CadLite

Data Product Description

February 2020

Standard

This document is based on the AS/NZS ISO 19131:2008 Geographic information – Data product specifications standard. For more information, refer to www.saiglobal.com/online/.

Disclaimer

PSMA Australia believes this publication to be correct at the time of printing and does not accept responsibility for any consequences arising from the use of the information herein. Readers should rely on their skill and judgement to apply information to particular issues.

This work is copyright. Apart from any use as permitted under the Copyright Act 1968, no part may be reproduced by any process without prior written permission of PSMA Australia Limited.

Contents

1. Overview 5
1.1 Data product specification title 5
1.2 Reference date 5
1.3 Responsible party 5
1.4 Language 5
1.5 Topic category 5
1.6 Distribution format 5
1.7 Glossary 5
1.8 Informal description of the data product 5
1.9 Copyright in CadLite dataset 6
1.10 Privacy 6
2. Specification Scope 7
2.1 Scope identification – dataset 7
2.2 Scope identification – themes 7
3. Data Product Identification 8
3.1 Title 8
3.2 Alternate titles 8
3.3 Abstract 8
3.4 Purpose 8
3.5 Topic category 8
3.6 Geographic description 8
4. Data Content and Structure 10
4.1 Feature-based data 10
4.2 Feature-based application schema (data model) 10
4.3 Data dictionary 11
4.4 Feature-based content scope 11
5. Reference System 12
5.1 Spatial reference system 12
5.2 Temporal reference system 12
5.3 Reference system scope 12
6. Data Quality 13
6.1 Positional accuracy 13
6.2 Coordinates Referencing the GDA 2020 Datum 13
6.3 Attribute accuracy 14

6.4 Logical consistency 14
6.5 Topological consistency 14
6.6 Completeness 15
7. Data Capture 16
7.1 Cadastre theme 16
7.2 Property theme 16
7.3 Property point geometries 16
7.4 Data capture scope 16
8. Data Maintenance 17
8.1 Update frequency 19
8.2 Maintenance scope 19
9. Data Product Delivery 20
9.1 Delivery Medium Information 20
9.2 Units of delivery 20
9.3 Medium name 20
9.4 Delivery format information 21
10. PSMA Data 23
Appendix A – CadLite Data Model Diagram 25
Appendix B – Data Dictionary 26
CADASTRE 26
PROPERTY 33

Tables

Table 1: CAD 26
Table 2: JURISDICTION_ID (CAD) 27
Table 3: CAD_POLYGON 27
Table 4: CAD_POINT 28
Table 5: STRATA/GROUP RECORDS 29
Table 6: PARCEL_STATUS_AUT 30
Table 7: PARCEL_STATUS_AUT Codes 31
Table 8: PARCEL_TYPE_AUT 31
Table 9: PARCEL_TYPE_AUT Codes 31
Table 10: PROPERTY_CAD 33
Table 11: PROPERTY 33
Table 12: JUSIDICTION_ID (PROPERTY) 34
Table 13: PROPERTY_POINT 34
Table 14: PROPERTY_POLYGON 35

1. Overview

1.1 Data product specification title

CadLite Product Description

1.2 Reference date

February 2020

1.3 Responsible party

PSMA Australia Limited
Unit 6, 113 Canberra Avenue, GRIFFITH ACT 2603 Australia
T: +61 2 6260 9000 | F: +61 2 62029001 | E: support@psma.com.au
URL: http://www.psma.com.au | ABN: 23 089 912 710

1.4 Language

English

1.5 Topic category

Boundaries for cadastral and property areas within Australia.

1.6 Distribution format

PDF

1.7 Glossary

PSMA maintains a glossary of common terms with their definitions and also includes acronyms and abbreviations that are commonly used in relation to PSMA products and services. The glossary is available at the PSMA website at https://www.psma.com.au/glossary-and-terms

1.8 Informal description of the data product

The CadLite dataset comprises two themes:

- Australian Cadastral Boundaries
- Property Boundaries

PSMA Australia is currently working to improve the data maintenance processes which have significantly enhanced its accuracy from previous releases. This improvement in processes will be continually reviewed to produce the highest standards possible in accuracy and quality control.

Data maintenance is carried out at PSMA Australia to enforce the data integrity (both spatial and aspatial). Quality assurance processes are used to check the structural integrity of the data.

1.9 Copyright in CadLite dataset

Please see www.psma.com.au/psma-data-copyright-and-disclaimer for the Copyright and Disclaimer Notice for the CadLite dataset.

1.10 Privacy

PSMA products and services should not contain any personal names or other personal information. PSMA undertakes reasonable data cleansing steps as part of its production processes to ensure that is the case. If you think that personal information may have inadvertently been included in PSMA products or services, please contact support@psma.com.au

2. Specification Scope

The Feature Based Content, Reference Systems, Data Quality, Data Capture and Data Maintenance also have defined scopes regarding the data accuracy, geometry, metadata and temporal considerations of the data release cycle.

2.1 Scope identification – dataset

CadLite Dataset

Level

Dataset

Level name

CadLite

Extent

Spatial coverage of Australia's landmass including External Territories and Coastal Islands (including Lord Howe Island). All data is supplied by the appropriate jurisdiction quarterly.

2.2 Scope identification – themes

CadLite Themes

Level

Theme

Level name

- Cadastre
- Properties

Extent

Spatial coverage of Australia's cadastral and property parcels.

Cadastre is a digital representation of all cadastral boundaries including easements and road/drainage casements for Australia.

Property is a digital representation of land parcels for which rates may be levied by Local Governments.

3. Data Product Identification

3.1 Title

CadLite

3.2 Alternate titles

CadLite for Australia

3.3 Abstract

The CadLite Product Description (an ISO 19131 compliant description) provides an optimised quality geometric description and a set of basic attributes of the Australian cadastral and property parcels. The CadLite dataset is created from from multiple sources including jurisdictional cadastral data which is revised regularly and supplied in varying formats and at different levels of quality.

3.4 Purpose

Cadastre is a seamless national cadastral database of Australia's land parcels.

It is designed to meet the needs of organisations that require a graphical representation of land parcel boundaries on a broad scale, to integrate with other data in servicing their business needs.

This graphical index of digital cadastre or registered land parcels can be used to reference other geographic and land administrative data available from respective jurisdictions.

The Property theme of CadLite provides a national dataset that identifies the three relationships that exist between a property and a cadastral parcel. These are:

1. where one cadastral parcel is equal to one property
2. where many cadastral parcels make up one property
3. where one cadastral parcel contains many properties.

