



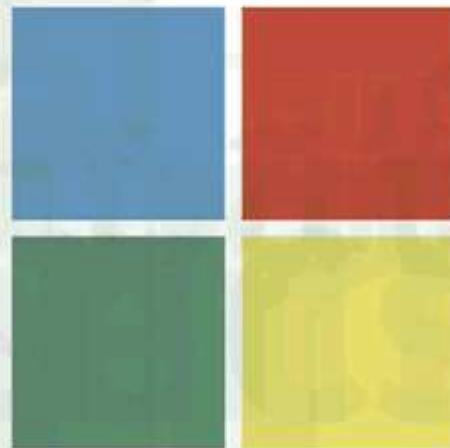
# QSIC Review of Queensland Addressing Practices

## Direction Statement

Phase Three Report

July 2006

Queensland Spatial Information Council



smart spatial solutions for Queensland

[www.qsic.qld.gov.au](http://www.qsic.qld.gov.au)



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## Acknowledgements

This document has been prepared for the Queensland Spatial Information Council (QSIC) by CTG Consulting Pty Ltd in conjunction with the Queensland Spatial Information Office (QSIO), as at July 2006.

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## CTG Consulting

## Queensland Spatial Information Council (QSIC)



Supported by the Queensland Spatial Information Office (QSIO)



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## 1 Executive Summary

The purpose of the Direction Statement is to report on the outcomes of the Envisioning Phase of the QSIC Review of Queensland Addressing Practices. The main activity of this phase was a workshop designed to capture the vision of client organisations for change.

### 1.1 Outcomes of the Workshop

The workshop concentrated on the four issues identified in the Executive Summary of the Situation Assessment document produced from the Discovery Phase of the project. These issues were:

- Diversity of address data sources
- Latency between address creation and availability
- Absence of Private Road data
- Incomplete coverage of existing data collection

Each issue was discussed at length with significant overlap between issues. Whilst the recommendations are presented as solutions to separate issues it should be understood that they form different facets of an integrated solution, to be documented in the Detailed Design Phase of this project, and should be considered and implemented as a whole. From this discussion several key, high level, recommendations for changes to the current addressing processes were proposed.

### 1.2 Key Recommendations

Following are the key recommendations from the Envision Phase of the project.

#### Issue 1 – Diversity of address data sources

##### Single Source of Address Truth

Establish an adequately resourced regulated entity, say Address Service Queensland (ASQ), that is responsible for the collection and dissemination of address data to all address customers within the state. ASQ should facilitate a significant reduction in the daily interactions between Local Government Authorities(LGA's) and address users. It should increase operational efficiencies within government through a removal of the duplication of address processing functions with government and develop an address best practice body of knowledge accessible to other agencies delivered through its services.

This agency should collect and expose address data through a varied range of services to all address users. The exposure of data should be simple, flexible and facilitate the goal of the ubiquitous use of address data (in all its forms) within government including Local Governments and Government Owned Enterprises.

No recommendation was made as to the structure of the proposed entity within an existing Agency nor its preferred home.

#### Issue 2 – Latency between address creation and visibility

##### Change the development application process to generate addresses earlier

The generation of thoroughfare names and street numbering should become part of the development approval process and development applications should include this data at their submission to Local Council.

This change should be accomplished by either universal changes to LGA's development approval processes or changes to state legislation. While the creation of this data will move into the hands of developers the ultimate control and authorisation of the proposed addresses will remain with the LGA.

Consequential to this change would be changes to Department of Natural Resources, Mines and Water (NRM&W) data sharing processes to capture this data and include it in its products in a timely fashion.

### **Issue 3 – Absence of Private Road data**

#### **Include Private Road data in the development approval process**

Private Road data should be included as part of the development approval process and include thoroughfare naming and numbering using the rules applied to normal public roads. Changes to the internal structure and numbering of these enclaves should also be controlled at the LGA level. This data should be made available through the single source repository (refer to Issue 1 above) and through the normal data sharing processes between NRM&W and LGA's requiring changes to these processes and data storage.

This recommendation, to be successfully implemented, could require changes to legislation.

