (source file) must not be duplicated
SO030	Add only allowable file types	Document to be registered must have an allowable and current source type
SV020	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have Parcels
SV030	Add a scanned image (or other source file) to the document record	Documents associated with a service must have a scanned image file (or other source file) attached
SV040	Add or link a current document to the right (or restriction) that is being created, varied or cancelled	Documents supporting rights (or restrictions) must have current status
SV050	Add a scanned image of the Power of Attorney to the application	Service 'req_type' must have must have one associated Power of Attorney document
SV060	Start service and complete all required data entry before attempting to complete service	Service 'req_type' must have been started and some changes made in the system
SV070	Record the current right in the system through a separate service before actioning the service that varies or cancels the right	For cancellation or variation of rights (or restrictions)
SV080	Check that the correct parcels have been identified for the parcel and that the total of the official parcel areas is within the specified limits with the given official total title area	Title has the same area as the combined area of its associated parcels
SV090	Check that existing mortgage holders have agreed to new mortgage being registered	For the Register Mortgage service the identified title has no existing mortgages

Code	Message	Remedial Action
SV110	Verify the reported value of the property and the mortgage amount	For the Register Mortgage service
SV120	Manually check that the owner name (recorded on the Power of Attorney) is the same as the recorded rightholder's name	Name of person identified in Power of Attorney should match a (one of the) current owner(s)
SV130	Confirm whether there is already a digital record of this title	For the Convert Title service there must be no existing digital title record (including the recording of a primary (ownership) right) for the identified title
SV140	Add the required documents to this application	All documents required for the service 'req_type' are present.
SV150	Add a personal ID record image to this application	Within the application for the service a personal identification verification should be attached.
SV160	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	For the service 'req_type' the title must be terminated (after all rights recorded on the title are transferred or cancelled).

Appendix 2 – Features of SOLA Systematic

The SOLA Systematic application supports the following feature list:

Case Management

19. Personal dashboard for each user showing all unassigned applications along with the applications currently assigned to them.
20. Users can assign themselves to applications (i.e. pull workflow)
21. Power users can manage the workload of other users by assigning and un-assigning applications
22. Applications can be re-assigned allowing different users to work on different parts of an application
23. Details that can be captured on the application include
    g. Agent and contact person information
    h. Services that indicate the type of changes the application will make to the land registry records
    i. Property records affected by the application
    j. The fee paid and receipt details
    k. Documentation supporting the application
    l. Approximate location of the application can be noted on the map
24. Lodgement checklist available so the user can ensure the necessary documentation is provided when the application is lodged
25. User can validate the property references provided with the application to confirm they are valid and recorded in Registry
26. Lodging an application assigns a unique number, calculates the fee and generates a lodgement notice
27. An application can have one or more services
28. The services supported by Registry can be configured to match those required by the land administration agency
29. The services users can work on can be controlled using security roles
30. Applications transition into different states as they are processed
31. Applications can be lodged, requisitioned, cancelled, withdrawn, lapsed, approved and completed
32. Changes to land registry records do not become live until an application is approved
33. Users can record when notifications are sent to the agent or contact
34. The history of changes to an application (who did what and when) can be viewed
35. The status of the application including the history log can be printed
36. An application statistics report is available that lists lodgements, requisitions and approvals over a given period

Search

8. Search applications by application number, date of lodgement, agent name, contact person name or document reference
9. Search properties (a.k.a. titles) by property reference or owner name
10. Search parties by name or party role
11. Search documents by document reference number, date submitted, document type, document source or description
12. Search spatial records using Map Find (supports zoom to and highlight of selected result)
13. The spatial searches supported by Registry can be configured to match those required by the land administration agency
14. Partial/wildcard matching is supported for text based search criteria

Map Viewer

12. Layer control to manage data displayed on the map
13. The layers supported by the Map Viewer can be configured to match those required by the land administration agency
14. Layer symbology defined using Style Layer Descriptor (SLD) OGC standard
15. Auto sizing scale bar displayed to help gauge distances on the map
16. Editable map scale to allow fast zooming of the map
17. Mouse enabled map navigation and map editing tools
18. Context sensitive map editing tools (depending on the service being worked on)
19. Map printing with page size and orientation selection
20. Information tool to summarize spatial object details
21. Supports orthophoto layers
22. Extract selected spatial objects to KML for display in other GIS tools (e.g. Google Earth)

Document Management

9. Attached scanned documents to an application from the local computer or a preconfigured network folder
10. Attach files up to 100Mb
11. Change or remove the attachment for an existing document
12. Cross link new documents with attachments previously loaded into SOLA
13. View a thumbnail preview of a document prior to attaching it (PDF and image formats only)
14. View attachments using the default application for that file type
15. Client side document cache that is auto sizing to prevent excessive disk usage
16. Register Power of Attorney and Standard Memorandum documents for reference by later applications

Cadastral Editing

12. Create new cadastral objects by subdividing and/or amalgamating existing cadastral objects
13. Capture survey points using the mouse, manually entering the survey coordinates or importing survey coordinate data from a CSV data file
14. Add nodes to existing cadastral objects
15. Modify the boundaries of existing cadastral objects
16. Capture irregular boundaries
17. Digitize survey information from an image of the plan
18. Link or snap survey points to existing cadastral object nodes
19. Calculate the variances between survey point coordinates and existing cadastral object nodes
20. Identify traverse points from the survey
21. Record the official area for new parcels
22. Validate spatial changes to avoid gaps and overlaps in the cadastral network

Systematic Registration

17. Predefined systematic registration roles can be modified to reflect local practices
18. Mapping can be loaded into SOLA Systematic
19. Adjudication teams field collected systematic application forms data entry
20. Upload of scanned documents

21. Loading of adjudication teams digital photos of claimants, supporting documents and property features
22. Spatial definition of Public Display Areas
23. Spatial definition of Daily Work Unit Areas for each adjudication and mapping team
24. Spatial definition of road centrelines and names
25. Map and record parcels with existing land certificates
26. Prepare Public Display Listings & Map Plots
27. Record Objections
28. Record Dispute Resolution
29. Print new Land Certificates Individually or multiple as a block of certificates
30. Prepare Land Certificate signing / delegation to sign lists
31. Prepare individual parcel plans
32. Prepare various systematic registration reports on progress, metrics of completed certificates and gender reports

Land Certificate Management

6. Create new land certificates (a.k.a. properties) and record ownership, mortgage and other rights (and restrictions) on the title
7. The rights and restrictions supported by SOLA can be configured to match those required by the land administration agency
8. Memorials/notations are added to the land certificate
9. A share is expressed as a fraction and can be allocated to one or more parties
10. Print Land Certificates

Gender Safeguards

4. Individual parties can have their private information protected to prevent disclosure of their information to other parties
5. One party (the notifiable party) can register a relationship with another party (the target party) and obtain notification if there are changes to the target parties property rights or interests
6. Report illustrating property ownership by gender

Business Rules

9. Automated validation of application using configurable business rules
10. Rules executed just prior to changes in state of an application or service
11. Rules can also be manually executed using the Validate action
12. Rules to execute at a particular stage can be configured with the same rule executing at multiple stages
13. Severity rating for a rule can be configured based on the stage of execution
14. The failure of a critical rule aborts the current action
15. Rules are defined as SQL statements and can be versioned
16. New versions of rules can be uploaded into SOLA and configured to come into force at a future date without requiring redeployment of SOLA

System Administration

6. Add, edit and disable reference data values (e.g. service types, document types, RRR types, etc)
7. Version business rules and change business rule severity
8. Add, edit and disable user accounts
9. Configure security roles into groups and assign groups to users

10. User passwords expire at regular intervals determined by the system administrator.

General

7. Context sensitive online help
8. User profile to record user preferences and change password
9. All screen labels, messaging, database reference codes and online help documentation supports localization to different languages
10. General information enquiries can be logged and dealt with as applications
11. Secure individual data records so that only users with appropriate permissions can view those records
12. Email service to send email notifications

Technical

13. PostgreSQL database (supported versions v9+) with PostGIS spatial database extension (supports v1.5+ and v2+)
14. Database table structures based on the Land Administration Domain Model (LADM)
15. Web service architecture developed using Java Enterprise Edition (Java EE 8) and hosted in a JEE 8 compatible application server (Payara Server v5)
16. Uses the Metro Web Service stack compatible with .NET and Java web service technologies (WSIT compatible) and WS-Security
17. Java Web Start used for deployment
18. Java 8 JRE required on all client computers
19. Patches and enhancements to the SOLA Systematic Desktop application are automatically downloaded by Java Web Start
20. Implements optimistic concurrency control to prevent loss of information due to concurrent data edits
21. The details for every exception that occurs on the server or the client are recorded in a log file to assist debugging and issue resolution.
22. The source code for SOLA Systematic is licensed under the Berkeley Software Distribution (BSD) 3-clause license
23. SOLA Systematic can run on both Windows and Unix based operating systems
24. SOLA Systematic does not require a geospatial data server, but it can integrate with any Web Map Service (WMS) capable server for display of orthophotos and other spatial data

Appendix 3 – Trimble Pathfinder Software Configuration for SOLA Registry Export CSV File

SOLA CSV Format definition:
First column: Is a unique identifier of the point within the file. It can start with 1 and incrementing by one.
Second column: X coordinate.(Easting)
Third column: Y coordinate. (Northing)
The values are separated by commas
Example:

Id,X,Y

1,570559.75,5931649.69

In this example the coordinate system will be UTM, Zone 31N and the datum is WGS84.

Setup:

5. Start Pathfinder Office and create/select a project.
6. Select **Utilities** > **Export** and **New**:

7. In the New Setup Window enter a Setup name (for example: _Sola CSV).

Note: The underscore will bring the Sola format to the top of the list later on.

8. Select **New Setup** and scroll for **Configurable ASCII** and tap **OK**

The Export Setup Properties Window will open.

5. Select the **Coordinate System** Tap.
15. Select **Use Export Coordinate System** and tap **Change…**

The Export Window will open.

16. Select **System**: UTM

    Zone: 31 North
    Datum: WGS84
    OK

The Export Setup Properties Window will open again.

17. Select the **Configurable ASCII** Tab and **New**…
18. Enter a name for your new format (Example SOLA)

    OK

The **ASCII Export Template Editor** page will open.

19. Enter the **Output File Extension** : CSV
20. **Apply to** : Points only
21. Select the **Field Format** : Delimited
22. Select the **Delimiters Field** : Comma (,)
23. Select the following output definitions from the Macro Palette with left mouse click:

{Feature ID}
{Easting}
{Northing}
OK
Note: Easting refers to the eastward-measured distance (or the x-coordinate) and Northing refers to the northward-measured distance (or the y-coordinate).

To use the define Export system select Select **Utilities** > **Export,** select your data file and **Choose an Export Setup:**

- to determine how those failures can be remedied.
- Additional information on using the Redefine Cadastre tools can be found in the Redefine Cadastre section.

12.1.1 Approval

The changes you make to the cadastral network while using the Redefine Cadastre tools remain pending until the application is approved. Survey approval in SOLA can be achieved using the Approve action in the Application action dropdown.

Steps

1. Open the application from your Assigned applications list and use the Validate tool to check the status of the application data. If there are any rule failures, review the application data and correct the issues as appropriate before proceeding to approve the application.
2. Use the Approve action in the Application action dropdown to approve the application. This will update the status of the application to Approved as well as update the cadastral network with the recorded changes.
3. Following approval, you can complete the application immediately using the Archive action in the Application action dropdown.

12.1.2 Also See

- SOLA Systematic Concepts
  - Application Lifecycle
  - Services
  - Business Rules
- SOLA Systematic Screens
  - Dashboard and Main Menu
  - SOLA Map Viewer
  - Application Search
  - Application Details
  - Redefine Cadastre
- General How To
  - Assign an Application
- Documents How To

    - Add a Document to an Application
    - Attach a File to a New Document
    - Add or Update a File Attachment on an Existing Document
- Survey How To

12.2 Add a Plan Image for Digitizing

When performing a Record a Completed Field Map or Redefine Cadastre service, you can choose to add an image of the plan to the Map Viewer to assist with digitizing the survey point data directly from the plan.

To add a plan image to the map you must first have an image file available on your local hard drive. The file formats supported by the Map Viewer are TIFF, PNG and JPEG. Before adding the image, you should also select the target parcels as they may be difficult to select after the image is added.

The Add Image tool works by matching two points you select on the map with two points you select from the image. Before adding the image, you should compare the plan to the Map Viewer and identify two candidate parcel nodes that exist on both the plan and the Map Viewer. For the best match accuracy, the first node you select should be at the bottom left of the plan image and the second point at the top right (or top left and bottom right). Note that the current Add image tool does not rotate the image and requires the plan to have a standard North orientation. If the plan does not have a standard North orientation, use an appropriate imaging software package (e.g. Microsoft Office Picture Manager) to rotate the plan image so that North for the plan is the top of the computer screen before adding the image to the map.

Once you have the image file ready, identify the two matching points and select your target parcels, then click the Add image tool . You will be prompted to select the first of two points on the Map Viewer. Zoom in if necessary to ensure your selection is accurate. You will then be prompted to select a second point. Again, zoom in if necessary to ensure your selection is accurate.

The Add Image tool will then prompt you to select your image file from your local hard drive. Upon making your selection, the image file will be displayed in the Add Image Preview dialog. You can enlarge this dialog as necessary to improve your selection accuracy. Click the image at the location matching the first point you selected from the map. A green cross will appear on the image. Click the image at the location matching the second point from the map and a second green cross will appear.

Figure 58 - Add Image Preview Dialog with 2 Selections

To proceed, click the OK button on the Add Image Preview dialog. The image will be scaled as required and displayed in the Map Viewer. The image will display on top of the standard Map Viewer navigation layers, but will appear below the editing layers added for Change to Cadastre and Redefine Cadastre.

If you make a mistake, you can remove the image from the Map Viewer using the Remove Image tool and re-add the image. You can also change your selections in the Add Image Preview dialog by re-selecting the location of the first point after you have added the second point. Be aware that re-selecting the first point will require you to re-select your second point as well.

12.2.1 Also See

- SOLA Systematic Screens
    - Change to Cadastre
    - Redefine Cadastre
- Survey How To
    - Record a Completed Field Map
    - Redefine the Cadastre

12.3 Import a Survey Data File

When capturing survey plan data, you have the option of loading coordinate data directly from a Comma Separated Values (CSV) text file. The file must be a plain text file containing 3 columns of data. Those columns are:

1. Number for the point
2. X ordinate
3. Y ordinate

Other rules that apply to the Survey Data File include

- Each column value must be separated by a comma (,)
- If the first row of the file is a header row the default setting for the first line of ‘1’ can be retained and this first row will be ignored. If it is a Trimble GPS data file there is no header row and the setting for the first line (at the bottom of the dialog) should be set to ‘0’

- The file must have the .csv file extension (e.g. filename.csv)

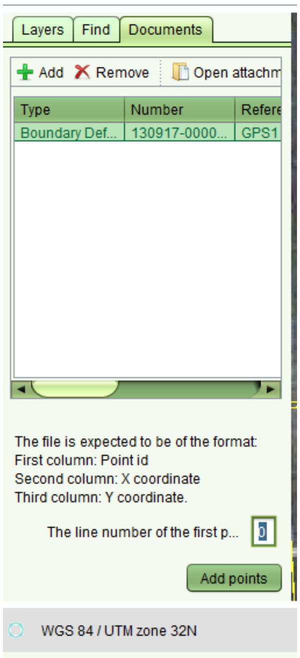


Figure 59 – Line Number Setting for Trimble GPS Data

The following illustrates the loading of a Trimble GPS Data File in CSV format (plain text) containing 6 coordinate points.