CadLite incorporates Local Government Area boundaries from the Administrative Boundaries dataset. The common geometric base allows users to apply the spatial data to the full extent of coverage. This common infrastructure facilitates data integration with supplementary data supplied in the future.

3.5 Topic category

Polygons defined by coordinate spatial data (latitude and Longitude) with associated textual metadata.

3.6 Geographic description

The CadLite datasets cover the boundaries within the complete national geography of Australia (AUS). The Bounding Box for this data is as follows;

North bounding latitude: -8°

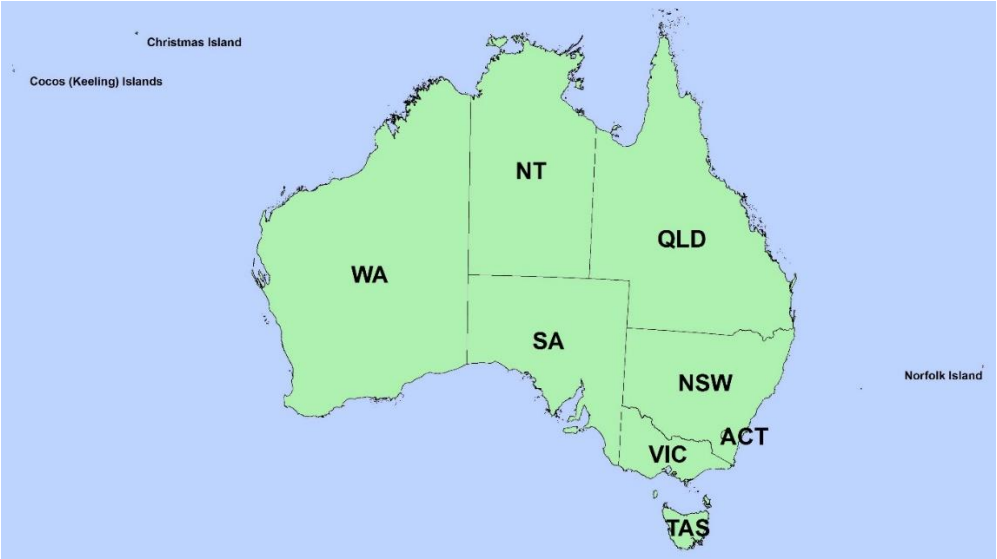
South bounding latitude: -45˚

East bounding longitude: 168˚

West bounding longitude: 96˚

This area covers the land masses of Australia, including External Territories and offshore islands (Christmas Island, Cocos (Keeling) Islands, and Norfolk Island).

The spatial domain is described by the polygon:



Geographic extent name

AUSTRALIA INCLUDING EXTERNAL TERRITORIES – AUS – Australia – Australia

The States and Territories within Australia are represented by the following:

State or Territory Name	Abbreviation	Character Code
New South Wales	NSW	1 (or 01)
Victoria	VIC	2 (or 02)
Queensland	QLD	3 (or 03)
South Australia	SA	4 (or 04)
Western Australia	WA	5 (or 05)
Tasmania	TAS	6 (or 06)
Northern Territory	NT	7 (or 07)
Australian Capital Territory	ACT	8 (or 08)
Other Territories	OT	9 (or 09)

***Note**: PSMA has aligned Other Territories (OT) with the Australian Bureau of Statistics (ABS). It includes the Territory of Christmas Island, Territory of Cocos (Keeling) Islands, Jervis Bay Territory and more recently the inclusion of Norfolk Island. OT does not include any other external Territory.*

4. Data Content and Structure

CadLite is a feature-based product. A data model is included (Appendix A) with an associated data dictionary (Appendix B).

4.1 Feature-based data

The feature type is spatial polygon for the various CadLite parcels. The table below outlines the features and their integration into the datasets.

Entity	Description	Integration	Rules
Cadastre	A Cadastral Parcel (CAD) will usually only have 1 polygon defining its boundary. However, in some cases, it is necessary to have many polygons defining a CAD's boundary. These cases are usually when road/river easements run through the CAD.	A CAD has: ▪ 0 or 1 related gazetted Locality record. Most of the time will be related to a Locality. The only time it will not have a Locality is when the CAD falls within an unincorporated area (e.g. NT). ▪ 0 or 1 related LGA record. Most of the time will be related to an LGA. Will only not be related to an LGA where the CAD falls within an unincorporated area (e.g. ACT). ▪ 1 to many related Property records	A CAD must reference a gazetted Locality (as opposed to an ungazetted Locality).
Property	A Property may have many polygons defining its boundary. If a Property has strata, these will be captured as points.	A Property has: ▪ 0 to many related CAD records ▪ 0 or 1 related G-NAF Address record. Note there may be a chance this will have to be updated to handle 1 property having many G-NAF addresses (e.g. Multiple dwellings on a single property).	Ideally, the property should have at most 1 G-NAF Address, but this is not a rule set in the database. Property should be related to at least 1 CAD record.
Local Government Areas (LGAs)	An LGA may have many polygons defining its boundary.	An LGA has: ▪ 0 to many related Locality records. Usually, an LGA will only have 1 locality, but this is not always the case (e.g. NSW). ▪ 0 to many related CAD records.	No special rules
State	Every dataset references a state.	All other datasets reference a state persistent identifier.	No special rules

4.2 Feature-based application schema (data model)

The CadLite Data Model Diagram is set out in Appendix A.

4.3 Data dictionary

Feature-Based Feature Catalogue

The feature catalogue in support of the application schema is provided in Appendix B. Spatial attributes are added to the feature catalogue in the same manner as other attributes for completeness and conformance to the application schema.

Note: *All Persistent Identifiers that do not identify spatial geometry in the Integrated Data Model are unique nationally and are preceded by the state abbreviation, e.g. CAD_PID = NSW12345678.*

All Persistent Identifiers for spatial geometry are unique within the associated dataset, and within the state they reside, e.g. CAD_POLYGON_PID = 1234567.

The following table refers to all tables in the Feature Catalogue.

Column	Abbreviation	Description
Name	Name	The name of the column in the Integrated Database
Data Type	Data type	The Oracle data type of the column. Mapinfo TAB files have similar data types.
Description	Description	A description of the column and what the expected contents are
Primary Key?	Prim Key	If 'Y' then this column must always have a unique value. (has # entry in the data model tables)
Obligation	Man	Y = mandatory. If 'Y' (mandatory), this column is populated with data. That is, all ACTIVE records must have values in this column.
Foreign Key Table	F K TABLE	Represents a column in the 'Foreign Key Table' that this column is referred to by another table. (has * entry in the data model tables)
Foreign Key Column	F K Col	Represents a table in the Integrated Database that this column is referred to.
10 Character Alias	10 Char Alias	An alias for this column name - up to 10 characters maximum. Used to define the name of the column when in ESRI Shapefile format.