#### **Identify candidate Private Roads through data matching**

Develop a project to identify and validate private road data already captured in existing databases. This project should result in a list of candidate Private Road addresses that should be validated physically. Some work to identify existing Private Roads is being undertaken in an uncoordinated and ad-hoc fashion.

### **Issue 4 – Incomplete coverage of existing data collection**

#### **Ensure universal participation in changed process**

The recommendations above should be implemented in a legislative framework that requires compliance by all LGA's, state agencies, Government Owned Corporations (GOC's) and developers state wide.

#### **Facilitate LGA's reduction in operational costs**

Part of the changed processes should be a continuous improvement in individual LGA's operational costs through the reduction in resources required to manage addressing issues. It is envisaged that this would take the form of common shared services offered through the LGAQ, ASQ, NRM&W or a combination of these agencies and could form part of the state wide program on size, shape and sustainability for councils, the agency controlling addressing could facilitate these arrangements and consider resourcing issues of LGA.

## **1.3 Next Step**

The next phase of the project Detailed Design will be a redesigned business process that encompasses the recommendations contained in this document and is designed to form a blueprint for the changed processes. This phase of the project will not deliver a technical solution but a framework that encompasses the changed processes required to implement the Envision Phase recommendations.

## **2 Purpose of the Document – The Direction Statement**

This document reports the activities of the Envision Phase of the QSIC Review of Queensland Addressing Practices

### **2.1 Outcomes from the Envision Phase**

The Envision Phase of the project delivers a set of recommendations and generalised requirements that are based on the operational inefficiencies identified in the Discovery Phase of the project. This set of recommendations was then developed through a half day workshop and recorded in this document.

### 3 Background

#### 3.1 Scope

This phase of the project takes the major issues identified during the Discovery Phase and produces a high level set of requirements that will drive the next phase of the project, that is the detailed redesign of the existing address creation, storage and dissemination.

#### 3.2 Approach

The Envisioning Phase gathered together many of the client organisations for a half day workshop to discuss the four major issues identified during the Discovery Phase. This workshop generated the requirements and recommendations for change included in this document.

While the issues discussed are addressed as separate problems with separate solutions it should be recognised that, to a large extent, the overall success of the changes are interlinked.

#### 3.3 Workshop Attendees

Organisation
Dept Natural Resources , Mines and Water
Transport
Emergency Services
Local Government and Planning
Health
Main Roads
Telstra
Australia Post
Caboolture Shire
Esk Shire
LGAQ
Information Queensland
Electoral Commission of Queensland
Brisbane City
CTG
Qld Treasury (QSIO)

## 4 Issue 1 – Diversity of Address Data Sources

### 4.1 Description

The absence of an identified authoritative source of address truth for Queensland capable of supplying a set of address services to all client organisations wishing to validate their addresses is seen as a major deficiency.

### 4.2 Recommendation

Establish an adequately resourced regulated entity, say Address Service Queensland (ASQ), that is responsible for the collection and dissemination of address data to all address customers within the state. ASQ should facilitate a significant reduction in the daily interactions between Local Government Authorities (LGA's) and address users. It should increase operational efficiencies within government through a removal of the duplication of address processing functions with government and develop an address best practice body of knowledge accessible to other agencies delivered through its services.

ASQ should be chartered to supply the following services:

- Promote the philosophy of a single source of addressing.
- Facilitate and coordinate the dissemination of textual address and spatial addressing data through a simple, flexible and low cost set of services delivered via a scalable delivery platform.
- Recommend and draft legislation designed to facilitate the changes recommended here and any address related changes in the future.
- Develop state wide address awareness.
- Facilitate the capture of new and existing Private Road information.
- Collect and expose address related data that is of use to the whole of government.
- Facilitate a reduction in the effort by LGA's by reducing the interactions between LGA's and address users and assist in the identification of resources to ensure LGA's ability to deliver timely data.
- Reduce the inefficient duplication of addressing services across client organisations by centralising the functionality and exposing the services through its delivery platform.
- Develop a centre of excellence that can be accessed by client organisations to further develop the use of accurate address data within address users.
- Provide robust quality processes to ensure the accuracy of address data sources.
- Ensure the collection and dissemination of address data is timely with a goal of being real time.
- Provide a customer focussed, flexible and responsive organisation.
- Facilitate the goal of the ubiquitous use of spatial and address data within government.