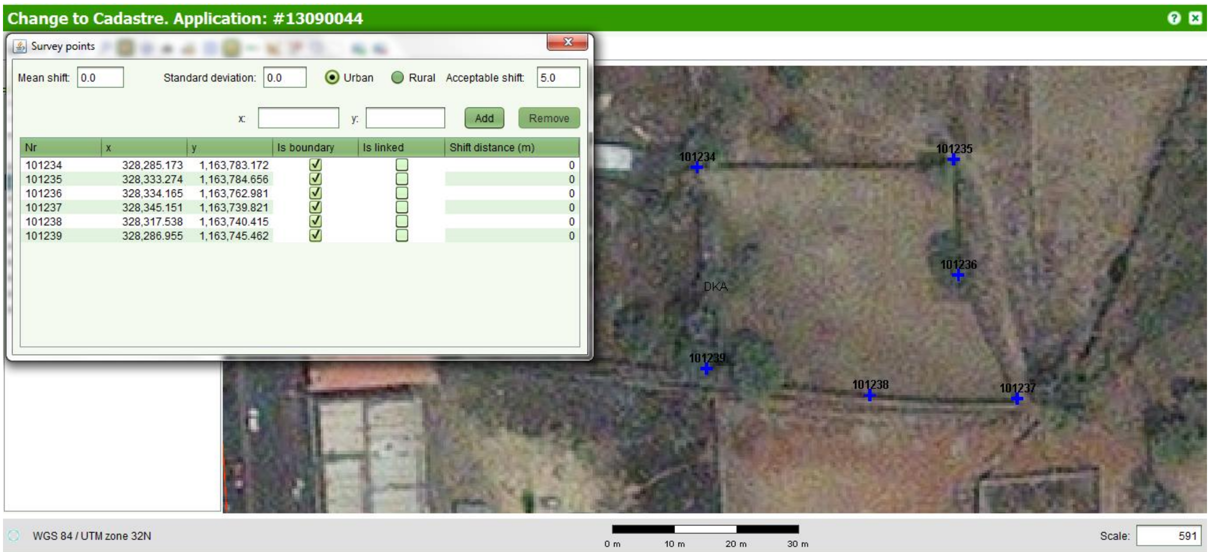


Figure 60 – GPS Data Imported

No transformation of the coordinates is performed during import. The coordinates must be in the same coordinate system as that used by the Map Viewer.

To import the CSV file, you must first attach the file as a document to the application using the Add Documents functionality available on the Documents tab of the Application Details screen. You should also select Survey Data File as the document type for the new document.

Once the CSV file has been attached to the application, Start the Change to Cadastre service and go to the Documents tab (displayed beside the Layers and Find tabs). Click the Add button to open the Select Document dialog and select the Survey Data File document from the application.

Next, select the Survey Data File document from the list of documents in the Documents tab. If the attached CSV file has a .csv file extension, then the Add points button will become enabled. Click the Add points button to add the coordinates from the file. The new survey points will be displayed on the map.

If the Add Points button does not become enabled when you select the Survey Data File document, verify that the document has a file attachment and that file has a .csv extension.

12.3.1 Also See

- SOLA Systematic Screens
  - SOLA Map Viewer
  - Change to Cadastre
- Documents How To
  - Add a Document to an Application
  - Attach a File to a New Document
- Survey How To
  - Record Completed Record Map

12.4 Map Current Parcel

An existing certificate of occupation may be identified at any stage of systematic registration and will require that both the existing parcel boundaries and the existing rights as described on the existing certificate are recorded in SOLA. The mapping of the existing parcel must occur before the recording of the rights described on the Land Certificate.

It is assumed that the Land Certificate has an attached survey plan or diagram which can be scanned and attached to an application with a Map Existing Parcel service.

It should be noted that the existing parcel may overlap existing new parcels captured and potentially approved as part of earlier systematic registration mapping. Where overlaps existing this may result in the need to do a further new application with cadastre change service to define the new overlapped parcels again to respect the existing Land Certificate parcel and supersede their original systematic registration map definitions. It might also be necessary to record a dispute against the systematic registration applications for the overlapped parcels.

12.4.1 Map Existing Parcel

Steps

1. From the Dashboard, Open the application from your Assigned applications list.
2. On the Services tab, select the Map Existing Parcel service and click the Start tool. This will open the Map Existing Parcel screen (almost identical to the Cadastre Change screen).
3. If the Map Viewer is not already zoomed to the location of the survey, use the map search or the map navigation tools to locate the area of the survey.
4. Add the Parcel Plan/Diagram (from the Land Certificate) image into the Map Viewer using the tool.
5. Capture the survey points for the plan. You can do this by using the Create / Link Survey Points tool to locate survey points directly on the Map Viewer using the mouse.

6. Use the Create / Link Survey Points tool to link survey points that represent existing boundary marks defining existing parcels already captured in SOLA. This step is important because it ties the parcel plan data to the existing cadastral network. Once linked, a survey point will change from being a blue plus to a green plus.
7. Create the existing Land Certificate parcel from the new survey points you have just defined using the Create New Parcel tool. New parcels will automatically get assigned the next parcel number when they are saved.
8. Use the Parcel List tool to open the Parcel List screen and change both the SOLA assigned parcel number and the remainder of the parcel descriptor used on the parcel plan/diagram and Land Certificate. Likewise overwrite the calculated area with the official area as given on the Land Certificate
9. Save the new details you have recorded. Please note that if you have entered a non-unique parcel descriptor and it is not possible to save then add an alpha extension (A…Z) to the parcel number.
10. Once all of the relevant information from the survey has been captured into SOLA, return to the Services tab of the Application Details screen, select the Map Existing Parcel service and click the Complete tool. This will run the SOLA business rules to validate the application data. If there is a critical failure, you must remedy the failure as it will not be possible to approve the application otherwise.
11. If this validation identifies that there is an overlap with an existing or pending parcel, identify the affected parcels and where they are pending parcels make changes in those applications to remove the overlaps. If the overlap is with current parcels previously mapped in systematic registration and no Land Certificate has been issued initiate a new application with a Redefine Cadastre service and modify the parcel to remove the overlap and hold/respect the boundaries of the existing parcel from the Land Certificate.

    Where a Land Certificate has been issued for the overlapping systematic registration parcel, legal advice should be requested as to how to proceed. A dispute service should be added to the application with a Map Existing Parcel service.

12.4.2 Approve Mapping of Existing Parcel

The changes you make to the cadastral network while using the Map Existing Parcel / Cadastre Change tools remain pending until the application is approved. Survey approval in SOLA can be achieved using the Approve action in the Application action dropdown.

Steps

1. Open the application from your Assigned applications list and use the Validate tool to check the status of the application data. If there are any rule failures, review the application data and correct the issues as appropriate before proceeding to approve the application.
2. Use the Approve action in the Application action dropdown to approve the application. This will update the status of the application to Approved as well as update the cadastral network with the recorded changes.
3. Following approval, you can complete the application immediately using the Archive action in the Application action dropdown.

12.4.3 Also See

- SOLA Systematic Concepts
    - Application Lifecycle
    - Services
    - Business Rules

- SOLA Systematic Screens
    - Dashboard and Main Menu
    - SOLA Map Viewer
    - Application Search
    - Application Details
    - Redefine Cadastre
- General How To
    - Assign an Application
- Documents How To
    - Add a Document to an Application
    - Attach a File to a New Document
    - Add or Update a File Attachment on an Existing Document
- Survey How To
    - Record a Completed Field Map

12.5 Define Systematic Registration Sections in SOLA Map

It is assumed that local government area (LGA) and ward boundaries have been loaded into SOLA Systematic as part of the SOLA setup for a Systematic Registration project office and they are viewable as layers in the SOLA map. If that is not the case, a similar workflow should be followed as is described below before you define SLTR Sections.

Likewise it is assumed that satellite imagery for the SLTR area has been made available to SOLA Systematic as another map layer of the satellite imagery through Geoserver typically hosted on the same server as SOLA Systematic.

12.5.1 Create or Edit Sections

This is a task that should be done by the Systematic Registration team leader

Steps

1. Select the Spatial Unit Group Editor menu option from the main Systematic Registration menu

Figure 61 – Systematic Registration Menu Options

2. Zoom in to the area to be defined as a Systematic Registration Section.
3. Select **Section** as the unit type from the dropdown list in the toolbar panel near the top of the screen.

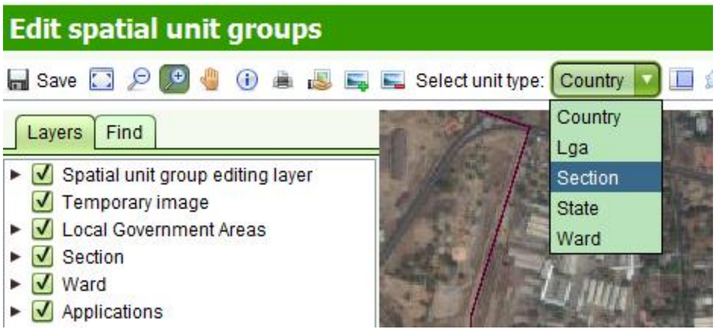


Figure 62 – Spatial Unit Group Editor – Selection of Unit Type

4. Click on the toolbar icon to the right of unit type drop down list and trace the outline of the section boundary with left mouse clicks and a double click to close on the starting point.The new section will be appear with a blue border. Click on the Save toolbar icon. The section will disappear but can be returned by use of the toolbar. The new section will now appear with a yellow border.
5. If you need to make changes to existing Sections, use the toolbar and select (with a very positive left mouse click) the section to be modified. Once you activated the edit mode, each node will appear as a red rectangle. Select the toolbar icon and move the activated nodes to make the required modifications. Save and use the scroll function to view the modified section

Figure 63 – Editing a Section

Also see

- SOLA Map Viewer

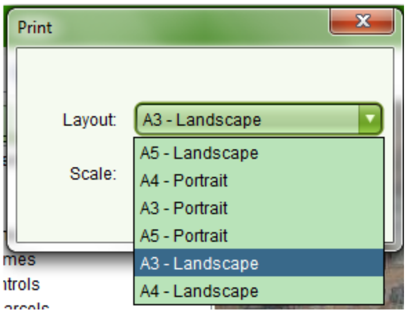
12.6 Print Field Maps

12.6.1 Prepare Field Maps

Field Maps will be prepared at the time a Systematic Registration field team starts adjudication in a new section. The GIS officer, on the request of the team Demarcation Officer will prepare these A4 or A3 Field Maps.

Steps

1. Open the SOLA Map Viewer and zoom so that the section (or other area) of interest fully fills the screen. Use the Pan tool to centre the section in the middle of the screen
2. Click on the toolbar icon to initiate the print
3. Select the appropriate format print



4. **Figure 64 – Selecting Print Format**

5. Review the pdf image created and modify the Field Map scale and the centering of the image on the screen to get the best layout of the Field Map

6. When you are satisfied, click on the  icon in the print map viewer and identify the printer you would like to print that map on.

Figure 65 – Example Field Map

Also see

- SOLA Map Viewer

13. Systematic Registration Adjudication How To

13.1 Upload Collections of Scanned Documents

This function allows the loading of scanned documents (including photographs of systematic registration claimants) into the SOLA digital archive so that they can be linked to the appropriate SOLA Systematic Registration application.

13.1.1 Prepare Systematic Registration Camera Images for Upload into SOLA Systematic

Systematic registration field teams will capture these document and photo images on cameras and, at the end of each day, download the images to a temporary folder on one of the Systematic Registration office desktop computers. The systematic registration forms should be scanned with an identifiable file name (such as Ward name and applicant name plus Systematic Registration form No, if they have not been captures on camera by the Systematic Registration office. Any scanned document images should be stored in a 'scanned' sub folder in the same folder as the organized camera images.

Steps

1. Run the script to attach a camera id to the downloaded photo image image ID automatically allocated by the camera.
2. The Systematic Registration Recording Officer will then take these images and separate them according to document type. Images must then be moved to a series of upload folders named according to the document type. The folder names must be **exactly** the same as the names in the following table. If there are no document images of a particular type then there is no need to create an upload folder.

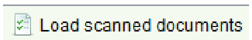
Upload Folder Name	Document Type
authorizedRepId	Authorised Representative ID
authorizedRepPhoto	Authorised Representative Photo
cadastralSurvey	Boundary Definition
courtOrder	Court Order
Disputedoc	Dispute Document
disputesForm	Disputes Form
evidenceOfOwnership	Evidence of Ownership
fieldMap	Field Map
mainClaimantId	Main Claimant ID
mainClaimantPhoto	Main Claimant Photo
Mortgage	Mortgage
otherClaimantId	Other Claimant ID
otherClaimantPhoto	Other Claimant Photo
Proclamation	Proclamation
publicNotification	Public Notification for Systematic Registration
recordLien	Lien
sketchMap	Sketch Map
systematicRegn	Claims Form
Title	Land Certificate

Figure 66 – SOLA Systematic Document Types

13.1.2 Upload Document Images into SOLA Digital Archive

The Registration Officer should verify that the document images have been organized into the series of folders named according to the table above.

Steps

3. Click on the 

toolbar icon in the main Dashboard form to open the Load Scanned Documents screen.
4. Identify the folder in which there are a series of subfolders containing a particular collection for a document type (eg a subfolder named “mortgage” for scanned images of mortgages. Another sub-folder named “lease” etc). You should select the head folder containing the sub-folders and Files of Type drop-down should remain expression as *Directories Only*

Figure 67 – Bulk Loading of Scanned Image Files

5. Click on Load and message *Information Source are loaded with success.* The files of type drop down should retain the *Directories Only* as the value for the Files of Type. Sub-folder name must coincide with a document type as recorded in the source.administrative_source_type table in the SOLA database. Scanned image files must be .pdf, .tif, .tiff or jpg. If any of these conditions are not met a message will be displayed and you will be directed to the Validation Screen (by clicking on the Validation button) for details on the where those conditions are not met.

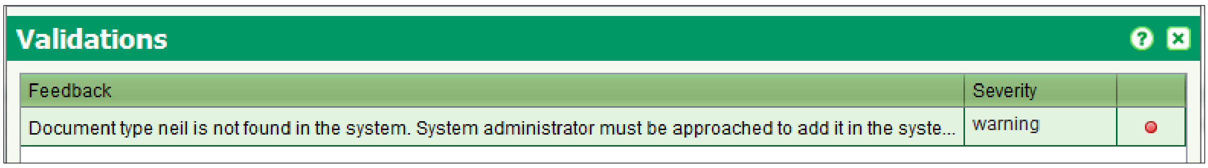


Figure 68 – Invalid Document Type Validation Message

Also see

- SOLA Systematic Concepts
- Documents How To
  - Add a Document to an Application

13.2 Define Systematic Registration Daily Work Units and Public Display Areas

It is assumed that local government area (LGA) and ward boundaries have been loaded into SOLA Systematic as part of the SOLA Systematic setup for a systematic registration project office and they are viewable as layers in the SOLA map. If that is not the case, a similar workflow should be followed as is described below before you define Systematic Registration Daily Work Units and Public Display Areas.

13.2.1 Create or Edit Daily Work Unit and Public Display area

This is a task that should be done by the SLTR team leader

Steps

1. Select the Spatial Unit Group Editor menu option from the main Systematic Registration menu

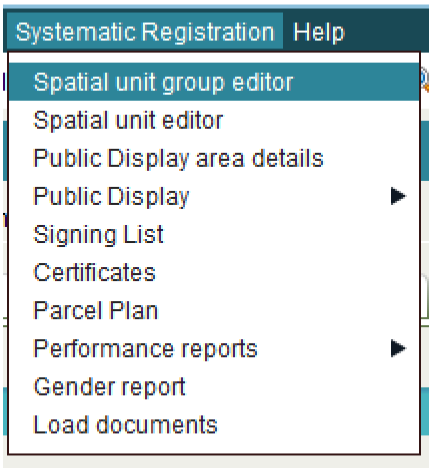


Figure 69 – Systematic Registration Menu Options

2. Zoom in to the area to be defined as a SLTR Daily work Unit.
3. Select **Daily Work Unit** as the unit type from the dropdown list in the toolbar panel near the top of the screen.