For all tables, the Persistent Identifier (_pid), date_created and date_retired fields are governed by the ICSM Policy and Guidelines for Incremental Update. The guidelines can be accessed by following the link below.

www.icsm.gov.au/icsm/harmonised_data_model/model1/incremental_up-date_guidelines.pdf

4.4 Feature-based content scope

All geometry and metadata for polygons and points within the CadLite Dataset.

5. Reference System

5.1 Spatial reference system

GDA 94 or GDA 2020

5.2 Temporal reference system

Gregorian calendar

5.3 Reference system scope

The spatial objects and temporal collection periods for the CadLite Datasets.

6. Data Quality

6.1 Positional accuracy

Positional accuracy is an assessment of the closeness of the location of the spatial objects in relation to their true positions on the earth's surface.

The positional accuracy includes:

- a horizontal accuracy assessment
- a vertical accuracy assessment

The horizontal and vertical positional accuracy are the assessed accuracy after all transformations have been carried out.

The relative spatial accuracy of CadLite reflects that of the jurisdictional source data. The positional accuracy can vary between the jurisdictions and also for each jurisdiction the spatial accuracy can vary considerably with urban areas generally more accurate than rural and remote areas. Generally, the cadastre accuracy is +/- 2 metres in most urban areas and +/- 10 metres in most rural and remote areas. However, there are exceptions where the cadastre accuracy is +/- 20 metres, which is more common on the fringes of some urban areas and +/- 200 metres in rural and remote areas. No "shift" of data as a means of "cartographic enhancement" to facilitate presentation has been employed for any real-world feature.

***Note**: The accuracy of geometric representation is given by the difference between the position of the geometric representation of an object and its absolute position, as measured with respect to the geodetic network.*

6.2 Coordinates Referencing the GDA 2020 Datum

From the November 2019 publication, spatial features are available referencing the GDA 2020 datum. These coordinates are produced using a coordinate transformation from GDA 94 using the following parameters.

```
shift_x = 0.06155,
shift_y = -0.01087,
shift_z = -0.04019,
rotate_x = -0.0394924,
rotate_y = -0.0327221,
rotate_z = -0.0328979,
scale_adjust = -0.009994
```

6.3 Attribute accuracy

Attribute accuracy is an assessment of the reliability of values assigned to features in the dataset in relation to their true 'real world' values.

Key attributes (name and the unique identifier) have a high degree of accuracy in the order of 99.09%. Other attributes derived from the processing of supplied data may have a lower degree of accuracy, but less than previously released data. All attribute accuracies are dependent on the data accuracy supplied to PSMA Australia Limited.

For this product, feature and attribute accuracy is a measure of the degree to which the features and attribute values of spatial objects agree with the information on the source material. The allowable error in attribute accuracy was previously up to 5%.

A precise attribute accuracy assessment may not always be possible. In these cases, an intuitive estimate of the expected attribute accuracy or the likely maximum error based on previous experience is acceptable.

6.4 Logical consistency

Logical consistency is a measure of the degree to which data complies with the technical specification. The allowable error in logical consistency previously ranged from 3% to 5%. The test procedures are a mixture of software scripts and onscreen, visual checks.

The data structure has been tested for conformance with the data model. The following have been tested and confirmed to conform:

- File names
- Attribute names
- Attribute lengths
- Attribute types
- Attribute domains
- Attribute order in the file
- Object type
- Compulsory attributes populated

6.5 Topological consistency

Topological consistency is the measure of how features spatially relate to other features within and across themes. Topological inconsistencies are identified using a combination of automated rules and visual analysis. Where topological inconsistencies are identified, they are notified back to the supplier organisation for remediation at the source. Some minor topological inconsistencies are corrected during product processing using automated rules. The level of topological consistency is dependent on the data supplied to PSMA.

During product processing, there is no attempt to enforce topological consistency across state and territory borders. Cross border topological consistency is a complex issue, and PSMA

continues to engage the Federal, State, and Territory governments of Australia to improve the topological consistency of spatial datasets across these borders.

6.6 Completeness

Completeness is an assessment of the extent and range of the dataset with regard to completeness of coverage, completeness of classification and completeness of verification.

Dataset, theme, and layer coverage

National for the cadastre and the property for which rates are levied.

Attribute completeness

All attributes for each object are populated.

Temporal accuracy is applicable to most of the current release.

Quality scope

Polygon and point geometry accuracy and attribute accuracy for all included areas.

7. Data Capture

All spatial data is supplied by the jurisdictions (Commonwealth, states and territory governments) through various agencies.

7.1 Cadastre theme

The digital cadastral boundaries and their legal identifiers have been derived from the relevant bodies from each Australian State and Territory jurisdiction. The cadastre theme contains parcels which are essentially the smallest area of land capable of sale without further approval to subdivide. It may consist of more than one piece. A parcel defines the area of land that is owned; each parcel is referenced by a land title which defines who the owner is and the conditions of ownership.

7.2 Property theme

The digital property boundaries and their identifiers have been derived from a combination of cadastral data and valuations data from the relevant bodies from each Australian State and Territory jurisdiction.

A property is an area of land recognised by Local Government (or equivalent agency in the ACT) as a singularly valued/rateable entity. It may comprise one or more cadastral parcels or part of a parcel with boundaries not needing to align between the two (although commonly this is the case). Where the property is comprised of multiple parcels, the parcels do not have to be contiguous.