- Take a broad view of what constitutes an address and collect all representations of an address and any attributes of an address of use to users. For example, Census Collector Districts, Mesh Blocks, Business/Private/Industrial and other usage indicators, vacant or built on indicators etc.
- Facilitate the naming of all unnamed roads within Queensland.
- Develop processes to capture lease data that is likely to generate addressing issues. For example, shopping centre leases.

Figure 1 following shows a conceptual representation of how the ASQ agency could deliver services. Inherent in this model is a flow of data from LGA's to ASQ via NRM&W and others and the management of addressing enquiries such that LGA's are shielded from the burden of distributing changes and fielding numerous addressing enquiries.

Initially two sets of services are envisaged. Firstly, the online delivery of address and spatial address data to a client organisation's desktops. These functions will enable a user to validate and visualise address data. Secondly, the provision of more sophisticated address management services for client organisations that have a need for more interactive address management and have a need to contribute to the underlying data sets.

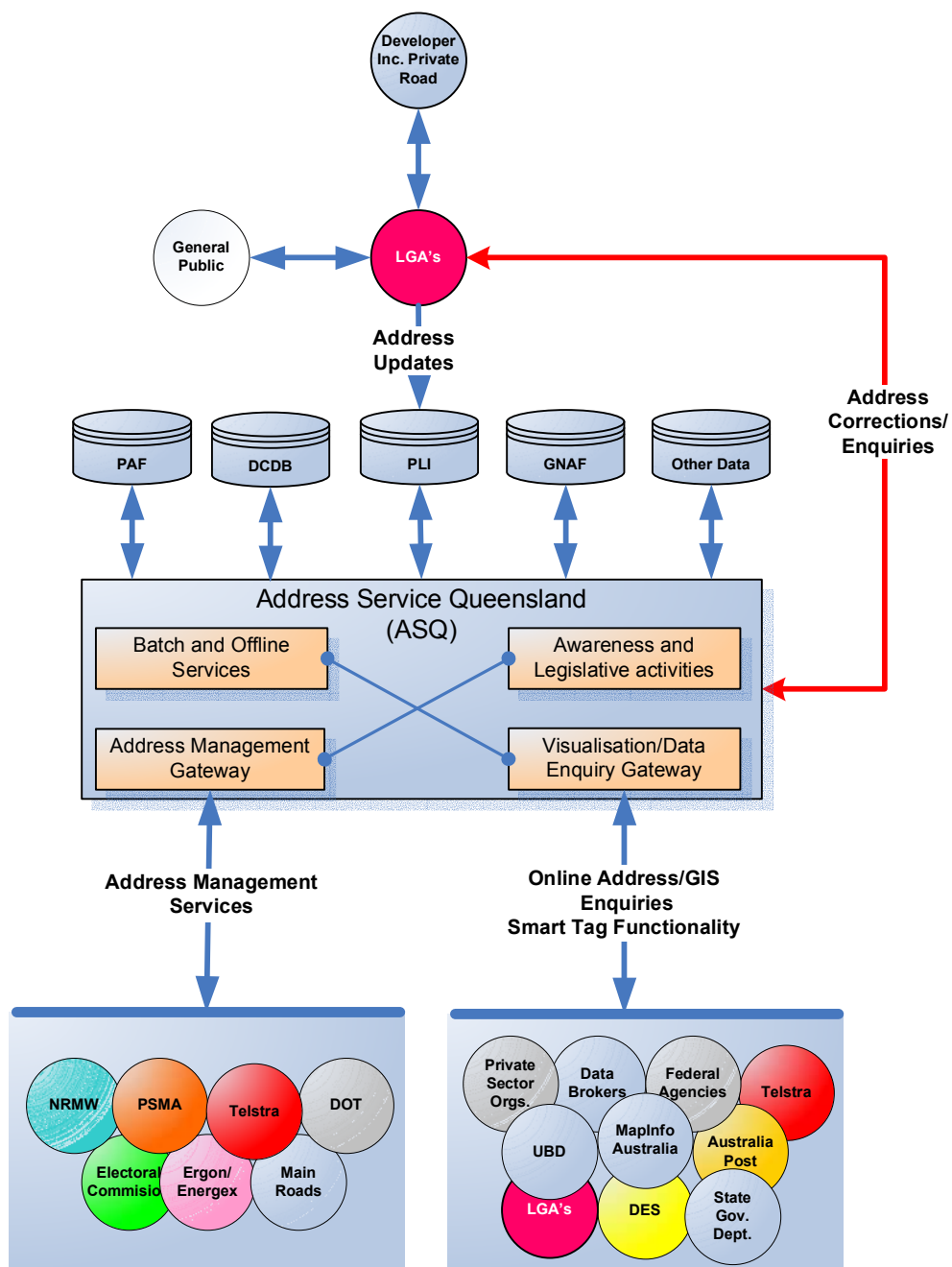


Figure 1. Conceptual QAS diagram

## 5 Issue 2 – Address Creation Latency

### 5.1 Description

Many client organisations require address data much earlier in the process than is available through the official collection processes. Amongst those that require the data as early as possible are DES, Australia Post and the utility service providers.

