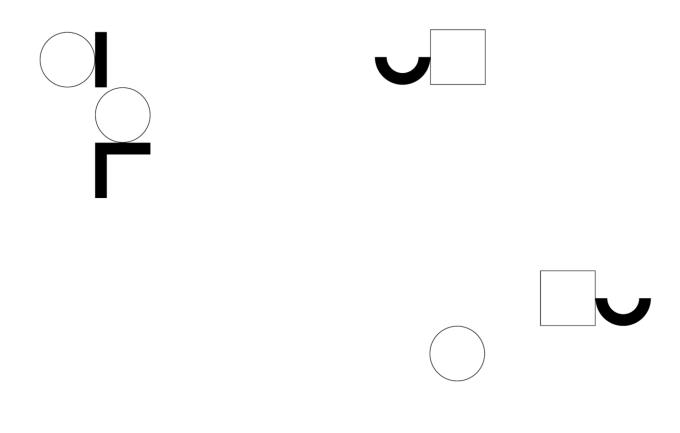


# Planning Insights

**Product Guide** Version 1.0





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## Preface

### **Responsible Party**

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### Copyright and disclaimer

Please see geoscape.com.au/legal/data-copyright-and-disclaimer/

### Privacy

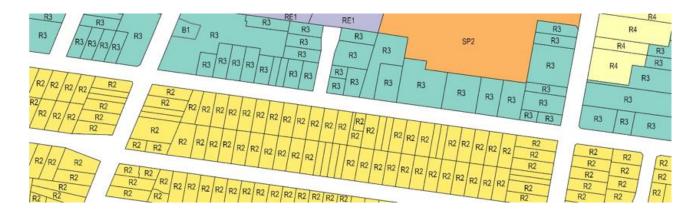
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## **Product Version**

1.0

## Overview

Planning Insights is a comprehensive representation of planning zone and overlay information applicable to land parcels and addresses across Australia. Planning Insights aims to provide insights to enable a greater understanding of how land can be developed and to inform about limitations and specific characteristics of planning sites.



Planning Insights is designed to meet the needs of organisations that require a representation of zoning and overlay information for land parcels and addresses at both a local and broad scale. The attribution provided within Planning Insights allows for the application of the data across a wide range of commercial, government and research use.

Geoscape Australia welcomes your feedback on our Planning Insights product. We also publish regular updates on the development of our products on the Geoscape website (<u>www.geoscape.com.au</u>).

## **Technical Description**

Planning Insights is created by spatially intersecting planning zone and overlay data with Geoscape's Cadastre product. The G-NAF (Geocoded National Address File) product is then spatially related to the linked cadastre parcels via a point (G-NAF address) in polygon (Cadastre) relationship. Source attributes are mapped and standardised to provide a coherent definition across Australia. Additional attributes have been generated and integrated by Geoscape to support the source information as well as to provide convenience in the use and representation of the dataset.

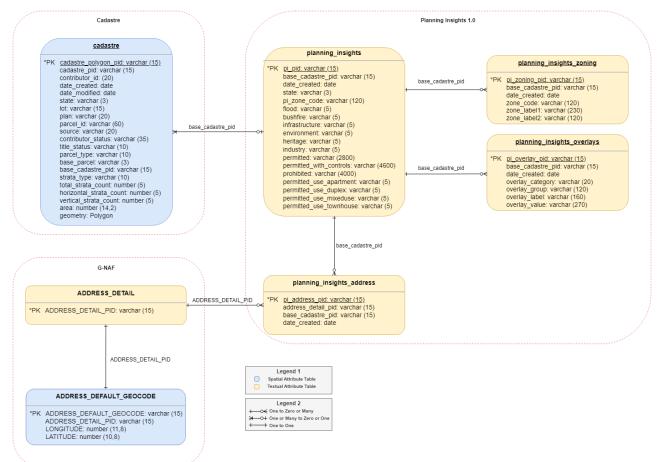
Planning Insights is updated and released regularly and has integrated relationships with other Geoscape Products. Further information regarding attributes, quality, coverage, and product release details are outlined below.

### Linkages

Planning Insights is integrated with the following Geoscape products:

- Cadastre
- G-NAF

The joins used to link to these products are shown below, with attributes used in the joins described.