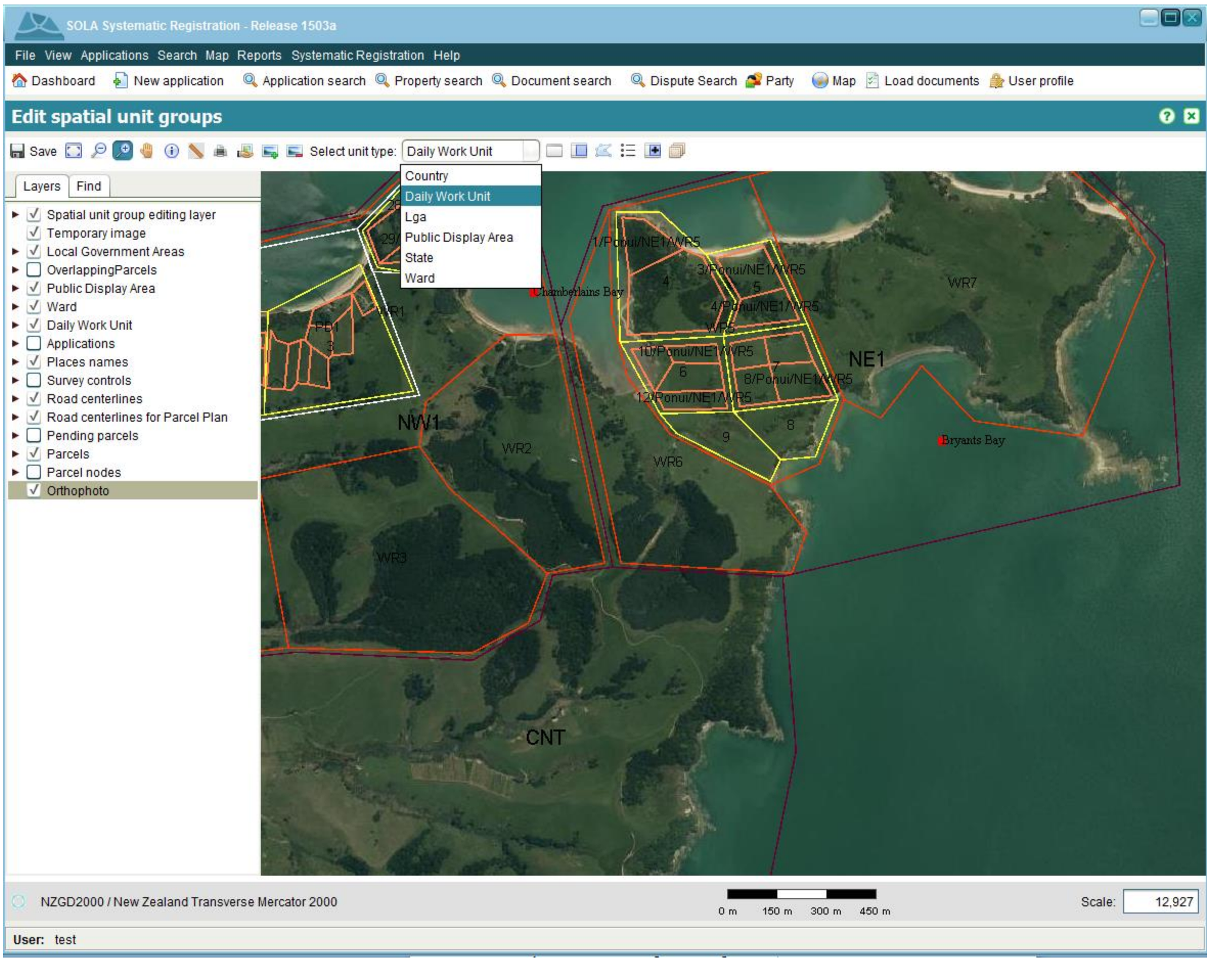


Figure 70 – Spatial Unit Group Editor – Selection of Unit Type

4. Click on the toolbar icon to the right of unit type drop down list and trace the outline of the section boundary with left mouse clicks and a double click to close on the starting point. The new unit will be appear with a blue border.
5. Click on the Save toolbar icon. The unit will disappear but can be returned by use of the toolbar icon. The new unit will now appear with a yellow border.

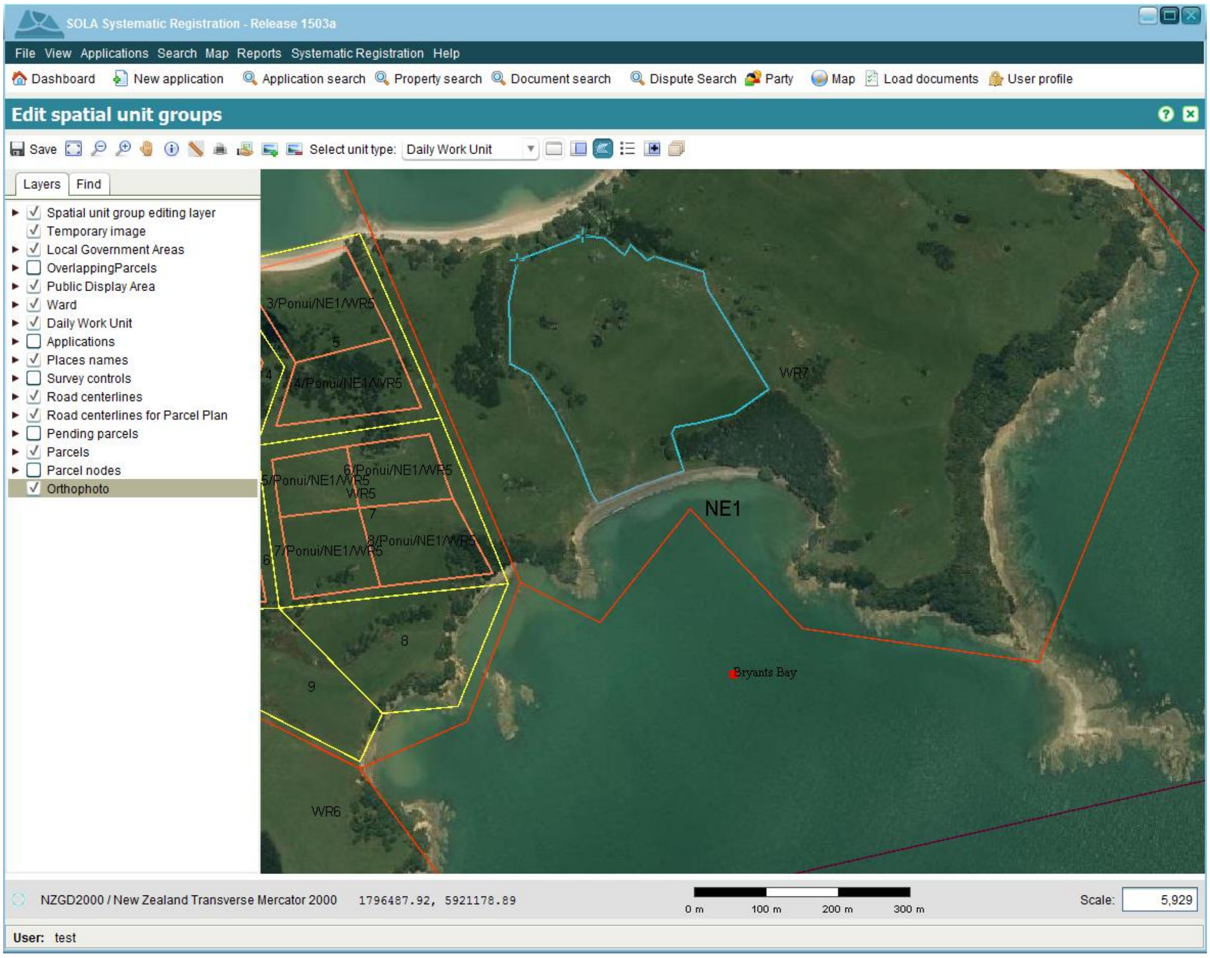


Figure 71 - – Spatial Unit Group Editor – Daily Work Unit creation

6. If you need to make changes to existing Daily Work Units, use the toolbar icon and select (with a very positive left mouse click) the section to be modified. Once you activated the edit mode, each node will appear as a red rectangle.

   Select the toolbar icon and move the activated nodes to make the required modifications. Save and use the scroll function to view the modified unit

By means of icon you can always **Reset** all editing in the client not sent to the server yet.

Figure 72 – Editing a Daily Work Unit

13.2.2 Merge spatial units of a lower level into one higher level unit

This feature is intended to allow the user to select several units of a lower level (e.g daily work unit) and create a single unit of the higher level(e.g. Public Display Area out of selected working units)

Steps

1. Select higher level unit as the unit type (e.g. **Public display area**) from the dropdown list in the toolbar panel near the top of the screen
2. Click the tool and select the spatial units from a lower hierarchy level (e.g. **Daily Work Unit**). It means if Public Display Area is active, you can select spatial units from Daily Work Unit.

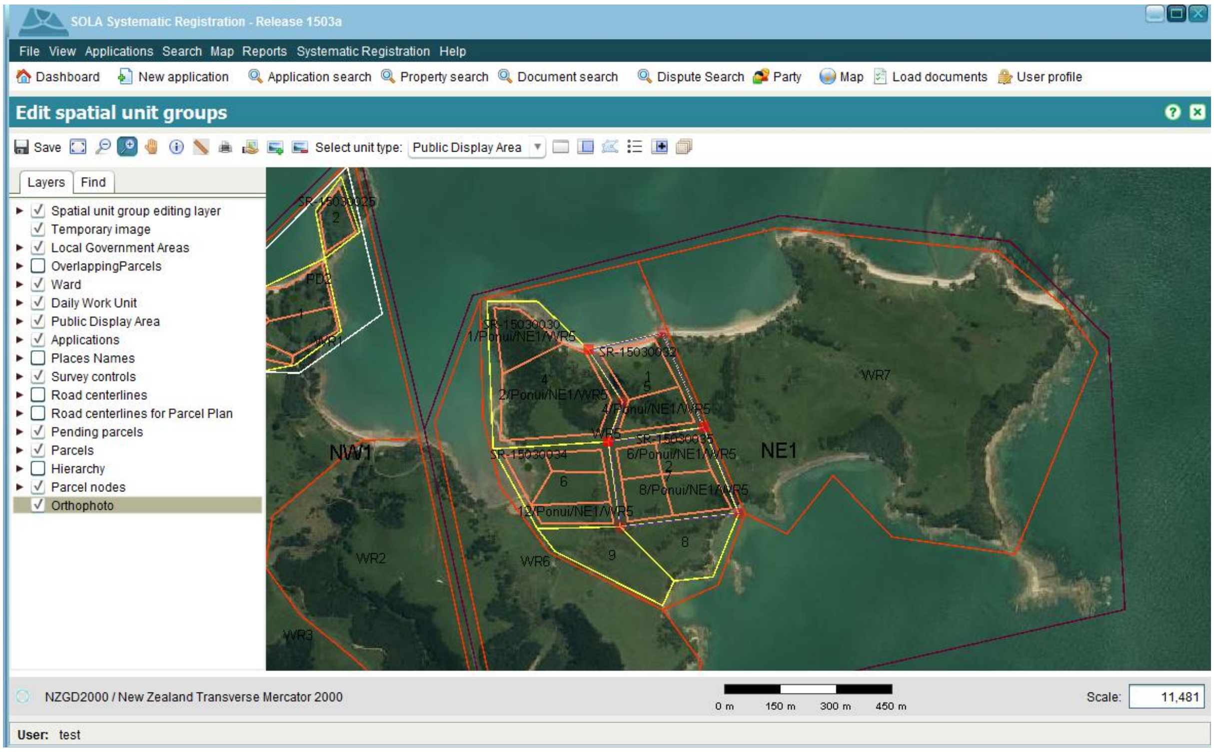


Figure 73 – Select Daily Work Unit to create a Public display Area

3. Click the **Merge** tool: this merges all spatial units that are in the editing layer. In order to get a valid polygon, it is possible that next to the spatial units selected from the hierarchy below, to add also extra polygons that can fill the gaps.

When clicking Merge, it is checked if the result geometry is a polygon. If it is not it will show a message to the user in order to go to hierarchy level below and change the polygons accordingly.

By means of icon you can always **Reset** all editing in the client not sent to the server yet.

Also see

- SOLA Map Viewer

13.3 Capture Road Centrelines and Road Names

Likewise in the previous feature, it is assumed that satellite imagery for the SR area has been made available to SOLA as another map layer through the publishing of the satellite imagery through a Geoserver setup on one of the SR desktop computers.

Steps

1. Select the Spatial Unit Editor menu option from the main Systematic Registration menu

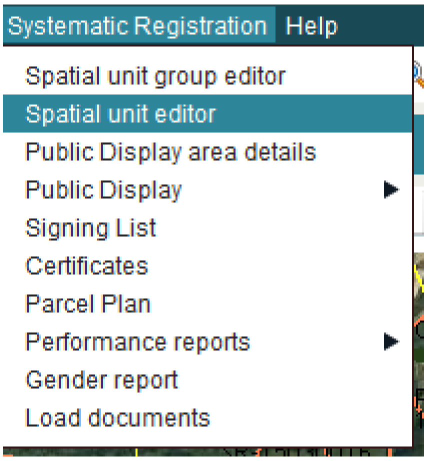


Figure 74 – Systematic Registration Menu Options

2. Zoom in to the area where you need to capture road centrelines and/or road names.
3. Select **Road centreline (or place names)** as the unit type from the dropdown list in the toolbar panel near the top of the screen.

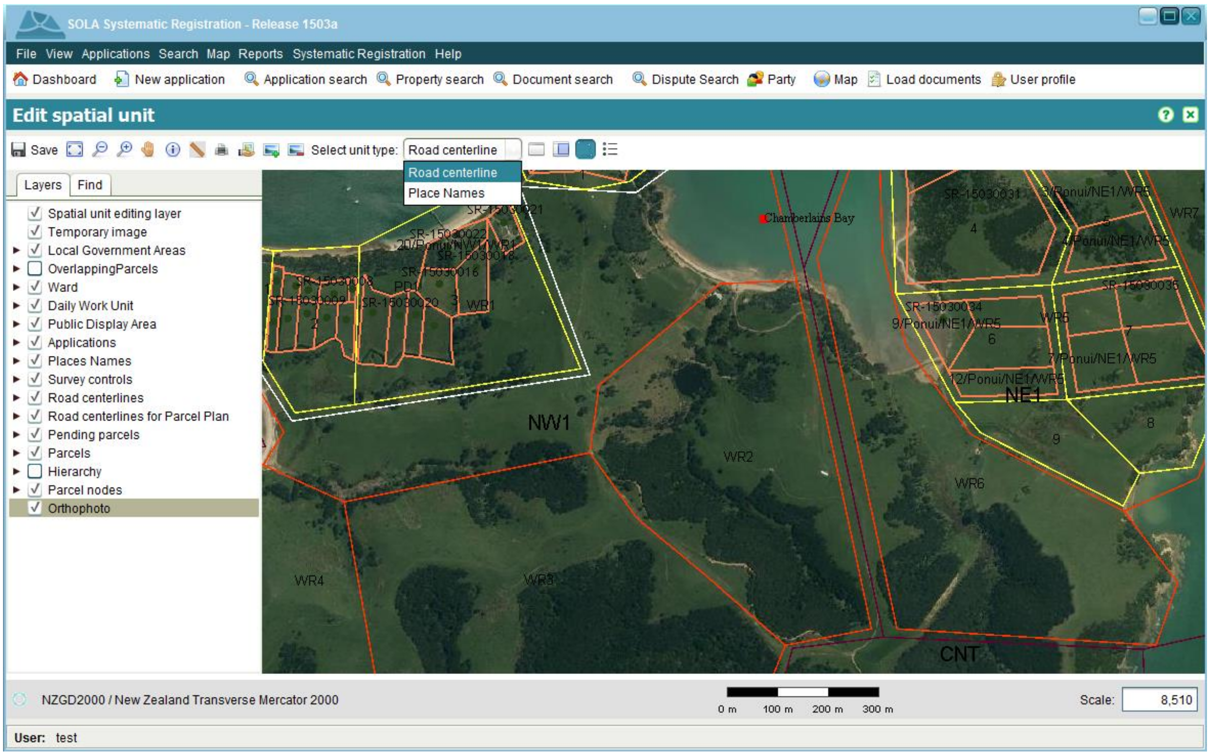


Figure 75 – Spatial Unit Editor – Selection of Unit Type

4. For creating a new road centreline click on the toolbar icon to the right of unit type drop down list and trace the line to draw the road with left mouse clicks and a double click to complete the road line. The new unit will appear.