The existing latency forces these clients to pursue the data independently thus duplicating effort and significantly increasing the burden on LGA's. It also has public safety implications when despatching emergency services to new developments. Linked with this is the time delay between development application approvals and the sealing/registration of the survey plans, hence the general availability of this data.

### 5.2 Recommendation

#### **Change the development application process to generate addresses earlier**

The generation of thoroughfare names and street numbering should become part of the development approval process and development applications should include this data at submission to Local Council. This recommendation will put the onus on the developer to follow the rules for thoroughfare naming and numbering and apply these rules at the time of survey plan creation. These rules should also be applied to Private Road developments in order to eliminate ambiguity by addressing clients. The LGA has the responsibility to approve these proposed addresses and all subsequent client organisations will have access to these addresses.

This change should be accomplished by either universal changes to LGA's development approval processes or changes to state legislation.

Consequential to this change would be changes to NRM&W data sharing processes to capture this data and include it in its products in a more timely fashion.

It can be seen from a comparison of figures 2 and 3 following that moving the address creation process back to the development/survey plan creation, or earlier will remove all the ambiguity for client organisations requiring visibility of addressing for the development.

This change will bring significant benefits to DES, Australia Post and the utility service providers. Further discussions are required with Urban Developers Institute of Australia (UDIA) to investigate the practical and commercial implications of the proposed change.