7.3 Property point geometries

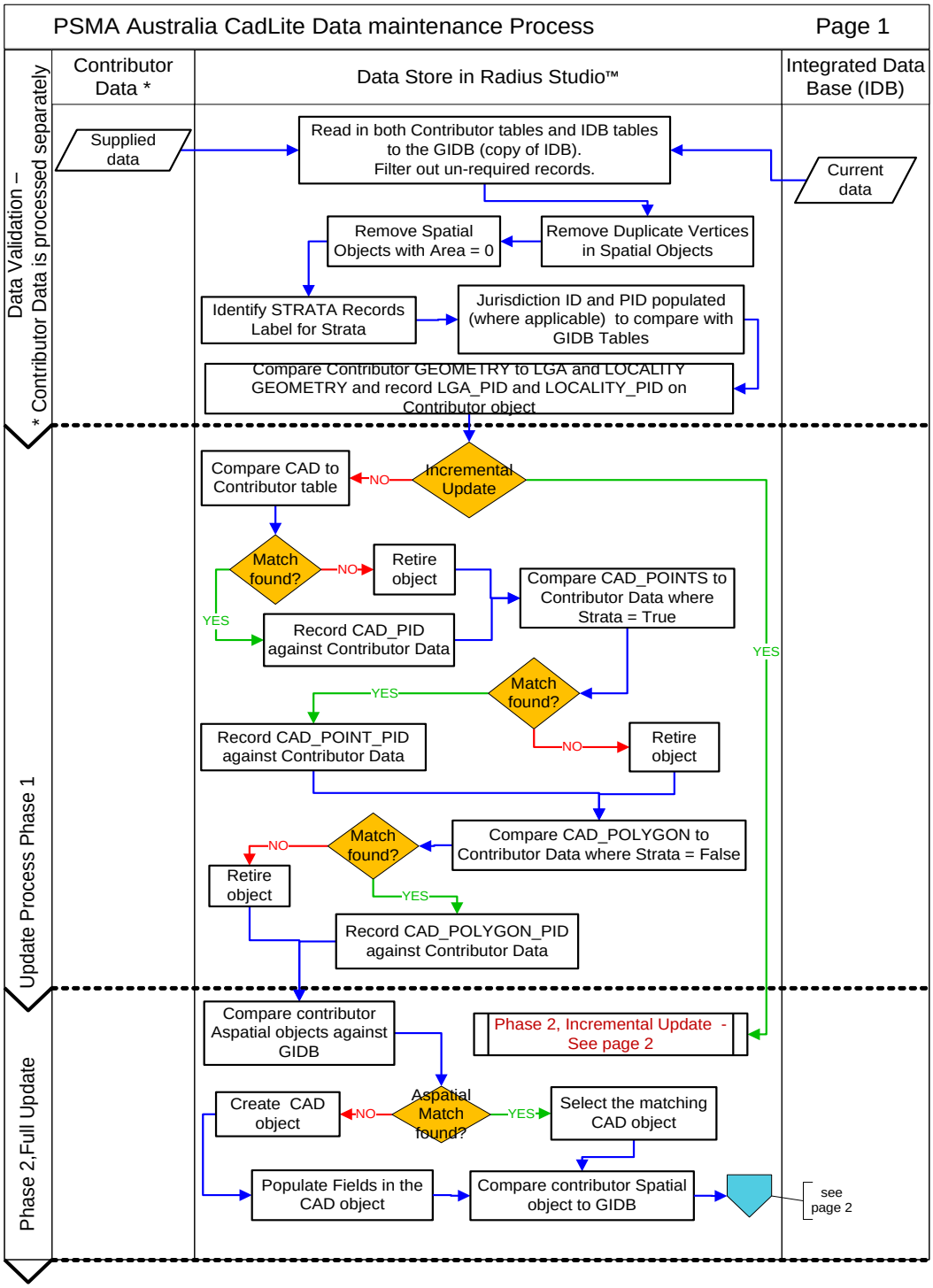
The property theme contains property points in only the NT and QLD jurisdictions. The point location represent locations where multiple property interests are recorded at a site and reflect the unique way that data is supplied from contributors.

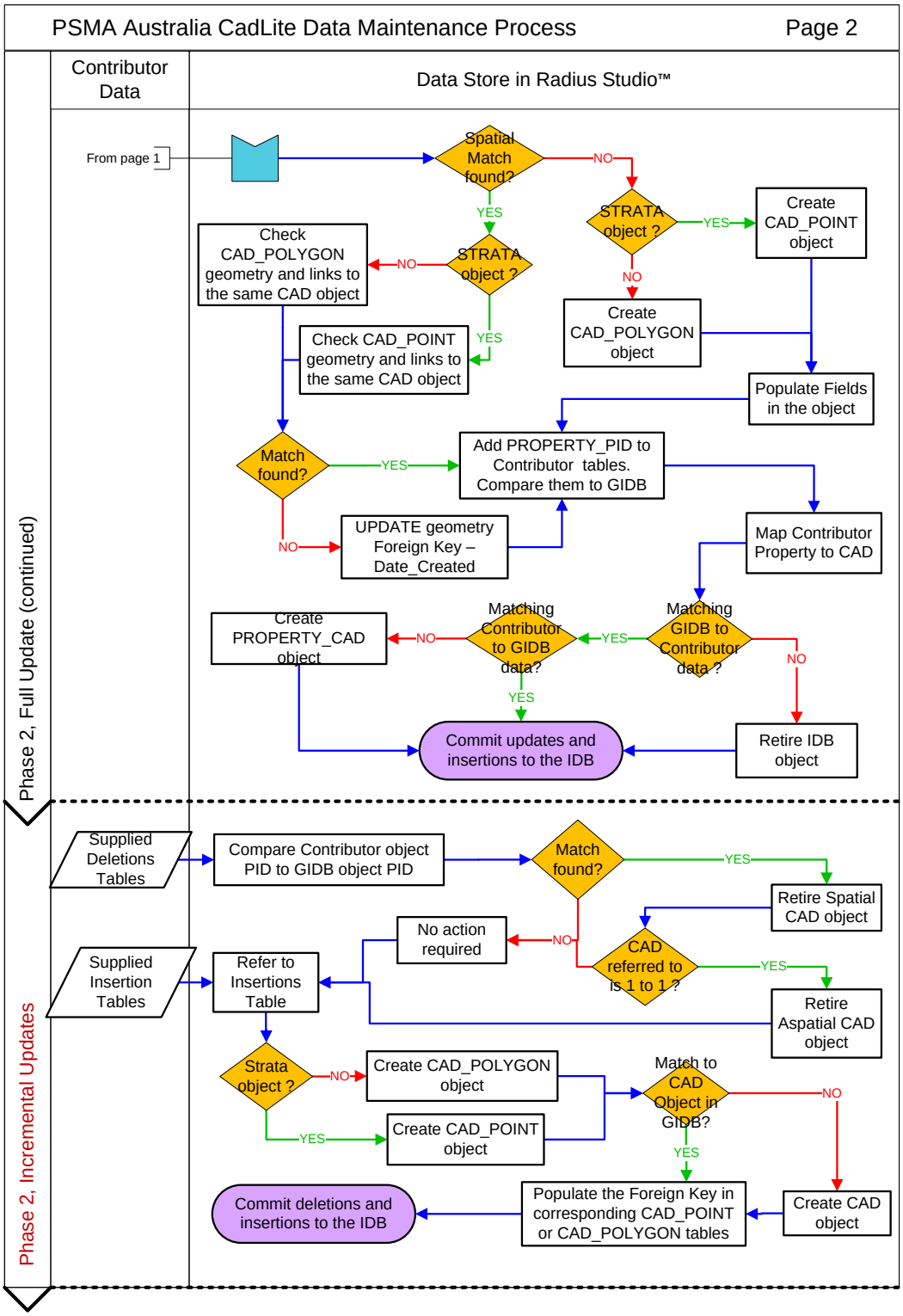
7.4 Data capture scope

Data for changed objects within the current release time period.