Figure 76 – Spatial Unit Editor – Road Centreline

5. Click on the show/edit attributes icon to change the label for the new road centreline

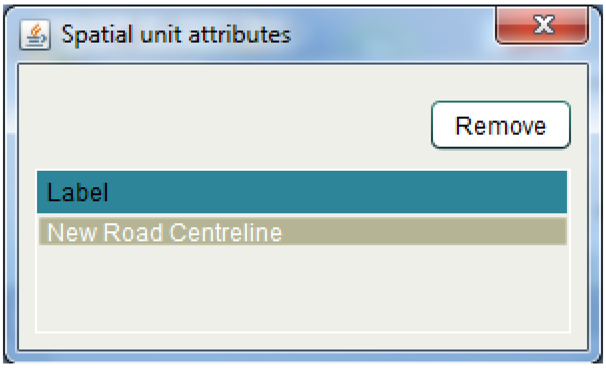


Figure 77 – Spatial Unit Editor – edit attributes

6. Click on the Save toolbar icon. If the new unit disappears use the toolbar. The new unit will now appear with a red line.

Figure 78 - – Spatial Unit Editor – Road centreline creation

7. If you need to make changes to existing unit, use the toolbar icon and select (with a very positive left mouse click) the unit to be modified. Once you activated the edit mode, each node will appear as a red rectangle. Select the toolbar icon and move the activated nodes to make the required modifications. Save

Figure 79 - – Spatial Unit Editor – Road centreline update

By means of icon you can always **Reset** all editing in the client not sent to the server yet.

8. For adding new place names click on the toolbar icon to the right of unit type drop down list and double click to add place locations. The new places will appear as orange square.

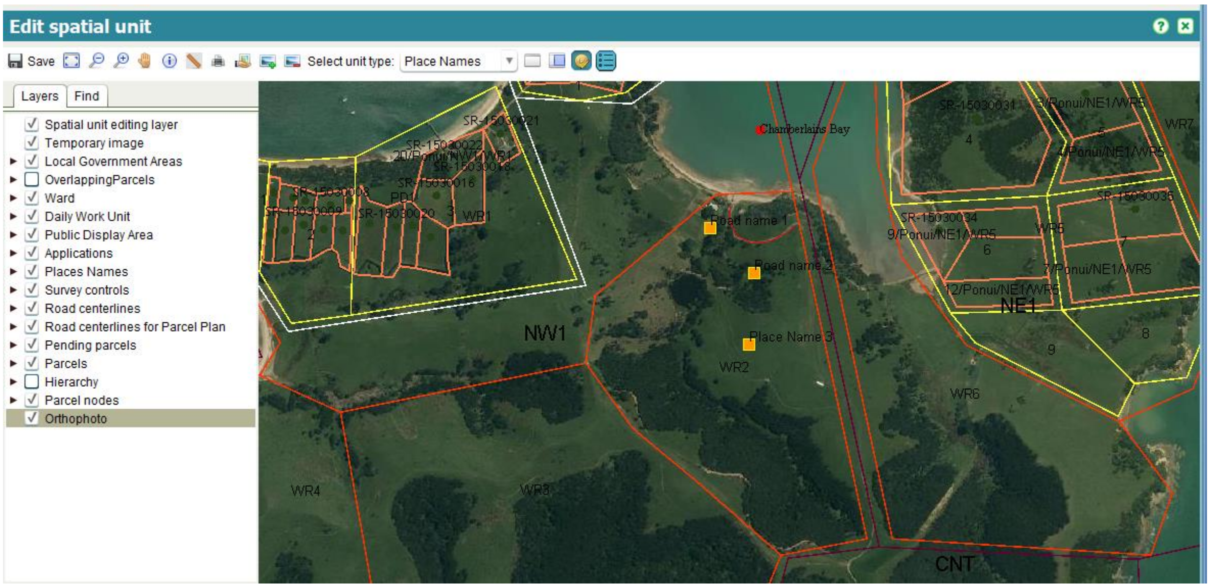


Figure 80 - – Spatial Unit Editor Place names addition

9. Click on the show/edit attributes icon to change the label for the new place names

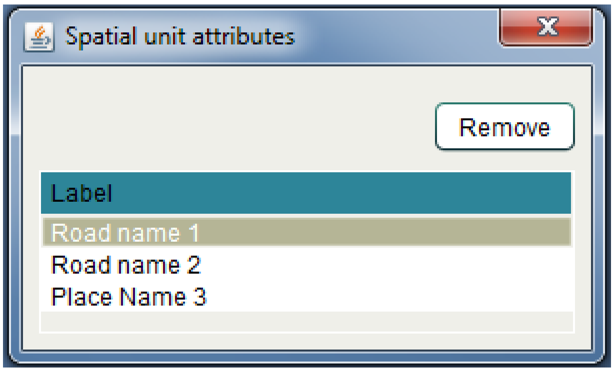


Figure 81 – Spatial Unit Editor – edit attributes

10. Click on the Save toolbar icon

By means of icon you can always **Reset** all editing in the client not sent to the server yet.

Also see

- SOLA Map Viewer

13.4 Lodge Systematic Registration Claim

To record a new SLTR Claim access the Application Details screen from the Applications > New Applications menu or by selecting

Initially application details are recorded

Steps

1. On the General tab for the new application form, in the Contact Details panel enter the claimant (or the person who is the contact person for the claimant or claimants) details including their first name, last name and address and contact details.
2. On the Services tab, add a new service by double clicking on “Lodge SLTR Claim”
3. On the Property tab, click on the Search Parcel/UPIWard button enter the Parcel Number and select it from the search results list. Click on the Add Property Button
4. On the Documents tab, all documents such as the completed and signed claim form should be archived in SOLA already and your task is to link these scanned images to your application. Click on the Add toolbar icon (under the Documents tab)
5. The Add Document form will open. Click on the Document Search tab and enter the image references recorded on the LTR 1 form plus the scanned image of all LTR forms associated with the SLTR claim using the New Document tab and accessing the scanned images in the ‘scanned’ sub-folder
6. Once the necessary information has been entered, save the application. This will lodge the application and assign an application number.

Also see

- SOLA Systematic Concepts
- Documents How To
  - Add a Document to an Application
- Systematic Registration How To
  - Record Objection

13.5 Complete Systematic Registration Claim Details

To complete the entry of the claim details you will need to edit the application that initially recorded the claim. Select the application in the assigned or unassigned application lists on the Dashboard and choose Edit. If the application is not displayed in the application lists, use the Search Application screen to locate it and click the Edit button. This will open the Application Details screen allowing you to edit the application details and save changes.

1. Assign the application with the Systematic Registration Claim service to yourself.
2. Open the assigned application and in the Documents tab identify the documents without a link to a scanned image. At the same time add scanned images of any additional supporting documents not captured at the time the claim was originally recorded. Make sure the scanned images of these supporting documents are linked.
3. Click on the Document Search toolbar icon and search for the documents without linked imaged identified at the previous step. Select the document record, click on the Edit icon and add the link for the scanned document.
4. Save the application
5. Start the Systematic Registration Claim service.
6. SOLA Systematic will open the assigned application and in the General tab add details concerning the Land Use, number of floors, term and the general description of the location of the claimed land

7. Move to the Parcel tab, click on the Search tool bar icon (under the Parcel tab), enter the parcel number, select the parcel record from the search results list.

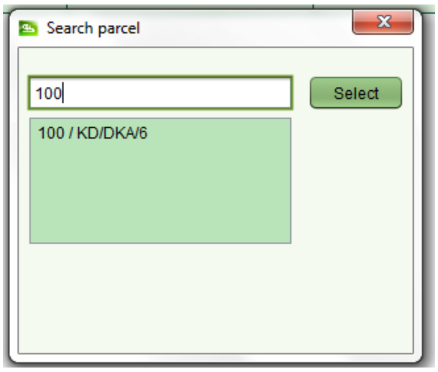


Figure 82 – Identify Parcel dialog

8. Use the Search parcel text field to check if a parcel matching the land certificate reference exists in SOLA. If it does, click the result in the results list then click the Select button.
9. On the Rights / Restrictions tab you must add create the ownership right for the property as the primary right. Click Create.
10. Enter the details for the primary right (e.g. claimant (to primary right) details in Ownership, Share and New Party Forms). Ensure the "Is primary right" checkbox is checked and Notation text (eg "Title created from systematic registration") and modify the Date of Claim accordingly. You will also need to Add a document to the primary right and add the Claim document.

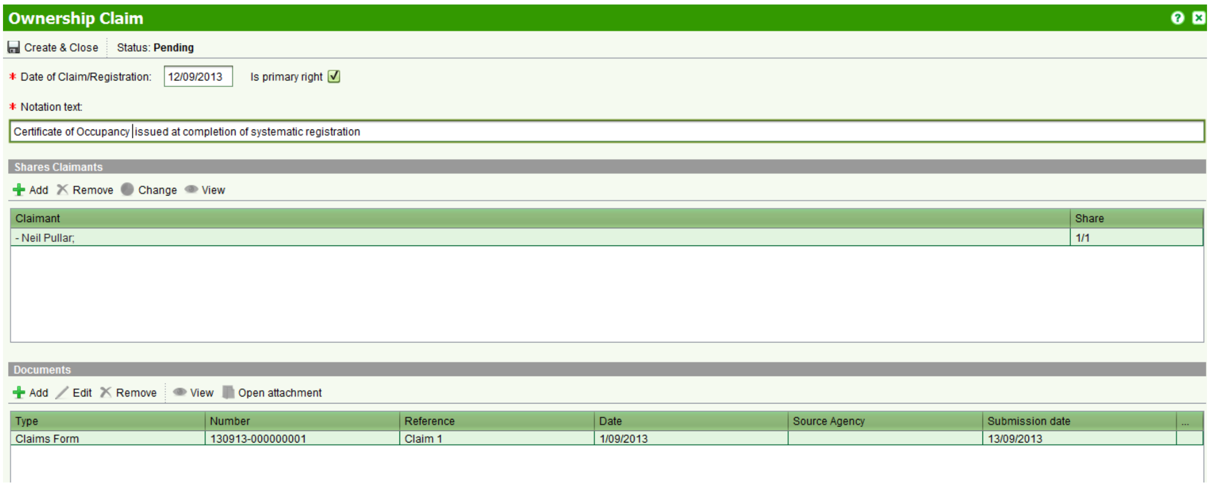


Figure 83 – Primary Right Recording

11. If there are any other current rights or restrictions (i.e. easements, transmission (through inheritance court documents etc) noted during adjudication add an additional service for each right or restriction and add the details.
12. Save changes to Property Details and Complete the Systematic Registration service.

.

Also see

- SOLA Systematic Concepts
  - Services
  - Rights, Restrictions and Responsibilities (RRR)

- SOLA Systematic Screens
  - Property Search
  - Property Details
- Systematic Registration How To
  - Initially Record a New Rights Claim

13.6 Map the parcel of the land described in an existing Land Certificate

An existing land certificate may be identified at any stage of systematic registration and will require that both the existing parcel boundaries and the existing rights as described on the existing land certificate are recorded in SOLA Systematic. The mapping of the existing parcel must occur before the recording of the rights described on the Land Certificate.

It is assumed that the land certificate has an attached survey plan or diagram which can be scanned and attached to an application with a Map Existing Parcel service.

It should be noted that the existing parcel may overlap existing new parcels captured and potentially approved as part of earlier systematic registration mapping. Where overlaps existing this may result in the need to do a further new application with cadastre change service to define the new overlapped parcels again to respect the existing Land Certificate parcel and supersede their original systematic registration map definitions. It might also be necessary to record a dispute against the systematic registration applications for the overlapped parcels.

13.6.1 Map Existing Parcel

Steps

12. From the Dashboard, Open the application from your Assigned applications list.
13. On the Services tab, select the Map Existing Parcel service and click the Start tool. This will open the Map Existing Parcel screen (almost identical to the Cadastre Change screen).
14. If the Map Viewer is not already zoomed to the location of the survey, use the map search or the map navigation tools to locate the area of the survey.
15. Add the Parcel Plan/Diagram (from the Land Certificate) image into the Map Viewer using the tool.
16. Capture the survey points for the plan. You can do this by using the Create / Link Survey Points tool to locate survey points directly on the Map Viewer using the mouse.
17. Use the Create / Link Survey Points tool to link survey points that represent existing boundary marks defining existing parcels already captured in SOLA. This step is important because it ties the parcel plan data to the existing cadastral network. Once linked, a survey point will change from being a blue plus to a green plus.
18. Create the existing Land Certificate parcel from the new survey points you have just defined using the Create New Parcel tool . New parcels will automatically get assigned the next parcel number when they are saved.
19. Use the Parcel List tool to open the Parcel List screen and change both the SOLA assigned parcel number and the remainder of the parcel descriptor used on the parcel plan/diagram and Land Certificate. Likewise overwrite the calculated area with the official area as given on the Land Certificate
20. Save the new details you have recorded. Please note that if you have entered a non-unique parcel descriptor and it is not possible to save then add an alpha extension (A…Z) to the parcel number.
21. Once all of the relevant information from the survey has been captured into SOLA Systematic, return to the Services tab of the Application Details screen, select the

Map Existing Parcel service and click the Complete tool. This will run the SOLA business rules to validate the application data. If there is a critical failure, you must remedy the failure as it will not be possible to approve the application otherwise.

22. If this validation identifies that there is an overlap with an existing or pending parcel, identify the affected parcels and where they are pending parcels make changes in those applications to remove the overlaps. If the overlap is with current parcels previously mapped in systematic registration and no Land Certificate has been issued initiate a new application with a Redefine Cadastre service and modify the parcel to remove the overlap and hold/respect the boundaries of the existing parcel from the Land Certificate.

    Where a land certificate has been issued for the overlapping systematic registration parcel, legal advice should be requested as to how to proceed. A dispute service should be added to the application with a Map Existing Parcel service.

13.6.2 Approve Mapping of Existing Parcel

The changes you make to the cadastral network while using the Map Existing Parcel / Cadastre Change tools remain pending until the application is approved. Survey approval in SOLA can be achieved using the Approve action in the Application action dropdown.

Steps

4. Open the application from your Assigned applications list and use the Validate tool to check the status of the application data. If there are any rule failures, review the application data and correct the issues as appropriate before proceeding to approve the application.
5. Use the Approve action in the Application action dropdown to approve the application. This will update the status of the application to Approved as well as update the cadastral network with the recorded changes.
6. Following approval, you can complete the application immediately using the Archive action in the Application action dropdown.

13.6.3 Also See

- SOLA Systematic Concepts
  - Application Lifecycle
  - Services
  - Business Rules
- SOLA Systematic Screens
  - Dashboard and Main Menu
  - SOLA Map Viewer
  - Application Search
  - Application Details
  - Redefine Cadastre
- General How To
  - Assign an Application
- Documents How To
  - Add a Document to an Application
  - Attach a File to a New Document
  - Add or Update a File Attachment on an Existing Document
- Survey How To
  - Record a Completed Field Map

13.7 Record Existing Land Certificate

The Record an Existing Land Certificate service is used when an existing Land Certificate is identified during systematic registration. A separate application with a Map Existing Parcel must precede a Record an Existing Land Certificate application and be approved so that there the parcel described in the Land Certificate is part of the cadastre as a current parcel (Use the SOLA Map Viewer to verify the parcel exists).

13.7.1 Record Land Certificate Details

Key details from the Land Certificate are recorded in SOLA provisionally (they obtain current status once the application is approved by the systematic registration team leader).