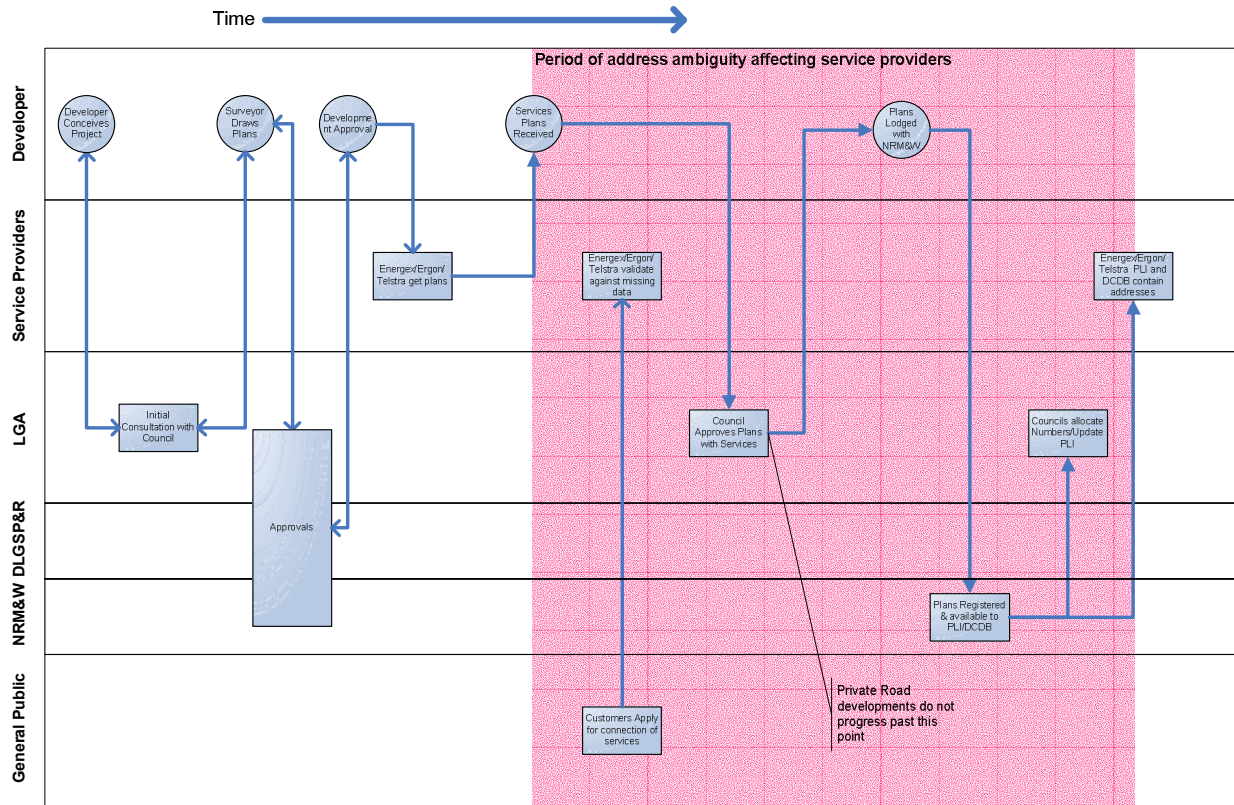


Figure 2. Current address creation process.