8. Data Maintenance

The process map below summarises the maintenance steps followed.




PSMA Australia CadLite Data Maintenance Process
Page 2
Contributor Data
Data Store in Radius Studio™
Phase 2, Full Update (continued)
From page 1
Spatial Match found?
NO
YES
STRATA object ?
YES
Create CAD_POINT object
NO
Create CAD_POLYGON object
STRATA object ?
NO
Check CAD_POLYGON geometry and links to the same CAD object
YES
Check CAD_POINT geometry and links to the same CAD object
Populate Fields in the object
Match found?
YES
Add PROPERTY_PID to Contributor tables. Compare them to GIDB
NO
UPDATE geometry Foreign Key – Date_Created
Map Contributor Property to CAD
Create PROPERTY_CAD object
NO
Matching Contributor to GIDB data?
YES
Matching GIDB to Contributor data ?
NO
YES
Commit updates and insertions to the IDB
Retire IDB object
Phase 2, Incremental Updates
Supplied Deletions Tables
Compare Contributor object PID to GIDB object PID
Match found?
YES
Retire Spatial CAD object
NO
No action required
CAD referred to is 1 to 1 ?
YES
Retire Aspatial CAD object
Supplied Insertion Tables
Refer to Insertions Table
Strata object ?
NO
Create CAD_POLYGON object
YES
Create CAD_POINT object
Match to CAD Object in GIDB?
NO
YES
Commit deletions and insertions to the IDB
Populate the Foreign Key in corresponding CAD_POINT or CAD_POLYGON tables
Create CAD object

8.1 Update frequency

PSMA Australia releases updates to all datasets every quarter in February, May, August and November. The CadLite Dataset is updated as deemed necessary by the jurisdictions. Updates are inserted in the CadLite Dataset product as they are supplied by data contributors.

8.2 Maintenance scope

PSMA Australia's data maintenance occurs for existing objects with changed geometry and metadata, as well as data for new objects within the release time period.

9. Data Product Delivery

PSMA Australia is the crucial link between the supply and demand sides of the market for the fundamental national spatial datasets that it offers under the banner of PSMA Data. The organisation eliminates the difficulties of negotiating multiple license agreements with Australian governments and the problems of integrating the data into a seamless, consistent national dataset. Furthermore, the existence of PSMA Australia minimises the duplication of effort within the market for organisations wishing to access national data.

Access to PSMA Data is enabled through a network of value-added resellers who are licensed by, and work closely with PSMA Distribution, the wholly-owned subsidiary of PSMA Australia. Value-added resellers create many powerful and varied applications that use PSMA Data. PSMA Distribution provides strategic support to value-added resellers to ensure that both the public and private sectors obtain the maximum benefit from the use of PSMA Data. PSMA Australia's website www.psma.com.au provides a value-added reseller directory to assist those interested in accessing PSMA Data.

Current users of PSMA Data should contact their value-added reseller for clarification or guidance before contacting PSMA Distribution.

For further information on accessing PSMA Data, or becoming a value-added reseller contact:

PSMA Distribution
Unit 6, 113 Canberra Avenue, Griffith ACT 2603
T: 02 6260 9000
F: 02 6260 9001
E: enquiries@psma.com.au
W: www.psma.com.au

9.1 Delivery Medium Information

PSMA Systems is a cutting-edge data platform that has been developed to hold, quality assure and distribute PSMA Australia's suite of national spatial datasets. It streamlines PSMA Australia's data delivery. The core of PSMA Systems is the Integrated Database (IDB), which holds our suite of datasets in one location and within a single environment.

PSMA Australia provides data updates to licensees through data download. This service is supported by a detailed user guide.

9.2 Units of delivery

Datasets as prescribed in the license agreement brokered by PSMA Distribution.

9.3 Medium name

Online.

9.4 Delivery format information

MapInfo

Format Name:

TAB – MapInfo Professional™

Specification:

The MapInfo TAB format is a popular geospatial vector data format for geographic information systems software. It is developed and regulated by MapInfo as a proprietary format. This format includes files with the following extensions: *.tab, *.dat, *.id, *.map

TAB files support geospatial standards such as Open GIS, the OGC, ISO, W3C and others.

Language:

English

Shape

Format name:

Shape – ESRI™

Specification:

This format includes files with the following extensions: *.shp, *.shx, *.dbf

ESRI Shapefile Technical Description, an ESRI White Paper, July 1998. Follow this link: www.esri.com/library/whitepapers/pdfs/shapefile.pdf

Language:

English

Oracle Dump

Format Name:

Oracle 11g Dump Format

Specification:

A binary-format file created by the Oracle Export utility.

Language:

English

Oracle Data Pump

Format Name:

Oracle 11g Data Pump Format

Specification:

The Data Pump (dump) file set is made up of one or more files that contain table data, database object metadata, and control information. More information is available from ***Oracle***.