Steps

1. Create a new application with the Record an Existing Land Certificate service.
2. **Important:** Note the certificate reference (i.e. Volume (First Part) and Folio (Last Part)) for the Land Certificate to be recorded on the Property tab of Application Details and click the Add property button. This will be used as the certificate reference for the new property record in SOLA. If you omit a certificate reference here you will not be able to Start the Record Existing Land Certificate service.
3. Scan the paper Land Certificate and attach this to a Land Certificate document on the application
4. Lodge the new application. You do not need to print the lodgement notice.
5. Assign the application with the Record Existing Land Certificate service to yourself.
6. Open the assigned application and start the Record Existing Land Certificate service.
7. SOLA will open the Property Details screen with the certificate reference for the property record already set. Verify this matches the paper Land Certificate. If the certificate reference is not correct, close the Property Details screen without saving and update the property details on the Property tab of the Application Details screen and try to Start the service again.
8. On the General tab, click Link paper Land Certificate and link the Land Certificate document containing the scanned image of the paper Land Certificate to the property.
9. Set the Area as noted on the paper title. If no area is recorded, leave the Area field blank.
10. Move to the Parcel tab, click on the Search tool bar icon (under the Parcel tab), enter the parcel number, select the parcel record from the search results list.

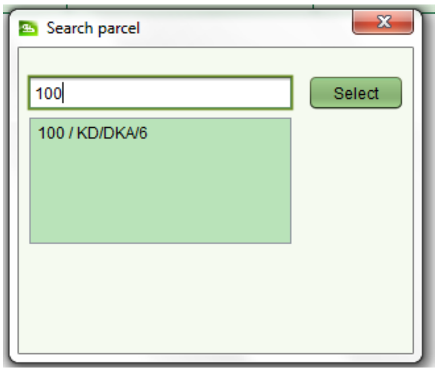


Figure 84 – Identify Parcel dialog

11. Use the Search parcel text field to check if a parcel matching the title reference exists in SOLA. If it does, click the result in the results list then click the Select button.

12. On the Rights / Restrictions tab you must add create the ownership right for the property as the primary right. Click Create.
13. Enter the details for the primary right (e.g. claimant (to primary right) details in Ownership, Share and New Party Forms). Ensure the “Is primary right” checkbox is checked and Notation text (eg “Title created from systematic registration”) and modify the Date of Claim accordingly. You will also need to Add a document to the primary right and add the Claim document.

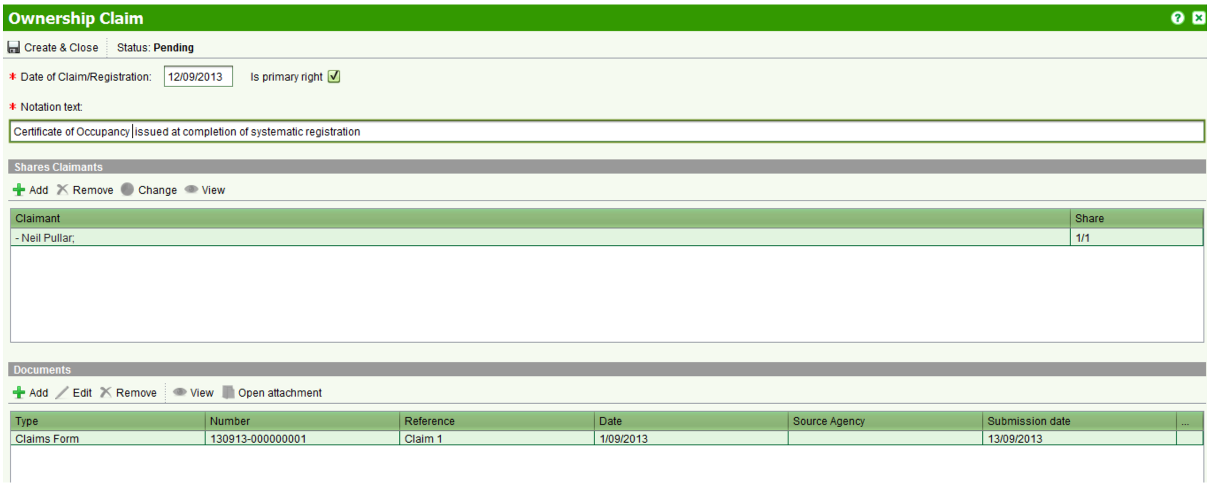


Figure 85 – Primary Right Recording

14. Add any other current rights or restrictions (i.e. mortgages, caveats, etc) noted on the paper certificate of occupany to the property by selecting the appropriate type of right/restriction in the Right type drop down and clicking Create.
15. Go to the Property history tab.
16. Save changes to Property Details and Complete the Record Existing Land Certificate service.

13.7.2 Approval

The property details capture in the Record Existing Certificate service remain pending until the application is approved. Approval in SOLA is the responsibility of the systematic registration team leader using the Approve action in the Application action dropdown.

Steps

1. Open the application from your Assigned applications list and use the Validate tool to check the status of the application data. If there are any rule failures, review the application data and correct the issues as appropriate before proceeding to approve the application.
2. Use the Approve action in the Application action dropdown to approve the application. This will update the status of the application to Approved as well as update the cadastral network with the recorded changes.
3. Following approval, you can complete the application immediately using the Archive action in the Application action dropdown.

13.7.3 Also See

- SOLA Systematic Concepts
    - Services
    - Rights, Restrictions and Responsibilities (RRR)
- SOLA Systematic Screens

   - Property Search
   - Property Details
- Systematic Registration How To
   - Lodge Systematic Registration Claim
   - Complete Systematic Registration Details

13.8 Prepare Public Display Listings

In this step various listings are prepared for use in the public notification period. The listings include two listings of private land holdings; one ordered by claimant name and the second by parcel number. A listing of State land holdings can also be produced.

All listings are for a Block within a designated systematic registration area.

Steps

1. From the Dashboard form click on the Systematic Registration – Public Display menu option. From a further sub menu option select the type of listing you want to generate.
2. Enter date that Public Display begins for the Section.
3. Enter the Section identifier in the Section field. As you type the block name, the names of the sections subject to systematic registration will appear in a list below in a "google search" like fashion. When the Section identifier that you need to create a public notification listing appears in that list then select that row and click on the View Report button.

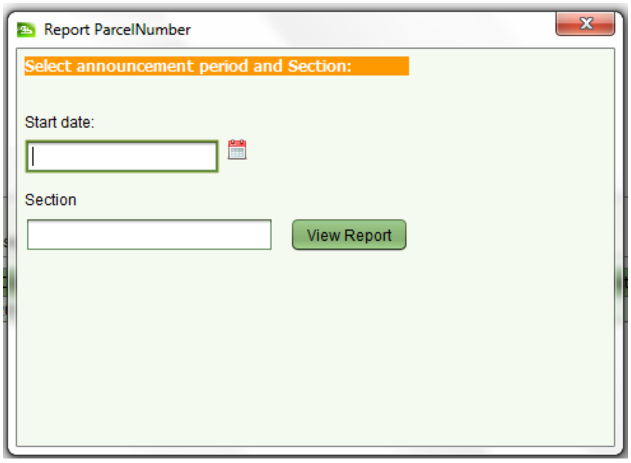


Figure 86 – Specify Public Display Date & Section Dialog

4. The report is stored in the SOLA digital archive and can be retrieved by a regular Document search and has a document reference of "PublicDisplay <<Section identifier>> and a document type of public notification.

Also see

- SOLA Systematic Concepts
- SOLA Systematic Screens
   - Document Search
- Systematic Registration How To
   - Prepare Public Display Plots

13.9 Prepare Public Display Plots

In this step maps required for public display are produced. Parcels in adjacent sections will only be shown without any (parcel number) annotation

Steps

1. From the Dashboard form click on the Systematic Registration – Public Display Maps menu option
2. Click on the Find tab, select Search by **Section** and enter the Section identifier. Double click on the required section from the results list below and the SOLA Map Viewer will centre on the selected section. Click on the Clear Map button to remove the yellow shading. Click on the Layers tab and make visible the Orthophoto layer and the Section layer.

Figure 87 – Section Locate Dialog

3. Click on the Public Display tab In the Public Display screen that displays enter the Block Name and systematic registration district name in the Area description field. Select the correct layout (usually Public Display – A0) and round the scale accordingly. Click on the Print button

Figure 88 – Public Display Plot Details

4. A pdf image of the map will be generated, based on what levels were displayed and the scale entered.

5. Review the pdf file (from SOLA pdf Viewer) and modify the layout and scale to give the best result for the parcels to be publically displayed within the specified section
6. Print the pdf file by clicking on in the toolbar of the SOLA pdf Viewer

Figure 89 – Public Display Plot Example

TO BE UPDATED

Also see

- SOLA Systematic Concepts
- SOLA Systematic Screens
    - SOLA Map Viewer
- Systematic Registration How To
    - Prepare Public Display Listings

13.10 Record Objections

The lodging of an objection during public notification or the recording of a dispute against a systematic registration claim prior to that has the effect of preventing the associated Claim for Systematic Registration (ie the other service in the same application as the Dispute service) from being approved. Once an objection or dispute has been recorded against a claim, the claim cannot proceed unless the disputes service is cancelled (usually following some formal resolution process that could result in changes to the ownership rights and right holders)

To record objection (including counter claims) details you will need to access the application recording the systematic registration details for that property. Select the application in the assigned or unassigned application lists on the Dashboard and choose Edit. If the application is not displayed in the application lists, use the Search Application screen to locate it and click the Edit button. This will open the Application Details screen allowing you to edit the application details and save changes.

1. Open the application and assign the application with the Systematic Registration Claim service to yourself.
2. Open the assigned application and on the Services tab click on and double click on “Dispute and Court Case” service
3. On the Documents tab add the Dispute form and any other supporting documents associated with the disputed rights. Ensure all recorded documents have a linked scanned image
4. Start the Dispute service by selecting it and clicking on .
5. In the Disputes form, complete the details including the identification of the parcel involved, the dispute type, who the dispute has been referred to (if anyone) and a description of the dispute in general terms in the Details Tab. Save and this will automatically populate the date field.

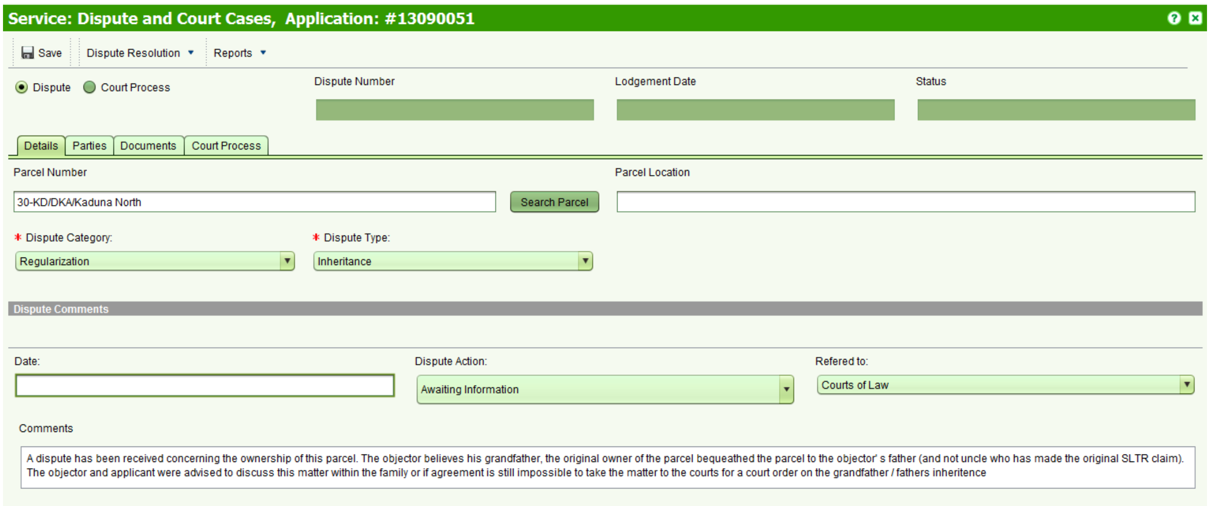


Figure 90 – Dispute Details

TO BE UPDATED

6. Click on the Parties Tab (still in the Disputes Form) and enter the party details of the objector. This person(s) will automatically be given the role type of “complainant”. Save changes
7. Click on the Documents Tab (still in the Disputes Form) and link the disputes form and any other supporting documents previously archived against the application to this dispute.

8. Save changes made in the Disputes Form and Complete the Dispute and Court Case service.

.
Also see

- SOLA Systematic Concepts
    - Services
- SOLA Systematic Screens
    - Property Search
    - Property Details
- SOLA Systematic Registration How to
    - Complete Claim Details

13.11 Record Dispute Resolution

To record the resolution of a dispute you will need to access the systematic registration application for the property under dispute. Select the application in the assigned or unassigned application lists on the Dashboard and choose Edit. If the application is not displayed in the application lists, use the Search Application screen to locate it and click the Edit button. This will open the Application Details screen allowing you to edit the application details and save changes.

1. Open the application and assign the application with the Systematic Registration Claim service to yourself.
2. Open the assigned application and on the Documents tab add the document recording the resolution of the dispute remembering to link the scanned image of this document to the application
3. On the Services tab select the service for the original claim and revert it to pending status by clicking on the Revert toolbar icon. Then click on to (re) start the Systematic Registration Claim service.
4. Amend the disputed Right and Rightholder details where necessary and link the disputes resolution document (eg agreement or court order document type) to the right or rightholder that was the subject of the dispute regardless of whether there were any changes to the right or rightholder details.
5. On the Services tab Complete the Systematic Registration Claim service
6. On the Services tab click on the Revert toolbar icon for the Disputes and Court Cases service and click on to (re) start the Disputes service
7. On the Details tab (on the Disputes Form) update the Comments field with a brief summary of the nature of the resolution. Clear the Referred to drop down list
8. Save changes to the Disputes form
9. On the Services tab click on the Cancel the Objection service
10. Save changes to Property Details.

Also see

- SOLA Systematic Concepts
  - Services
  - Rights, Restrictions and Responsibilities (RRR)
- SOLA Systematic Screens
  - Property Search
  - Property Details
- SOLA Systematic Registration How to
  - Complete Claim Details
  - Record Objections

13.12 Prepare Land Certificates

13.12.1 Bulk generation

This functionality allows you to print certificates of occupancy for all parcels within a **Daily Work Unit** of a systematic registration area where the claim for systematic registration has been upheld and the claim application approved.

Steps

1. From the Dashboard form on the main menu bar click on the Systematic Registration - Certificates menu option.
2. Enter the name of the Daily Work Unit in the Location field. As you type the block name, the names of the units subject to systematic registration will appear in a list below in a “google search” like fashion. When the name of the Daily Work Unit that you need to generate Certificates appears in that list then select that row and click on the View button.

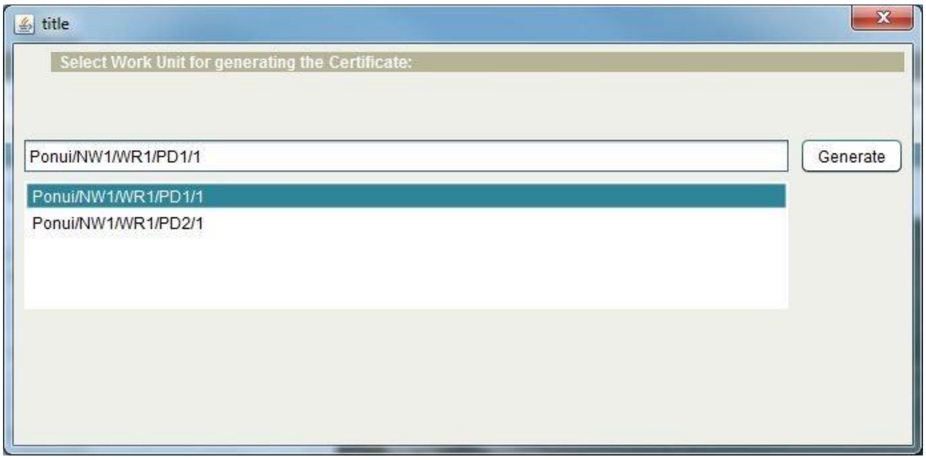


Figure 91 – Bulk Printing of Certificates Dialog

3. The certificates are stored in the SOLA digital archive and can be retrieved by a regular Document search using the new Land Certificate reference (being TOTAL_<<Ward/LGA/State>> as the reference number and Land Certificate as document type.