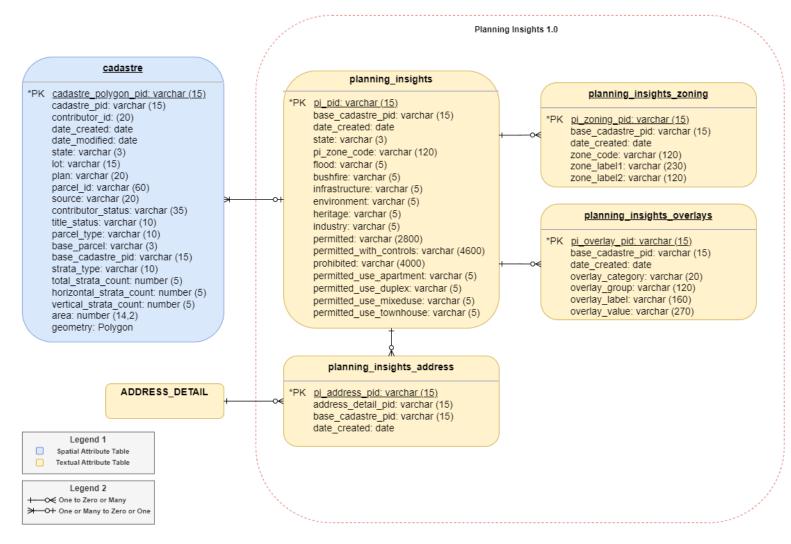


### Data Tables

Planning Insights consists of four tables:

Data Table	Description
planning_insights	Provides a broad compilation of information related to planning zone, overlay categories, and permitted and prohibited uses for each parcel.
planning_insights_zoning	Provides detailed planning zone information for each cadastral parcel including the zone code or codes applied to the parcel and their associated descriptive labels.
planning_insights_overlays	Provides detailed overlay information, such as flood, bushfire and heritage overlays for each cadastral parcel.
planning_insights_address	Provides a linkage between Geoscape's G-NAF (Geocoded National Address File) product and Planning Insights through the address_detail_pid and base_cadastre_pid. Geoscape create this linkage through spatial intersection between G-NAF points and Cadastre polygons that have a primary linkage to Planning Insights.

### Data Model



### **Data Dictionary**

### planning\_insights

Attribute	Data Type	Description	Primary Key	Mandator
pi_pid	Character String (15)	Unique persistent identifier for the planning_insights record.	Yes	Yes
base_cadastre_pid	Character String (15)	The cadastral identifier used to traverse Planning Insights tables and link to Cadastre.	No	Yes
date_created	Date	The date the record is first introduced to the Geoscape product.	No	Yes
state	Character String (3)	The abbreviated name of the State or Territory that the record resides within.	No	Yes
pi_zone_code	Character String (120)	The planning zone code provided by the jurisdiction or council that is related to the parcel. Where two or more zones relate to the parcel, a single zone code has been selected to preserve the 1:1 relationship to the cadastre table. Detailed zoning information is obtained from the planning_insights_zoning table that provides the many to one relationships to planning zones.	No	No
flood	Character String (5)	Indicates if a flood overlay intersects the parcel.	No	No
bushfire	Character String (5)	Indicates if a bushfire overlay intersects the parcel.	No	No
nfrastructure	Character String (5)	Indicates if an infrastructure overlay intersects the parcel.	No	No
environment	Character String (5)	Indicates if an environment overlay intersects the parcel.	No	No
heritage	Character String (5)	Indicates if a heritage overlay intersects the parcel.	No	No
industry	Character String (5)	Indicates if an industry overlay intersects the parcel.	No	No
permitted	Character String (2800)	A list of uses permitted at the parcel separated by a ';' character.	No	No
permitted_with_controls	Character String (4600)	A list of uses permitted, with permission, at the parcel separated by a ';' character.	No	No
prohibited	Character String (4000)	A list of uses prohibited at the parcel separated by a ';' character.	No	No
permitted_use_apartment	Character String (5)	Indicates whether apartments are permitted at the parcel.	No	No
permitted_use_duplex	Character String (5)	Indicates whether duplexes are permitted at the parcel.	No	No
permitted_use_mixeduse	Character String (5)	Indicates whether mixed use developments are permitted at the parcel.	No	No
permitted_use_townhouse	Character String (5)	Indicates whether townhouses are permitted at the parcel.	No	No

### planning\_insights\_zoning

Attribute	Data Type	Description	Primary Key	Mandatory
pi_zoning_pid	Character String (15)	Unique persistent identifier for the planning_insights_zoning record.	Yes	Yes
base_cadastre_pid	Character String (15)	The cadastral identifier used to traverse Planning Insights tables and link to Cadastre.	No	Yes
date_created	Date	The date the record is first introduced to the Geoscape product.	No	Yes
zone_code	Character String (120)	The planning zone code provided by the jurisdiction or council.	No	Yes
zone_label1	Character String (230)	Descriptive information about the planning zone or planning zone use.	No	No
zone_label2	Character String (120)	Ancillary descriptive information about the planning zone or planning zone use.	No	No