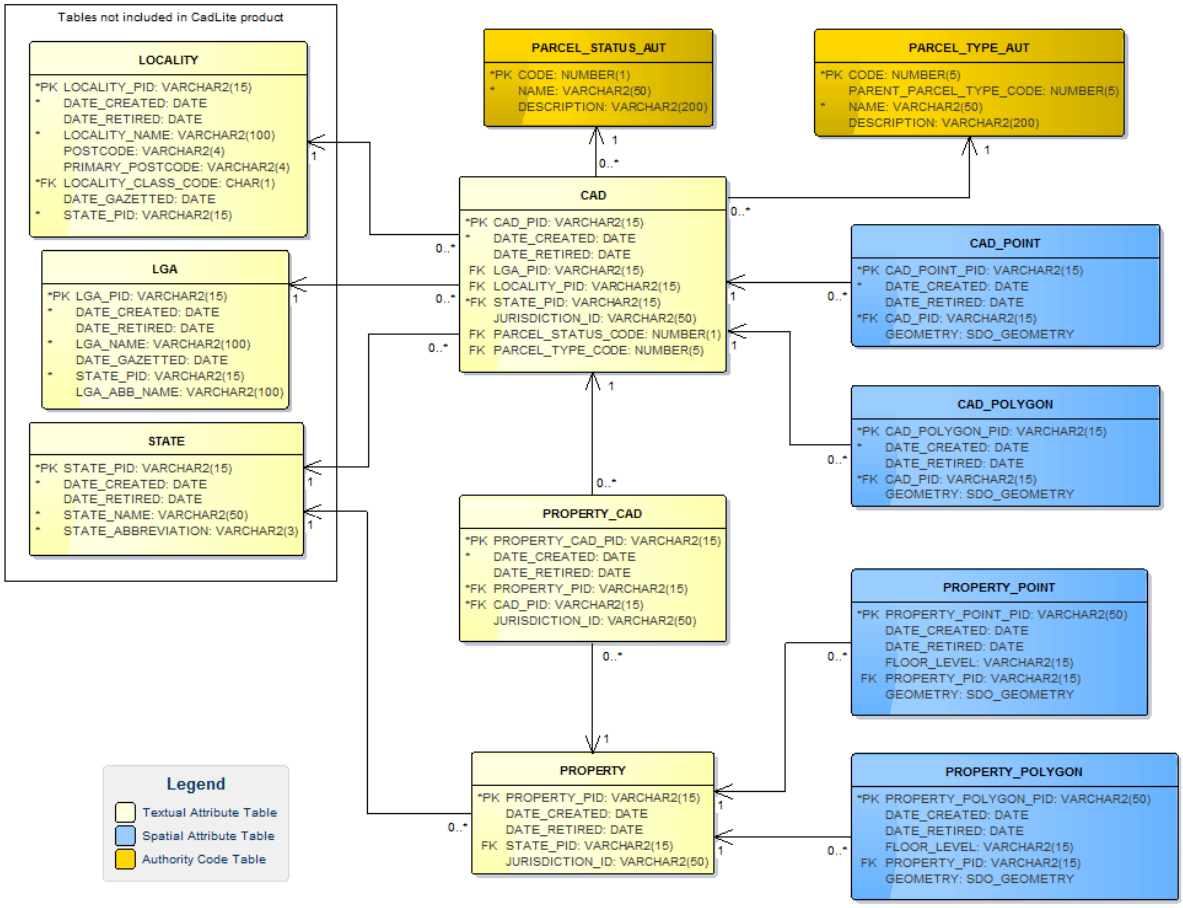
Language:

English

10. PSMA Data

DATASET	ACCESS	THEME	LAYER
Administrative Boundaries	Open Data (**www.data.gov.au**) PSMA Partner Network	ABS Boundaries 2011	2011 ABS Mesh Blocks
			Indigenous Location (ILOC)
			Indigenous Areas (IARE)
			Indigenous Region (IREG)
			Remoteness Areas (RA)
			Socio-Economic Indexes for Areas (SEIFA)
			Urban Centre Localities /Section of State
			Significant Urban Areas (SUA)
		ABS Boundaries 2016	2016 ABS Mesh Blocks and Statistical Areas
			2016 ABS Indigenous Regions, Areas and Locations
			2016 Urban Centre and Locality - Section of State - Significant Urban Area
			2016 Remoteness Areas (RA)
			2016 Socio-Economic Indexes for Areas (SEIFA)
		Electoral Boundaries	Commonwealth Electoral Boundaries
			State Electoral Boundaries
		Local Government Areas (LGAs)	
		Suburbs/Localities	
		State Boundaries	
		Town Points	
		Wards	
CadLite	PSMA Partner Network	Cadastre	
		Property	
Geoscape	PSMA Partner Network	Buildings	
		Surface Cover	2 Metres
			30 Metres
		Trees	
G-NAF	Open Data (**www.data.gov.au**) PSMA Partner Network	Geocoded physical addresses	
Land Tenure	PSMA Partner Network	Land Tenure	
Features of Interest	PSMA Partner Network	Features of Interest	
Postcodes	PSMA Partner Network	Postcode Boundaries	
Transport & Topography	PSMA Partner Network	Transport	Roads
			Rail
			Rail Stations
			Airports
		Hydrology	
		Greenspace	

Appendix A – CadLite Data Model Diagram



Appendix B – Data Dictionary

CADASTRE

Table 1: CAD

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CAD_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	CAD_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N		-	-	DT_RETIRE
JURISDICTION_ID	varchar2(50)	A data value based on parcel description elements from contributor datasets. Previously known as PARCEL_ID in CadLite. Sibling CAD_POLYGON records must have the same JURISDICTION_ID.	N	Y	-	-	JRSDTN_ID
LGA_PID	varchar2(15)	The LGA identifier this CAD object falls within. Only should be null where CAD falls in unincorporated area.	N		LGA	LGA_PID	LGA_PID
LOCALITY_PID	varchar2(15)	The gazetted locality identifier the CAD object falls in. Only should be null where CAD falls in unincorporated area.	N		LOCALITY	LOCALITY_PID	LOC_PID
STATE_PID	varchar2(15)	State or territory persistent identifier.	N	Y	STATE	STATE_PID	STATE_PID
PARCEL_STATUS_CODE	Number(1)	Parcel status.	N	Y	PARCEL_STATUS_AUT	CODE	PARCL_STTS
PARCEL_TYPE_CODE	Number(5)	Parcel type.	N	N	PARCEL_TYPE_AUT	CODE	PARCL_TYPE

Jurisdiction_ID

JURISDICTION_ID values are derived from the jurisdictional datasets generally by concatenating parcel description elements into one data value and separating the elements with a "/" character.

Table 2: JURISDICTION_ID (CAD)

State	Field	Parcel Type Code	Concatenation
ACT	JURISDICTION_ID	1,3, 201,202 4,5,6,10	DIST + "/" + DIV + "/" + SECTION + "/" + BLOCK + "/" + UNIT ID
NSW		1,2,3 4,5,6 7,8,9,10,11	LOTNUMBER + "/" + SECTIONNUM + "/" + PLANLABEL LOTNUMBER + "/" + SECTIONNUM + "/" + PLANLABEL where available, CADID for all remaining CADID
NT	JURISDICTION_ID	1,2	PAR_LOC + "/" + PAR_LTO + "/" + PAR_PAR + "/" + PAR_PT PAR_LOC + "/" + PAR_LTO + "/" + PAR_PAR + "/" + PAR_PT + "/" + UNIT_NUM
OT	JURISDICTION_ID	1 201,202 1 1	PIPARCEL (applies to Christmas and Cocos Keeling Islands) LOT_NUMBER + "/" + PIPARCEL (applies to Christmas and Cocos Keeling Islands) DIST + "/" + DIV + "/" + SECTION + "/" + BLOCK (applies to Jervis Bay) LOT + "/" + SECTION + "/" + PORTION (applies to Norfolk Island)
QLD	JURISDICTION_ID	1,2,3,8,10 4,5,6	LOT_NUM + "/" + PLAN_NUM SEG_PAR
SA	JURISDICTION_ID	1,2,6	PLAN_T + PLAN + "/" + PARCEL_T + PARCEL
TAS	JURISDICTION_ID	1,2,201,202 8	LOT + "/" + PLAN Val(mid$(UFI,4,20))
VIC	JURISDICTION_ID	1,2 4,5	LOT_NUMBER + "/" + PLAN_NO + "~" + ALLOTMENT + "/" + SEC + "/" + BLOCK + "/" + PORTION + "/" + PARISHC PFI
WA	JURISDICTION_ID	1,4,6,8,9 10 201,202	PIPARCEL PIPARCEL LOT_NUMBER + "/" + PIPARCEL