13.12.2 Single Certificate generation

This functionality allows you to print certificates of occupancy for a single parcel if the claim application had been approved.

Steps

1. From the Dashboard form select and open the Application for the parcel you want to generate the certificate for..
2. Click on the **Certificate** icon in the Application Form
3. The certificate will be visualized and stored in the SOLA digital archive and can be retrieved by a regular Document search using the new Land Certificate reference (being <<UPI Parcel Number>>_<<Ward/LGA/State>> as the reference number and Land Certificate as document type.

Also see

- SOLA Systematic Concepts
- SOLA SR Desktop Screens
    - Application
    - Document Search

13.13 Prepare Certificate Signing List

In this step you can produce an authorisation listing identifying a sequence of CofO (that have not yet been printed) which the designed authority will then sign. This is in order to support the eventual introduction of a signing machine to be used to add the authority's signature to the printed CofO

The signed authorisation listing would then be scanned, added to the SOLA digital archive and linked to each SR Application/ba_unit.

When the owners collect their copy of the CofO, this is recorded in SOLA
This listing is for all the Daily Work Units within a designated systematic registration area.

Steps

1. From the Dashboard form click on the Systematic Registration – Signing List.
2. Enter the PublicDisplayArea identifier in the PublicDisplayArea field. As you type the name, the names of the areas subject to systematic registration will appear in a list below in a "google search" like fashion. When the Area identifier that you need to create signing listing appears in that list then select that row and click on the Select button.

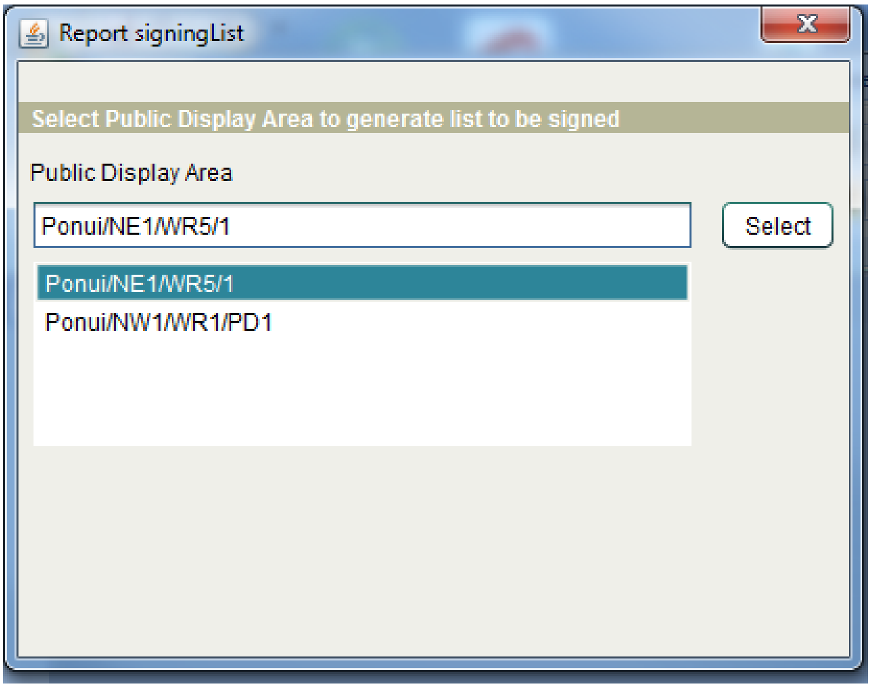


Figure 92 – Specify Public Display Area Dialog

3. The report is displayed and then stored in the SOLA digital archive and can be retrieved by a regular Document search and has a document reference of "SigningList <<PublicDisplayArea identifier>> and a document type of public notification

Also see

- SOLA Systematic Concepts
- SOLA SR Desktop Screens
  - Document Search
- Systematic Registration How To
  - Prepare Certificates

13.14 Prepare Parcel Plans

13.14.1 Bulk generation

This functionality allows you to print Plans for all parcels within a **Daily Work Unit** of a systematic registration area where the claim for systematic registration has been upheld and the claim application approved.

Steps

1. From the Dashboard form on the main menu bar click on the Systematic Registration – Parcel Plan menu option.
2. Enter the name of the Daily Work Unit in the Location field. As you type the block name, the names of the units subject to systematic registration will appear in a list below in a “google search” like fashion. When the name of the Daily Work Unit that you need to generate the Plans appears in that list then select that row and click on the View button.

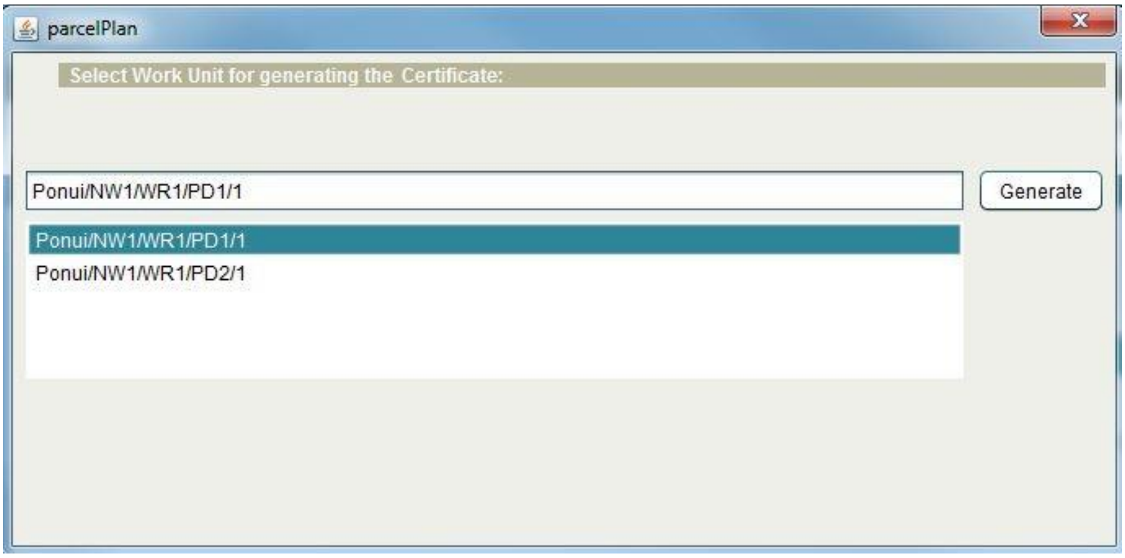


Figure 93 – Bulk Printing of Parcel Plans Dialog

3. The plans are stored in the SOLA digital archive and can be retrieved by a regular Document search using the new Parcel Plan reference (being TOTAL_<<Ward/LGA/State>> as the reference number and Parcel Plan as document type.

13.14.2 Single Parcel Plan generation

This functionality allows you to print plan for a single parcel if the claim application had been approved.

Steps

1. From the Dashboard form select and open the Application for the parcel you want to generate the certificate for
2. Click on the **Plan** icon in the Application Form
3. The plan will be visualized and stored in the SOLA digital archive and can be retrieved by a regular Document search using the new parcel plan reference (being <<UPI Parcel Number>>_<<Ward/LGA/State>> as the reference number and Parcel Plan as document type.

Also see

- SOLA Systematic Concepts
- SOLA SR Desktop Screens
  - Application

13.15 Prepare Systematic Registration Reports

A series of reports can be generated from SOLA concerning systematic registration.

Status Report provides at the time the report is generated, section by section totals of systematic registration claims entered into SOLA, with and without a corresponding parcel record, parcel records with no claim, claims with pending objections, claims in public display, claims with incomplete documentation, private – public land claims, approved claims where certificates have been and not been generated.

Progress Report provides for a certain period of time, section by section totals of the number of systematic registration claims that have been entered into SOLA, completed (ie ready for public display), objections recorded, objections resolved, certificates prepared and certificates issued.

Weekly Production Report records the number of systematic registration claims adjudicated in the field and entered into SOLA (ie performance of Recording Officer); the number of parcels recorded in the SOLA database by the GIS Officer (ie the performance of the Demarcation and GIS Officer) and the number of systematic registration claims that are completed by each Registration Officer (ie the performance of the Registration Officer).

Steps

1. From the Dashboard form click on the Systematic Registration menu and the Reports sub-menu. From the sub menu option select the type of report you want to generate.
2. When a Status report is selected the report will generated and displayed as a pdf document that can be printed or saved.
3. When a Progress Report is selected a screen will be displayed for the dates defining the period to be reported on. Once the dates have been entered. Click on the View Report button and the report will be displayed as a pdf document that can be printed or saved.

.

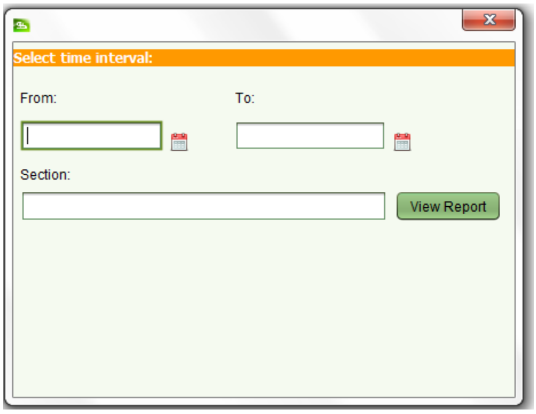


Figure 94 - Report Start Date & End Date Dialog

13.15.1 Gender Report

This is a disaggregated gender report format that provides greater detail on ownership gender groupings in the hope that this will facilitate bench-marking and the formulation of more targeted interventions to address gender based inequalities
Data are grouped for each Ward by :

- Female, reports the number of parcels by female claimants only
- Male, reports the number of parcels by male claimants only
- Joint, reports the number of parcels by one female and one male claimants
- Mixed, reports the number of parcels by mixed female and male claimants
- Entity, reports the number of parcels by organizations/groups (Non-natural Person)

Ownership Gender Report

State: SR **Report at Tuesday 21 April 2015**

Legend

Female	number of parcels by female	**Male**	number of parcels by male
Joint	number of parcels by 1male+1female	**Mixed**	number of parcels by mixed males +females
Entity	number of parcels by entity	**Not Recorded**	not yet recorded gender

LGA/Ward	Female	Male	Joint	Mixed	Entity	Not Recorded	Total
NE1/WR5	1	3	0	0	0	0	4
NE1/WR6	0	0	0	0	0	0	0
NE1/WR7	0	0	0	0	0	0	0
NW1/WR1	6	14	5	0	0	0	25
NW1/WR2	0	0	0	0	0	0	0
NW1/WR3	0	0	0	0	0	0	0
NW1/WR4	0	0	0	0	0	0	0
Grand Total	**7**	**17**	**5**	**0**	**0**	**0**	**29**

Page 1 of 2

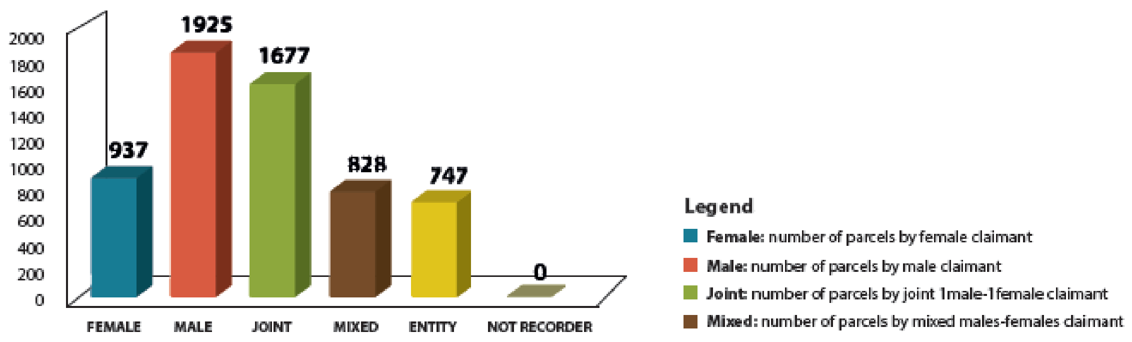


Figure 95 – Gender Report

Also see

- SOLA Systematic Concepts
- SOLA SR Desktop Screens
  - Property Screen
  - Party Screen
- SOLA Systematic Registration How to
  - Complete Claim Details
  - Record Objections

14. Troubleshooting SOLA Systematic

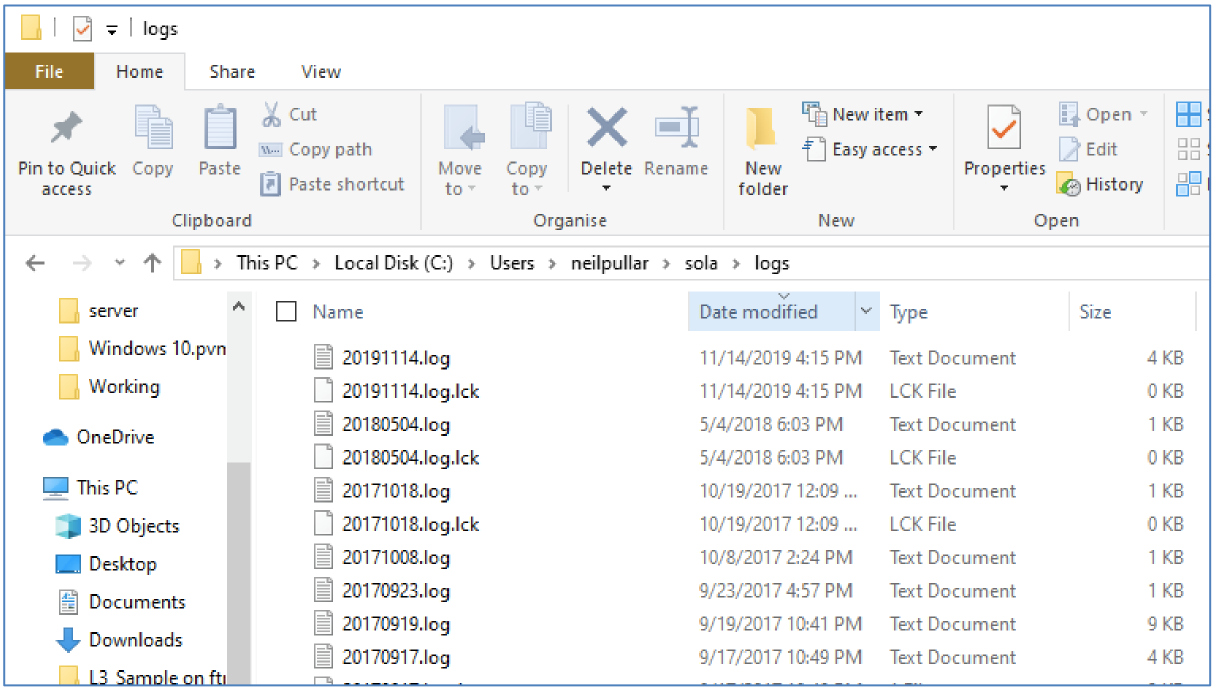
14.1 Logging

From time to time you may encounter unexpected issues while trying to run SOLA Systematic. Usually the error message will recommend a course of action, but occasionally you may encounter a technical issue that requires further investigation by the IT Support Team or another SOLA technical person. To assist that investigation you may be asked to provide a copy of the log files supporting SOLA Systematic. The logs capture exception information and status messages that can help a technical person to determine the cause of a particular issue.

This section describes the two logs available with SOLA Systematic; the SOLA Application Log and Java Runtime Environment (JRE) logging. It also describes how to access information from those logs.

14.1.1 SOLA Application Log

The SOLA Web Start application (i.e. SOLA Systematic Desktop Client software) creates an application log file on your local computer to capture exceptions and various status messages. You can find those log files at the following directory location **<User Home Directory>/sola/logs**.



Location of SOLA Application Log in Windows 10

The name of the log file will be DesktopApplication_<date>.log (for SOLA State Land Desktop). Simply open the appropriate log and copy the text from the log file into your email reply or issue ticket.