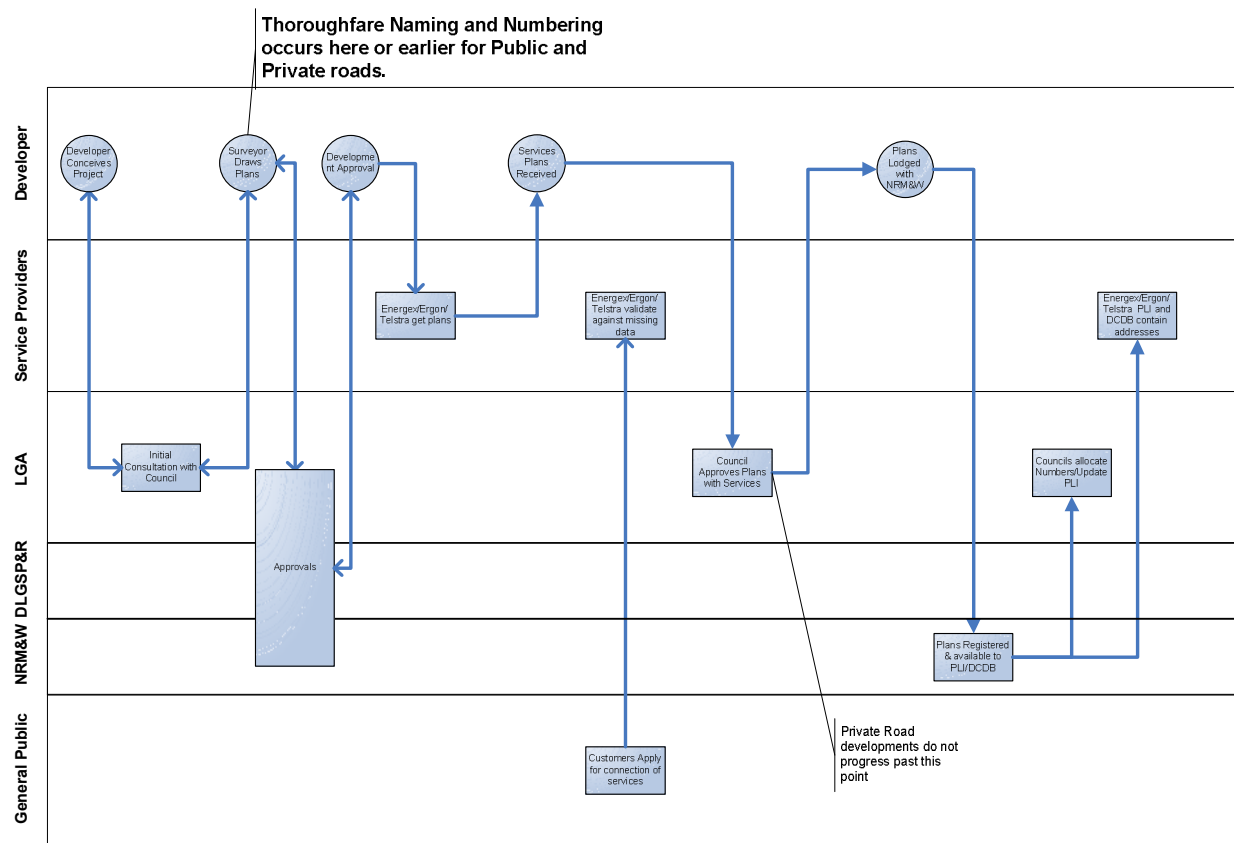


Figure 3. Proposed address creation process.

## 6 Issue 3 – Absence of Private Road Data

### 6.1 Description

The absence of Private Road data needs to be addressed for existing communities and collected for new developments in the future. Its absence is not only a safety issue but it is seen as a significant cost when trying to deliver services into these communities associate with this is the long term problem of these sub-divisions never appearing in any date sets.

### 6.2 Recommendation

#### **Include Private Road data in the development approval process**

Private Road data should be included as part of the development approval process and include thoroughfare naming and numbering using the rules applied to normal public roads. Changes to the internal structure and numbering of these enclaves should also be controlled at the LGA level. This data should be made available through the single source repository (refer to issue 1 above) and through the normal data sharing processes between NRM&W and LGA's. This would require changes to existing processes and data storage.

This type of development is becoming more common and the problem will grow to unmanageable proportions unless processes are changed now. This recommendation, to be successfully implemented, would require changes to legislation.

#### **Identify candidate Private Roads through data matching**

Develop a project to identify and validate Private Road data already captured in existing databases. This project should result in a list of candidate Private Road addresses that should be validated physically. Some work to identify existing Private Roads is being undertaken in an uncoordinated and ad-hoc fashion.

#### **Change the DCDB to accommodate this data**

For this Private Road data to become generally available the DCDB will need to add a layer that specifically identifies this data and thus differentiates it from gazetted roads.

## **7 Issue 4 – Incomplete Coverage of Existing Data**

### **7.1 Description**

While there are processes currently in place to collect data from LGA's this process is limited to a Property Location Index facility which has also not been universally adopted across all LGA's. The absence of universal coverage is a significant factor in reducing the perceived accuracy of this repository. The Discovery Phase of the project revealed there is only one large Council (Townsville City Council) which does not participate in this process, whilst many other LGA's are either late in supply and/or have incomplete data with greatly varying capacity and sophistication across councils.

### **7.2 Recommendation**

#### **Ensure universal participation in changed process**

The recommendations above should be implemented in a legislative framework that requires compliance by all LGA's state wide.

#### **Facilitate LGA's reduction in operational costs**

Part of the changed processes should be continuous improvement in individual LGA's operational costs through the reduction in resources required to manage addressing issues. It is envisaged that this would take the form of common shared services offered through the LGAQ, ASQ, NRM&W or a combination of these agencies and could form part of the state wide Triple S initiative (Size, Shape and Sustainability) for shared services for councils.

The intervention of the ASQ alone will reduce the number of interactions, address enquiries and data distribution, between LGA's and client organisations.

The processes to upload data from the LGA's should be automated and instigated from the ASQ end of the data flow. This change should be concurrent with the ability for LGA's to store changes only rather than needing to send their entire addressing data. This change will enable the data availability to be close to real time.