Table 3: CAD_POLYGON

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CAD_POLYGON_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents. The PID is only unique to the state or territory the feature is located within.	Y	Y	-	-	CD_PLY_PID

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
CAD_PID	varchar2(15)	CAD persistent identifier.	N	Y	CAD	CAD_PID	CAD_PID
GEOMETRY	MDSYS.SDO_GEOMETRY	Polygon geometry.	N	Y	-	-	GEOMETRY

Table 4: CAD_POINT

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CAD_POINT_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents. The PID is only unique to the state or territory the feature is located within.	Y	Y	-	-	CD_PNT_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
CAD_PID	varchar2(15)	CAD Persistent Identifier.	N	Y	CAD	CAD_PID	CAD_PID
GEOMETRY	MDSYS.SDO_GEOMETRY	Point geometry.	N	Y	-	-	GEOMETRY

Defining Strata/Group Records in CadLite

Each state/territory provides for land managed under a form of common and/or strata title. Typically this is land/parcel held by a single legal entity that is then divided into smaller portions of entitlement commonly referred to as a lot or unit. Commonly these sites occur in buildings with multiple stories, townhouses, duplexes and extend to warehouses, shopping centres, offices and would typically be used in one of the following capacities...

- residential
- commercial
- retail
- mixed use (a mixture of two or more of residential, retail, commercial)
- serviced apartments
- retirement villages
- caravan parks
- resorts

With different legislation used to manage parcels in each jurisdiction, there is a variation in the way strata/group parcels are respectively recorded. The spatial representation differs from using point or polygon representations to having no spatial representation at all. Presently PSMA Australia uses a point (largely simplify the data) for the spatial representation of these parcels but investigations are ongoing to provide a more detailed polygon representation which will need an accompanying update to the CadLite data model

The method PSMA Australia uses to identify strata/group records in each jurisdiction is included in the following table;

Table 5: STRATA/GROUP RECORDS

ACT	ACT separate group/ strata records into A-Class and B-Class units. The A-Class units are converted to points as these are multi-story units and will be identified as VERTICAL STRATA with PARCEL_TYPE_CODE = 202 The B-Class one are at ground level and can be represented as polygons. These will be identified as HORIZONTAL STRATA with PARCEL_TYPE_CODE = 201
NSW	(Strata/Group) Strata records are identified by selecting records from propertylot and the prepared lot data as follows: Select records from lot and propertylot where CadID values match and lot.classsubty = 3 Save the result as a new table (eg., strata_part1) This file contains the majority of strata records. Additional strata records can be identified where multiple lots are associated with a single PlanLabel: Select records from lot and propertylot where lot.planlabel = propertylot.planlabel and lot.lotnumber <> propertylot.lotnumber Save the result as a new table (eg., strata_part2 for example) Select records from lot where PlanLabel is a unique value Save as a separate table (eg. unique_planlabel) Select records from Step 3 (strata_part2) that match the unique PlanLabel values of Step 5 (unique_planlabel) Append these records to strata_part1 Data Cleansing.... Remove records where lotnumber = “” Check for strata records that fall within lot records and have different PlanLabel values. Delete any found. Check for strata records that fall within lot records and have same lotnumber and plannumber values. Delete any found. Convert the strata records to point objects and assign CAD_POINT_PID values equal to the associated CAD_POLYGON_PID + “/” + Lot Number. Only the point features in the PSMA product, will have Cad records where Parcel Type = 2 (Strata). Polygon features, where classsubty = 4 in the source data, will have Cad records where Parcel Type = 3 (Stratum)
NT	(Strata/Group) A point table representing parcels within Aboriginal communities is provided by the jurisdiction. While not ‘Strata’ records, these are processed for inclusion in the CAD_POINT table. Additionally, a file called NT_UNIT_ADDRESS_POINTS supplied with GNAF contains addressing information. This Unit Address File contains point data that is consistent with

	typical Strata data. Within this file there is a field called UNIT_NUM. Where the UNIT_NUM value is greater than 0 this is where there is strata. So, Strata points for the NT should be derived from the combination of points in the supplied NT_CADASTRE_POINTS file (in the CADASTRE supply) as well as points in the NT_UNIT_ADDRESS_POINTS file (in the GNAF supply where there exists in a cadastre parcel UNIT_NUM values greater than 0). A new source polygon table, PROPOSED CADASTRE has recently been supplied which are areas mostly around Aboriginal Communities. These polygons have the same title information as the Aboriginal Community point source data. As a result, those points with the same title information as a proposed polygon have been removed. All remaining point features in the PSMA product have Parcel Type = 2 (Strata) as per previous processing methodology.
QLD	(Strata/Group) Separate point dataset provided by jurisdiction. The file to use is F – Building Format Plans. There will be two files supplied: an update file and a deletion file. Cad records where Parcel Type = 2 (Strata) are now associated with Polygon features where LOT = 0, 00, 000, or 0000. Additionally, Polygon features where there is another Polygon feature with the same PLAN and has a LOT of 0, 00, 000 or 0000 are assigned Parcel Type = 2 (Strata). Cad records where Parcel Type = 3 (Stratum) are also now associated with Polygon features where COVER_TYPE = V and PARCEL_TYPE = L in the source data. Both these COVER_TYPES were previously not used in the PSMA CAD product.
SA	(Strata/Group) Vertical Strata records are separated from the cadastre where they can be identified {Plan_T="S" and Level <>0} or {Plan_T="C" and Level <>0} in jurisdiction data. These Strata polygons are converted to point objects. All points AND polygons where Plan_T = "S" or Plan_T = "C" are attributed with Parcel Type = 2 (Strata) in the PSMA CAD product
TAS	(Strata/Group) Strata records are separated from cadastre where the 'base' parcel can be identified (LOT = 0). Where LOT = 0 and Tenure_TY = 9 this is the Strata Body corporate footprint; Where Tenure_Ty = 10 these are lots of a Strata scheme consisting of one level, ie. HORIZONTAL STRATA. These will be retained as polygons. Where Tenure_TY = 11 these are lots of a Strata where there is more than one level, ie. VERTICAL STRATA. These will be converted to point objects. Where Tenure_TY = 13, 14 or 17 these will be classified as Strata, retained as polygons and be assigned PARCEL_TYPE_CODE = 2.
VIC	Any Parcels with DESC_TYPE = 12 (Multi Lot) will be identified as a Strata Parcel. These parcels will be replaced by points except where LOT_Number contains CM. Any Parcels with DESC_TYPE = 15 and PLAN_NO like 'PS%', 'SP%' or 'RP%' will be identified as a Strata Parcel and retained as polygons. Where Parcels identified as Strata do not include an underlying base parcel a polygon will be generated from the relevant Property data or Cadastral data based on the common Plan_No.
WA	(Strata/Group) Strata records separated from the cadastre where Lot_Type="STPLN" or Lot_Type = "SSPLN" in the original jurisdictional data. Strata polygons where Lot_Type = "STPLN" are considered to be VERTICAL STRATA and will be converted to point objects. Strata Polygons where Lot_Type = "SSPLN" are considered to be HORIZONTAL STRATA and are retained as polygons. Polygon BASE Parcels are retained from the source data where the removal of STRATA causes a "hole" in the Cadastral fabric.