Note that your <User Home Directory> will depend on the operating system of your computer. For example, under Windows 10 this will be C:\Users\<Your Windows User Name>.

14.1.2 *Java Runtime Environment (JRE) Logging*

SOLA is a Java application and the Java Runtime Environment (JRE) also provides a detailed logging capability. The advantage of using JRE Logging is that every exception and/or status message is reported whereas the SOLA Application Logs only capture SOLA specific exceptions and messages and may not necessarily capture the true cause of an issue.

JRE Logging is **not** turned on by default. You need to use the Java Control Panel to turn on the Java Console which can then be used to turn on JRE Logging as required. To turn on the Java Console and JRE Logging

15. From the Control Panel, choose the **Java** icon.
16. On the Java Control Panel, click the Advanced tab and expand the **Java console** node to select the **Show console** option.
17. Click the OK button to close the Java Control Panel and save changes.

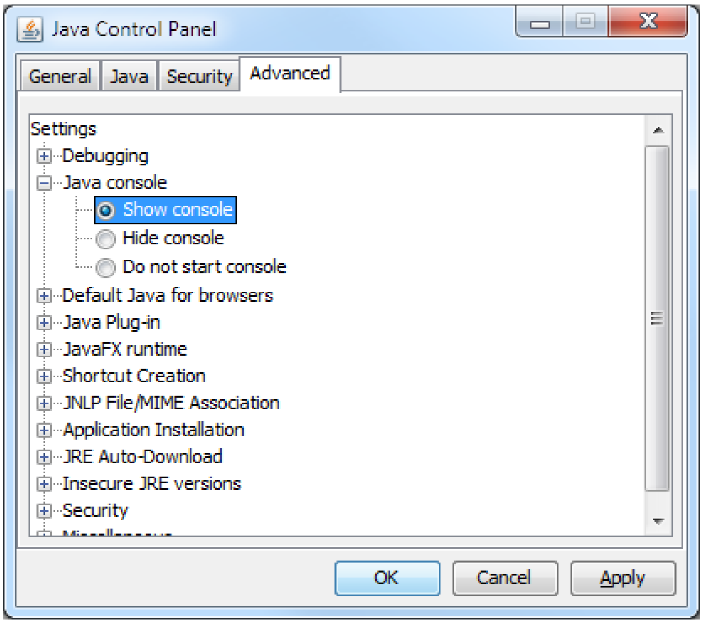


Figure 96 - Java Control Panel Advanced tab

18. Start the SOLA Web Start application by double clicking the appropriate desktop shortcut. You will notice the Java Console display along with the SOLA login page.
19. Click the Java Console so that it has focus and press **5**. The message **Trace level set to 5: all ...completed** should display in the console. Pressing 5 turns on logging to its maximum level.

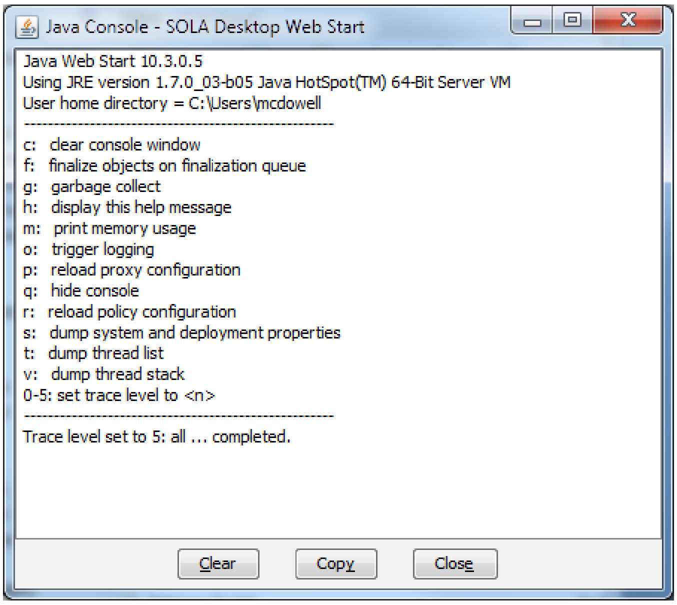


Figure 97 - Java Console with logging turned on

20. As you use the SOLA application, messages will be output to the console. Repeat the actions that cause the issue to occur.
21. After successfully repeating the issue, click the **Copy** button on the Java Console and paste the contents of the JRE log into your email reply or issue ticket.

Be aware that JRE Logging will only be turned on for the duration of your current session. If you restart the SOLA Web Start application, JRE Logging will be turned off until you set the logging level in the Java Console.

14.2 Known Issues

This section lists some known issues and may help to resolve problems that you are encountering. Issues described here include

7. Unable to login
8. Installation issues (refer to sections **Error! Reference source not found.** & 4.4)
9. Reporting of Issues

14.2.1 Unable to login

While attempting to login to SOLA Systematic you may get a message indicating your user name and password could not be verified. This message can be caused by a number of different reasons most of which will require IT Support to assist you.

Cause	Description	Resolution
Invalid user credentials		Enter valid user credentials. If you cannot remember your user credentials, contact IT Support to reset your password.
User account is disabled		Contact IT Support to verify if your account is enabled.

Application services are unavailable	The SOLA Systematic Web Start application uses web services on the SOLA Systematic Application Server to process information. If the web services are unavailable due to a problem with the network or the SOLA Systematic Application Server, you will receive the user name and password could not be verified message.	Contact IT Support to restart the SOLA Application Server.

14.2.2 Installation Issues

Most installation issues appear to result from problems with the computing infrastructure used by SOLA Systematic. Some of the more common problems are described in sections **Error! Reference source not found.** & 4.4.

14.2.3 Reporting Issues

The Github Issues reporting feature is now used to record and track issues with the SOLA Registry software. You can view details of known issues and workarounds here https://github.com/SOLA-SR-FAO/code/issues .

15. Release Notes

This section summarises the changes made to SOLA Registry or it's configuration as part of each new release.

15.1 Release 1503a

Ticket	Title	Change Summary
-	Initial Release	Generic version of (Nigeria) SOLA SLTR.

Appendix 1 – SOLA Business Rules

This appendix can be used to determine the remedial action that should be undertaken when a SOLA business rule fails.

Code	Message	Remedial Action
AP010	Check that relationship to previous title has been defined in History Tab for the new title(s)	An application including a new freehold service must also terminate the parent title(s) with a cancel title service.
AP020	In the Application Document Tab determine (in right hand column) the unchecked required document types and add these documents to the Application	All documents required for the services in this application are present.
AP030	Search titles and locate the current title referencefor the property used in the application	All the titles identified for the application must be current.
AP040	Add a service to the Application	An application must have at least one service
AP050	Order the services in the application so that the Cancel Title occurs last	New Freehold title service must come before Cancel Title service in the application.
AP060	Create a service to cancel the titles to be superseded by the new titles	When a new title is created there must be a cancel title service in the application for the parent title.
AP070	Check that all services have been completed (or cancelled)	All services in the application must have the status 'cancelled' or 'completed'.
AP080	Check that all services have been completed (or cancelled)	Within an application
AP090	Check property form and ensure the primary right checkbox is checked for one right (usually ownership)	A single primary right (such as ownership) must be identified whenever a new title record is created
AP100	Manually check that all current rights have been transferred to new titles or cancelled and add new services to cancel redundant rights (or restrictions)	All rights and restrictions from existing title(s) must be accounted for in the new titles created in this application.
AP110	Add another Remove Caveat or Vary Caveat service to the application	The identified property has a current or pending caveat registered on the title. The application must include a cancel or waiver/vary caveat service for registration to proceed.
AP120	Attach a more recent title image	The scanned image of the title should be less than one week old.
AP130	Add scanned image of personal ID or person verification form	Personal identification verification should be attached to the application.
AP140	Deal with caveat lodged on same property by a different application	The identified property is affected by another live application that includes a service to register a caveat. An application with a cancel or waiver/vary caveat service must be registered before this application can proceed.
AP150	Check the applicant's name,whether they are appropriately verified (attach scanned images of personal id) and	The applicants name should be the same as (one of) the current owner(s)

Code	Message	Remedial Action
	whether the application is authorised to initiate the services requested in the application	
AP160	Check the date of the document and amend where necessary	Documents should have dates formalised by source agency that are not in the future.
AP170	Verify there is a good reason for these services to be provided as back office services	There are services in this application that should be dealt in the front office. These services are of type: serviceEnquiry
AP180	Add a Convert to Digital Title service to the application	An application can be associated with a property which should have a digital title record.
AP190	Add a scanned image (or other source file) to the document record	Documents lodged with an application should have a scanned image file (or other source file) attached
AP200	Verify the identified primary right is permissible as a primary right	An allowable primary right (ownership, apartment, State ownership, lease) must be identified for a new title
AP210	Verify the identifier for the title (Cof))	Invalid identifier for title
AP220	Verify if the period of public display is over	The publication period must be completed.
AP230	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	All rights and restrictions on the title to be cancelled must be transfered or cancelled in this application.
BA020	Identify other application for same property and complete that application before proceeding with this application	Pending registration actions (from other applications) affecting the title to be cancelled should be cancelled
BA030	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have an associated parcel (or cadastre object)
BA040	Make sure cadastre object is compatible with title (usually a 'parcel')	Title should have compatible parcel (or cadastre object) description (appellation)
BA050	Review official area(s) of both the title and the corresponding parcel(s) and correct official area where appropriate	Title area should only differ from parcel area(s) by less than 1%
BA060	Check spelling of owner names and where new owners are to be recorded for new titles attached scanned documents to the ownership right collaborating the change in ownership	Owners of new titles should be the same as owners of underlying titles
BA070	Verify that a primary right has been specified	A title must have a valid primary right
BO010	Verify that the cadastre object (parcel) is a closed figure	Cadastre objects must have a valid closed polygon.
BO020	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	Cadastre objects must not overlap with existing cadastre objects.

Code	Message	Remedial Action
BO030	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	New cadastre objects must not overlap with other new cadastre objects.
BO040	Revise the parcel identifier to make sure it is unique	Cadastre objects with must have unique names.
CA060	Check that there are no additional, unexpected parcel records in Cadastre Change service form and that all parcels are properly formed polygons	The union of the target parcels must be a polygon
CA080	Identify other application dealing with target parcels and complete that application before proceeding with this application	There should be no pending changes for any of target parcels
CA100	Check parcel description/appellation is valid and amend where necessary	The parcel (cadastre object) should have a valid form of description (appellation)
CA120	Check the official areas for both the new parcels and the official areas of the to be superseded parcels	The difference between the total of the new parcels official areas and the total of the old parcels official areas should not be greater than 0.1%
CA140	Check the official areas for the new parcels as they differ significantly from the system calculated areas	The difference between the new official parcel area and the new calculated area should be less than 1%
CA150	Modify parcel redefinition changes as it appears the changes have caused overlaps	New polygons do not overlap with each other.
CA170	Modify parcel redefinition changes as it appears the combined areas of the parcels affected has changed.	The union of the new polygons must be the same as the union of the old polygons
CA190	Create new parcel polygons	New cadastral objects must be defined
CA200	Add survey points through on screen digitising or the import of a CSV file of survey points	There are at least 3 survey points present
CA220	Ensure all boundary nodes are included in polygons and that new boundary points coincident with existing boundary nodes have been linked	The union of new parcel polygons is the same with the union of the target parcel polygons
CA240	Identify the target parcel(s)	Target parcel(s) must be selected
CA250	Identify the overlap of the new cadastre object (parcel) with another new cadastre object and remedy	The new parcel polygons must not overlap
CA260	Identify the overlap of the new cadastre object (parcel) with an existing parcel and remedy	New polygons do not overlap with existing ones
CA270	Identify a (spatial) parcel for the title (CofO)	All property must have an associated cadastre object.
CA280	Process more Systematic Registration claims through to complete status for the parcels in this section	At least 90% of the parcels must have an associated Systematic Application with complete status.

Code	Message	Remedial Action
GE010	Revise the spatial unit group identifier to ensure it is unique	Spatial unit groups must be unique.
RR010	Deal with requirements of caveat and then create new application with a Remove Caveat or Vary Caveat service and process. Once approve return to other applications that have been waiting for the caveat to be dealt with	Caveat should not prevent registration proceeding.
RR020	Review all mortgages on the title and revise rank of new mortgage accordingly	The rank of a new mortgage must not be the same as an existing mortgage registered on the same title
RR030	Review other applications for the same property and ensure their approval prior to actioning the subsequent changes	There are no other pending actions on the rights and restrictions being changed or removed on this application
RR040	Add rightholders names in the form defining the right	These rights (and restrictions) must have a recorded party (or parties)
RR050	Modify the shares so that they total to 1	The sum of the shares (in ownership rights) must total to 1
S0020	Revise attached source file to one that has current status	Document (source file) must not be duplicated
SO030	Add only allowable file types	Document to be registered must have an allowable and current source type
SV020	Start service and in the Parcel Tab link existing parcel(s) or add new parcel records to title	Title must have Parcels
SV030	Add a scanned image (or other source file) to the document record	Documents associated with a service must have a scanned image file (or other source file) attached
SV040	Add or link a current document to the right (or restriction) that is being created, varied or cancelled	Documents supporting rights (or restrictions) must have current status
SV050	Add a scanned image of the Power of Attorney to the application	Service 'req_type' must have must have one associated Power of Attorney document
SV060	Start service and complete all required data entry before attempting to complete service	Service 'req_type' must have been started and some changes made in the system
SV070	Record the current right in the system through a separate service before actioning the service that varies or cancels the right	For cancellation or variation of rights (or restrictions)
SV080	Check that the correct parcels have been identified for the parcel and that the total of the official parcel areas is within the specified limits with the given official total title area	Title has the same area as the combined area of its associated parcels
SV090	Check that existing mortgage holders have agreed to new mortgage being registered	For the Register Mortgage service the identified title has no existing mortgages

Code	Message	Remedial Action
SV110	Verify the reported value of the property and the mortgage amount	For the Register Mortgage service
SV120	Manually check that the owner name (recorded on the Power of Attorney) is the same as the recorded rightholder's name	Name of person identified in Power of Attorney should match a (one of the) current owner(s)
SV130	Confirm whether there is already a digital record of this title	For the Convert Title service there must be no existing digital title record (including the recording of a primary (ownership) right) for the identified title
SV140	Add the required documents to this application	All documents required for the service 'req_type' are present.
SV150	Add a personal ID record image to this application	Within the application for the service a personal identification verification should be attached.
SV160	Verify that all rights and restriction on the title to be cancelled have been transferred to new titles or these rights and restrictions are cancelled before this application proceeds	For the service 'req_type' the title must be terminated (after all rights recorded on the title are transferred or cancelled).