## **8 Conclusion**

The Envision Phase of the project has clearly illuminated the core issues to be addressed and recommended a method, at a high level, of addressing these issues. As stated earlier the issues have been discussed separately for clarity but they are merely aspects of the same problem and remedies should not be treated in isolation. The underlying principle is to reduce the complexity and duplication of addressing processes within government and provide a framework to deliver operational benefits into the future.

With the conclusion of the Envision Phase of the project the groundwork has been done to redesign the current addressing processes within Queensland. Based on the recommendations from this document a redesigned process at a high level and a business case will be produced during the next phase of the project.

## Appendix A – BPR Methodology Compliance

### Section 1. Develop Service Vision

Key Activity	N/A	Included	Notes
Gather Research Information		●	Client interviews
Develop Service Vision		●	Direction Statement

### Section 2. Develop Concept Ideas

Key Activity	N/A	Included	Notes
Develop Ideas for Service Vision		●	Workshop
Establish and Analyse Processes		●	Workshop
Identify and Assign Roles & Responsibilities	●		Out of scope
Assess Change Management and Vision	●		Out of scope
Define and Evaluate Infrastructure	●		Out of scope
Perform Service Risk Assessment & Agree Security Objectives	●		Out of scope

### Section 3. Assess Implications

Key Activity	N/A	Included	Notes
Assess Implications	●		Out of scope
Assess Implications on Management Processes	●		Out of scope
Prepare for and conduct evaluation	●		Out of scope

### Section 4. Develop Service Vision Concept

Key Activity	N/A	Included	Notes
Service Vision Concept Deliverable		●	Direction Statement

## Project Glossary

### Address

For the purposes of this project an address is considered a way of referring to a particular and unique point on the land surface of the earth. Within Queensland the Lot on Plan is commonly considered a unique identifier of this location. Therefore, every other form of addressing should be considered a way of referencing the Lot on Plan.

A single Lot on Plan may have many textual addresses associated with it. These can be different ways of representing the official address or, in the case of Private Estates, a way of addressing the internal structure of the estate. This internal structure is opaque to an LGA and addresses within this structure whilst common are technically wrong.

Using this definition we find that several common forms of addressing occur. These are textual references such as a mail delivery address and spatial references such as a latitude and longitude.

Many attributes may also be associated with an address. For example:

- Australian Bureau of Statistics (ABS) Mesh Block/ Collector District
- Australia Post Delivery Point ID
- Latitude and Longitude of its centroid
- Flat/Unit number(s)
- Business or Private use
- Electoral district(s)
- Lot Number

These attributes, and others, are often collected and stored multiple times by many client organisations and represent a significant opportunity for reducing complexity and increasing data availability by storing some in a central repository.

### Client

Clients of the Queensland Smart Address Service are organisations that will either:

- contribute new address data as an authorised supplier of addresses, or
- validate address data for their own internal use.

### Completeness

Within an address database Completeness is the measure of the coverage within the database of the target addresses that was obtained. Differs from the accuracy or error rate measurement.

### DCDB

Digital Cadastre Data Base

### Formatting

The process of taking a textual representation of an address and placing it into a structured representation using rules.

### Lot On Plan

The basic area of land under uniform property rights.

#### Matching

The process of taking an address and, through a series of rules and database lookups determining if it has a corresponding entry in the comparison database.

#### MOWPA

Multi-Occupation Without Postal Address. Areas such as retirement homes, hospitals etc that have a single postal address and an internal mail delivery structure.

#### OWPA

Objects without Postal Addresses. Buildings and other features that do not have a postal address but may be addressable in other ways such as spatially.

#### Parsing

The process of splitting an unformatted address text into its component parts such as Thoroughfare Name, Number, Locality and Postcode amongst others.

#### Private Road

A generic term that refers to any community whose address structure is uncontrolled by an LGA and is allocated by a developer. Examples of these are gated communities, retirement villages, military installations etc.

Additionally and constructed thoroughfare that is unnamed or named but under the control of an State, Federal or Local government that, for whatever reason, is not included in recognised address data sources. Examples of these would be Military bases, sports field access roads etc.

#### Vanity address

An address given by a member of the general public containing an error that is perceived to enhance the status of the address. For example a person may change their official locality to one that has a higher social status.