Table 6: PARCEL_STATUS_AUT

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CODE	number(1)	Code.	Y	Y	-	-	CODE
NAME	varchar2(50)	Name of parcel status type.	N	Y	-	-	NAME
DESCRIPTION	varchar2(200)	Description of parcel status type.	N	N	-	-	DESCRIPTION

Table 7: PARCEL_STATUS_AUT Codes

CODE	NAME	DESCRIPTION
1	Registered	A parcel which has a title issued. This is the default value.
2	NotRegistered	A parcel whose boundaries have been sourced from a plan of subdivision (proposed or authorised) prior to the issue of a title. Its boundaries are subject to change.

Table 8: PARCEL_TYPE_AUT

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
CODE	number(5)	Code.	Y	Y	-	-	CODE
NAME	varchar2(50)	Name of parcel type.	N	Y	-	-	NAME
DESCRIPTION	varchar2(200)	Description of parcel type.	N	N	-	-	DESCRIPTIO

Table 9: PARCEL_TYPE_AUT Codes

CODE	PARENT_ PARCEL_ TYPE_ CODE	NAME	DESCRIPTION
1		LOT PARCEL	A spatial representation of surveyed land referred to in a land title. This is the most common form of parcel and not specifically defined by any other parcel type.
2		STRATA	Parcel identified in a plan representing a strata subdivision.
201	2	STRATA - HORIZONTAL	Parcel in a plan representing a strata subdivision identified to contain a horizontal configuration in general terms.
202	2	STRATA - VERTICAL	Parcel in a plan representing a strata subdivision identified to contain a vertical configuration in general terms.
3		STRATUM	Parcel identified in a plan representing land as being volumetric or stratum.
4		ROAD-ROAD	Parcel identified in a plan representing land typically set aside for road infrastructure.
5		ROAD-INTERSECTION	Parcel identified in a plan representing land typically set aside for intersecting roads.
6		ROAD-OTHER	Parcel identified in a plan representing land typically set aside for other types of road reserve which may include closed roads, road pathways or corridors.

CODE	PARENT_ PARCEL_ TYPE_ CODE	NAME	DESCRIPTION
7		CROSSING	Parcel identified in a plan representing land typically set aside to define a crossing over other land.
8		WATER	Parcel identified in a plan representing land typically set aside for water infrastructure.
9		RAIL	Parcel identified in a plan representing land typically set aside for rail infrastructure.
10		EASEMENT	Parcel identified in a plan representing land defined as an easement over other parcels.
11		LOT - OTHER	Parcel of land that cannot be fully identified, differentiated or delineated. These parcels are largely lands under the control of the Crown or its

PROPERTY

Table 10: PROPERTY_CAD

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
PROPERTY_CAD_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	PR_CAD_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
PROPERTY_PID	varchar2(15)	Property Persistent Identifier.	N	Y	-	-	PR_PID
CAD_PID	varchar2(15)	CAD Persistent Identifier.	N	Y	CAD	CAD_PID	CAD_PID
JURISDICTION_ID	varchar2(50)	Jurisdiction identifier.	N	Y	-	-	JRSDTN_ID

Table 11: PROPERTY

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
PROPERTY_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	PR_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
STATE_PID	varchar2(15)	State Persistent Identifier.	N	Y	STATE	STATE_PID	STATE_PID
JURISDICTION_ID	varchar2(50)	Jurisdiction identifier.	N	Y	-	-	JRSDTN_ID

Table 12: JUSIDICTION_ID (PROPERTY)

State	Field	Concatenation
ACT	JURISDICTION_ID	TITLE + "/" + UNIT
NSW	JURISDICTION_ID	PROPID
NT	JURISDICTION_ID	VOLUME_TYP + "/" + VOLUME_NO + "/" + FOLIO_NO
QLD	JURISDICTION_ID	PROPERTY_ID
SA	JURISDICTION_ID	ASSNO_TENSEQNO
TAS	JURISDICTION_ID	PID
VIC	JURISDICTION_ID	PFI
WA	JURISDICTION_ID	VPU_VE_NUMBER

Table 13: PROPERTY_POINT

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
PROPERTY_POINT_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	PR_PT_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
FLOOR_LEVEL	varchar2(15)	Property point floor level.	N	N	-	-	FLOOR_LEV
PROPERTY_PID	varchar2(15)	Property Persistent Identifier.	N	Y	PROPERTY	PROPERTY_PID	PR_PID
GEOMETRY	MDSYS.SDO_GEOMETRY	Point geometry.	N	Y	-	-	GEOMETRY

Table 14: PROPERTY_POLYGON

Name	Data Type	Description	Prim Key	Man	F K TABLE	F K Col	10 Char Alias
PROPERTY_POLYGON_PID	varchar2(15)	The Persistent Identifier is unique to the real world feature this record represents.	Y	Y	-	-	PR_PY_PID
DATE_CREATED	date	Date this record was created.	N	Y	-	-	DT_CREATE
DATE_RETIRED	date	Date this record was retired.	N	N	-	-	DT_RETIRE
FLOOR_LEVEL	varchar2(15)	Property polygon floor level.	N	N	-	-	FLOOR_LEV
PROPERTY_PID	varchar2(15)	Property Persistent Identifier.	N	Y	PROPERTY	PROPERTY_PID	PR_PID
GEOMETRY	MDSYS.SDO_GEOMETRY	Polygon geometry.	N	Y	-	-	GEOMETRY