Appendix 2 – Features of SOLA Systematic

The SOLA Systematic application supports the following feature list:

Case Management

37. Personal dashboard for each user showing all unassigned applications along with the applications currently assigned to them.
38. Users can assign themselves to applications (i.e. pull workflow)
39. Power users can manage the workload of other users by assigning and un-assigning applications
40. Applications can be re-assigned allowing different users to work on different parts of an application
41. Details that can be captured on the application include
    m. Agent and contact person information
    n. Services that indicate the type of changes the application will make to the land registry records
    o. Property records affected by the application
    p. The fee paid and receipt details
    q. Documentation supporting the application
    r. Approximate location of the application can be noted on the map
42. Lodgement checklist available so the user can ensure the necessary documentation is provided when the application is lodged
43. User can validate the property references provided with the application to confirm they are valid and recorded in Registry
44. Lodging an application assigns a unique number, calculates the fee and generates a lodgement notice
45. An application can have one or more services
46. The services supported by Registry can be configured to match those required by the land administration agency
47. The services users can work on can be controlled using security roles
48. Applications transition into different states as they are processed
49. Applications can be lodged, requisitioned, cancelled, withdrawn, lapsed, approved and completed
50. Changes to land registry records do not become live until an application is approved
51. Users can record when notifications are sent to the agent or contact
52. The history of changes to an application (who did what and when) can be viewed
53. The status of the application including the history log can be printed
54. An application statistics report is available that lists lodgements, requisitions and approvals over a given period

Search

15. Search applications by application number, date of lodgement, agent name, contact person name or document reference
16. Search properties (a.k.a. titles) by property reference or owner name
17. Search parties by name or party role
18. Search documents by document reference number, date submitted, document type, document source or description
19. Search spatial records using Map Find (supports zoom to and highlight of selected result)
20. The spatial searches supported by Registry can be configured to match those required by the land administration agency
21. Partial/wildcard matching is supported for text based search criteria

Map Viewer

23. Layer control to manage data displayed on the map
24. The layers supported by the Map Viewer can be configured to match those required by the land administration agency
25. Layer symbology defined using Style Layer Descriptor (SLD) OGC standard
26. Auto sizing scale bar displayed to help gauge distances on the map
27. Editable map scale to allow fast zooming of the map
28. Mouse enabled map navigation and map editing tools
29. Context sensitive map editing tools (depending on the service being worked on)
30. Map printing with page size and orientation selection
31. Information tool to summarize spatial object details
32. Supports orthophoto layers
33. Extract selected spatial objects to KML for display in other GIS tools (e.g. Google Earth)

Document Management

17. Attached scanned documents to an application from the local computer or a preconfigured network folder
18. Attach files up to 100Mb
19. Change or remove the attachment for an existing document
20. Cross link new documents with attachments previously loaded into SOLA
21. View a thumbnail preview of a document prior to attaching it (PDF and image formats only)
22. View attachments using the default application for that file type
23. Client side document cache that is auto sizing to prevent excessive disk usage
24. Register Power of Attorney and Standard Memorandum documents for reference by later applications

Cadastral Editing

23. Create new cadastral objects by subdividing and/or amalgamating existing cadastral objects
24. Capture survey points using the mouse, manually entering the survey coordinates or importing survey coordinate data from a CSV data file
25. Add nodes to existing cadastral objects
26. Modify the boundaries of existing cadastral objects
27. Capture irregular boundaries
28. Digitize survey information from an image of the plan
29. Link or snap survey points to existing cadastral object nodes
30. Calculate the variances between survey point coordinates and existing cadastral object nodes
31. Identify traverse points from the survey
32. Record the official area for new parcels
33. Validate spatial changes to avoid gaps and overlaps in the cadastral network

Systematic Registration

33. Predefined systematic registration roles can be modified to reflect local practices
34. Mapping can be loaded into SOLA Systematic
35. Adjudication teams field collected systematic application forms data entry
36. Upload of scanned documents

37. Loading of adjudication teams digital photos of claimants, supporting documents and property features
38. Spatial definition of Public Display Areas
39. Spatial definition of Daily Work Unit Areas for each adjudication and mapping team
40. Spatial definition of road centrelines and names
41. Map and record parcels with existing land certificates
42. Prepare Public Display Listings & Map Plots
43. Record Objections
44. Record Dispute Resolution
45. Print new Land Certificates Individually or multiple as a block of certificates
46. Prepare Land Certificate signing / delegation to sign lists
47. Prepare individual parcel plans
48. Prepare various systematic registration reports on progress, metrics of completed certificates and gender reports

Land Certificate Management

11. Create new land certificates (a.k.a. properties) and record ownership, mortgage and other rights (and restrictions) on the title
12. The rights and restrictions supported by SOLA can be configured to match those required by the land administration agency
13. Memorials/notations are added to the land certificate
14. A share is expressed as a fraction and can be allocated to one or more parties
15. Print Land Certificates

Gender Safeguards

7. Individual parties can have their private information protected to prevent disclosure of their information to other parties
8. One party (the notifiable party) can register a relationship with another party (the target party) and obtain notification if there are changes to the target parties property rights or interests
9. Report illustrating property ownership by gender

Business Rules

17. Automated validation of application using configurable business rules
18. Rules executed just prior to changes in state of an application or service
19. Rules can also be manually executed using the Validate action
20. Rules to execute at a particular stage can be configured with the same rule executing at multiple stages
21. Severity rating for a rule can be configured based on the stage of execution
22. The failure of a critical rule aborts the current action
23. Rules are defined as SQL statements and can be versioned
24. New versions of rules can be uploaded into SOLA and configured to come into force at a future date without requiring redeployment of SOLA

System Administration

11. Add, edit and disable reference data values (e.g. service types, document types, RRR types, etc)
12. Version business rules and change business rule severity
13. Add, edit and disable user accounts
14. Configure security roles into groups and assign groups to users

15. User passwords expire at regular intervals determined by the system administrator.

General

13. Context sensitive online help
14. User profile to record user preferences and change password
15. All screen labels, messaging, database reference codes and online help documentation supports localization to different languages
16. General information enquiries can be logged and dealt with as applications
17. Secure individual data records so that only users with appropriate permissions can view those records
18. Email service to send email notifications

Technical

25. PostgreSQL database (supported versions v9+) with PostGIS spatial database extension (supports v1.5+ and v2+)
26. Database table structures based on the Land Administration Domain Model (LADM)
27. Web service architecture developed using Java Enterprise Edition (Java EE 8) and hosted in a JEE 8 compatible application server (Payara Server v5)
28. Uses the Metro Web Service stack compatible with .NET and Java web service technologies (WSIT compatible) and WS-Security
29. Java Web Start used for deployment
30. Java 8 JRE required on all client computers
31. Patches and enhancements to the SOLA Systematic Desktop application are automatically downloaded by Java Web Start
32. Implements optimistic concurrency control to prevent loss of information due to concurrent data edits
33. The details for every exception that occurs on the server or the client are recorded in a log file to assist debugging and issue resolution.
34. The source code for SOLA Systematic is licensed under the Berkeley Software Distribution (BSD) 3-clause license
35. SOLA Systematic can run on both Windows and Unix based operating systems
36. SOLA Systematic does not require a geospatial data server, but it can integrate with any Web Map Service (WMS) capable server for display of orthophotos and other spatial data

Appendix 3 – Trimble Pathfinder Software Configuration for SOLA Registry Export CSV File

SOLA CSV Format definition:
First column: Is a unique identifier of the point within the file. It can start with 1 and incrementing by one.
Second column: X coordinate.(Easting)
Third column: Y coordinate. (Northing)
The values are separated by commas
Example:

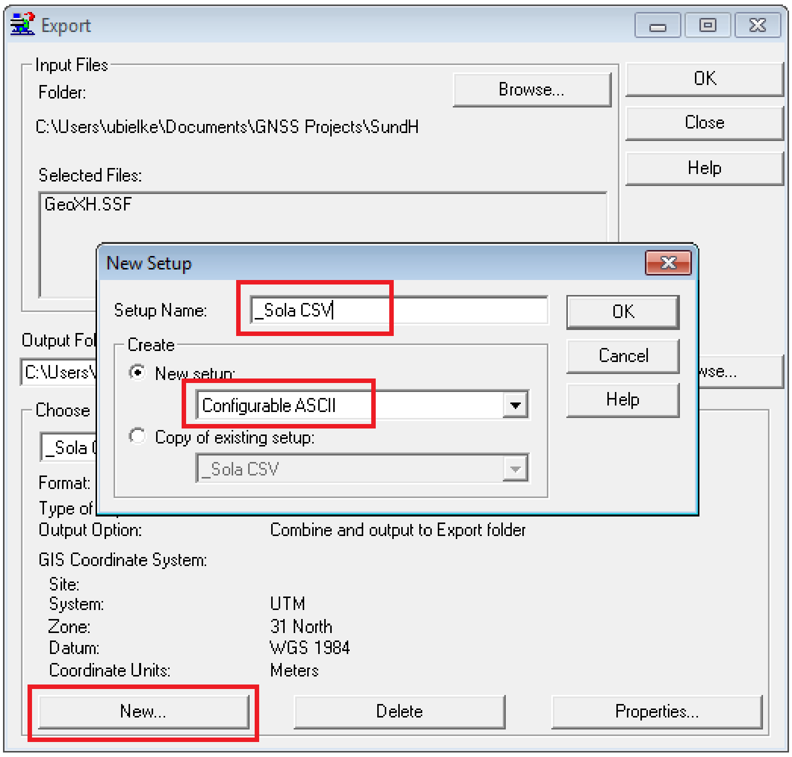
Id,X,Y

1,570559.75,5931649.69

In this example the coordinate system will be UTM, Zone 31N and the datum is WGS84.

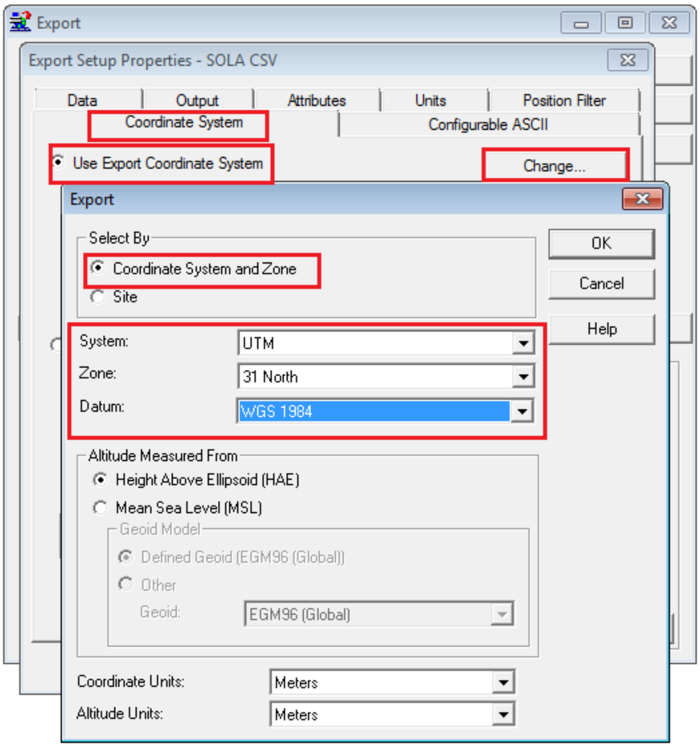
Setup:

9. Start Pathfinder Office and create/select a project.
10. Select **Utilities** > **Export** and **New**:



11. In the New Setup Window enter a Setup name (for example: _Sola CSV).

Note: The underscore will bring the Sola format to the top of the list later on.
12. Select **New Setup** and scroll for **Configurable ASCII** and tap **OK**



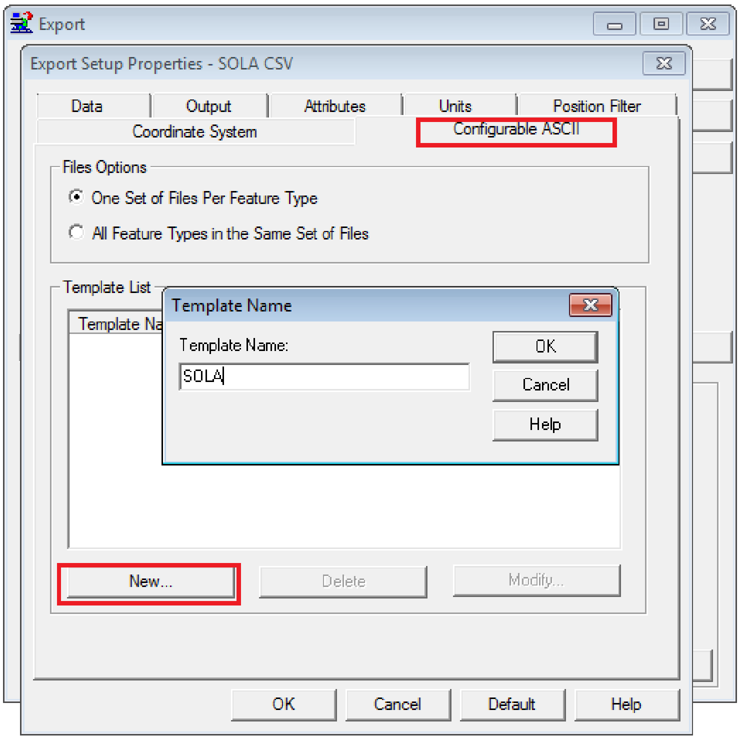
The Export Setup Properties Window will open.

5. Select the **Coordinate System** Tap.
24. Select **Use Export Coordinate System** and tap **Change…**

The Export Window will open.
25. Select **System**: UTM

Zone: 31 North
Datum: WGS84
OK

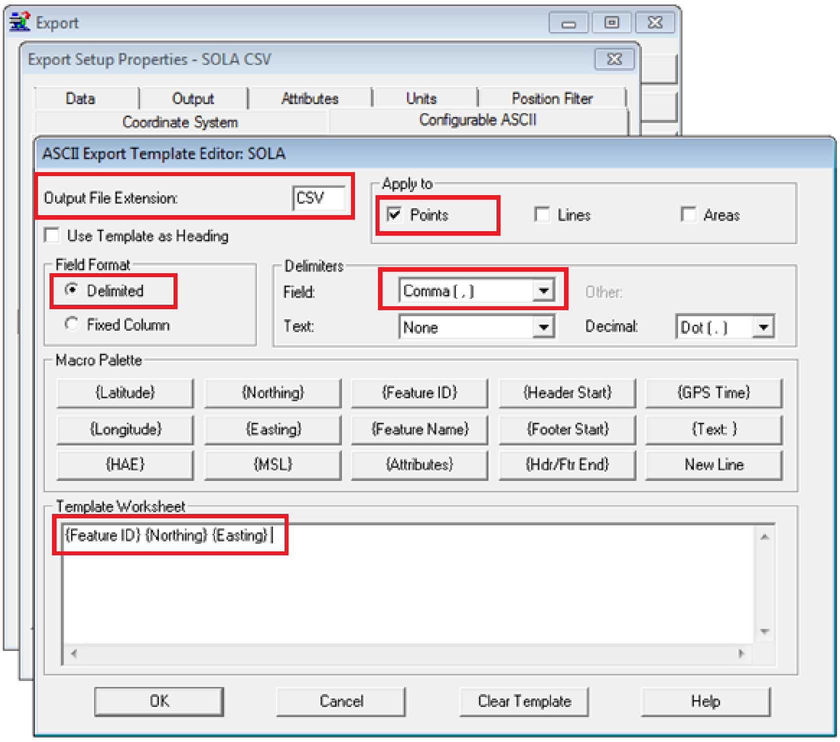
The Export Setup Properties Window will open again.



26. Select the **Configurable ASCII** Tab and **New**…
27. Enter a name for your new format (Example SOLA)

    OK

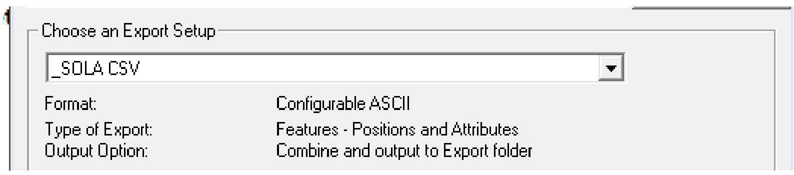
The **ASCII Export Template Editor** page will open.

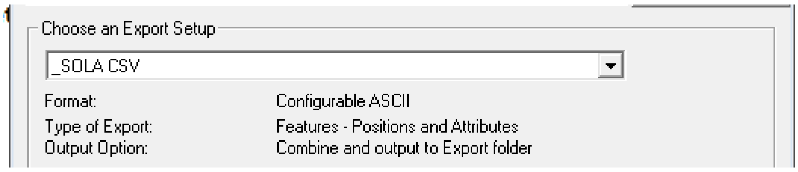


28. Enter the **Output File Extension** : CSV
29. **Apply to** : Points only
30. Select the **Field Format** : Delimited
31. Select the **Delimiters Field** : Comma (,)
32. Select the following output definitions from the Macro Palette with left mouse click:

{Feature ID}
{Easting}
{Northing}
OK
Note: Easting refers to the eastward-measured distance (or the x-coordinate) and Northing refers to the northward-measured distance (or the y-coordinate).

To use the define Export system select Select **Utilities** > **Export,** select your data file and **Choose an Export Setup:**




Choose an Export Setup
_SOLA CSV
Format:
Configurable ASCII
Type of Export:
Features - Positions and Attributes
Output Option:
Combine and output to Export folder