### planning\_insights\_overlays

Attribute	Data Type	Description	Primary Key	Mandatory
pi_overlay_pid	Character String (15)	Unique persistent identifier for the planning_insights_overlays record.	Yes	Yes
base_cadastre_pid	Character String (15)	The cadastral identifier used to traverse Planning Insights tables and link to Cadastre.	No	Yes
date_created	Date	The date the record is first introduced to the Geoscape product.	No	Yes
overlay_category	Character String (20)	A high-level grouping for flood, bushfire, heritage, infrastructure, environment and industry overlay types only. Relates to the high-level overlay attributes provided in the planning_insights table (e.g. flood, bushfire, environment, etc. attributes)	No	No
overlay_group	Character String (120)	A low-level grouping of overlay types that covers all records.	No	Yes
overlay_label	Character String (160)	A label describing the overlay.	No	No
overlay_value	Character String (270)	Ancillary information describing the overlay.	No	No

### planning\_insights\_address

Attribute	Data Type	Description	Primary Key	Mandatory
pi_address_pid	Character String (15)	Unique persistent identifier for the planning_insights_address record.	Yes	Yes
address_detail_pid	Character String (15)	The G-NAF identifier used to link Planning Insights to addresses.	No	Yes
base_cadastre_pid	Character String (15)	The cadastral identifier used to traverse Planning Insights tables and link to Cadastre.	No	Yes
date_created	Date	The date the record is first introduced to the Geoscape product.	No	Yes

### **Domain Values**

#### planning\_insights

#### state

Domain Value	Description
ACT	The data is located within the Australian Capital Territory.
NSW	The data is located within the state of New South Wales.
NT	The data is located within the Northern Territory.
QLD	The data is located within the state of Queensland.
SA	The data is located within the state of South Australia.
TAS	The data is located within the state of Tasmania.
VIC	The data is located within the state of Victoria.
WA	The data is located within the state of Western Australia.

#### flood

Domain Value	Description
true	Indicates that a flood overlay intersects the parcel.
false	Indicates that a flood overlay does not intersect the parcel. This can occur when no flood overlays are available for a particular area.

#### bushfire

Domain Value	Description
true	Indicates that a bushfire overlay intersects the parcel.
false	Indicates that a bushfire overlay does not intersect the parcel. This can occur when no bushfire overlays are available for a particular area.

### infrastructure

Domain Value	Description
true	Indicates that an infrastructure overlay intersects the parcel.
false	Indicates that an infrastructure overlay does not intersect the parcel. This can occur when no infrastructure overlays are available for a particular area.

#### environment

Domain Value	Description
true	Indicates that an environment overlay intersects the parcel.
false	Indicates that an environment overlay does not intersect the parcel. This can occur when no environment overlays are available for a particular area.

### heritage

Domain Value	Description
true	Indicates that a heritage overlay intersects the parcel.
false	Indicates that a heritage overlay does not intersect the parcel. This can occur when no heritage overlays are available for a particular area.

#### industry

Domain Value	Description
true	Indicates that an industry overlay intersects the parcel.
false	Indicates that an industry overlay does not intersect the parcel. This can occur when no industry overlays are available for a particular area.

#### permitted\_use\_apartment

Domain Value	Description					
true	Indicates that apartments can be built at the site based on zoning information.					
false	Indicates that apartments cannot be built at the site based on zoning information.					
maybe	Indicates that apartments cannot be built at the site based on zoning information. A 'maybe' flag signifies that other factors besides the zoning may come into play to determine whether apartments can be built. This could relate to the location of the cadastre (whether it is in a city centre or rural town), the size of the parcel (potentially more cadastre would have to be purchased alongside the cadastre to meet total area requirements to build this type of building) as well as other factors. For example, in NSW there are standardised zone codes that are applied across the state (e.g. R3 Medium Density Residential). There will likely be different expectations of what can be developed for a parcel with this zone type in a rural town like Bathurst in comparison with a city centre like Parramatta. It is recommended that local controls and specifics of the site are consulted where a 'maybe' value exists to better understand local constraints.					
<null></null>	It is unknown whether duplexes can be built at the site. This can occur if no zone or permitted use information can be linked to the parcel.					

### permitted\_use\_duplex

Domain Value	Description					
true	Indicates that duplexes can be built at the site based on zoning information.					
false	Indicates that duplexes cannot be built at the site based on zoning information.					
maybe	Indicates that duplexes can potentially be built at the site based on zoning information. A 'maybe' flag signifies that other factors besides the zoning may come into play to determine whether duplexes can be built. This could relate to the location of the cadastre (whether it is in a city centre or rural town), the size of the parcel (potentially more cadastre would have to be purchased alongside the cadastre to meet total area requirements to build this type of building) as well as other factors. For example, in NSW there are standardised zone codes that are applied across the state (e.g. R3 Medium Density Residential). There will likely be different expectations of what can be developed for a parcel with this zone type in a rural town like Bathurst in comparison with a city centre like Parramatta. It is recommended that local controls and specifics of the site are consulted where a 'maybe' value exists to better understand local constraints.					
<null></null>	It is unknown whether duplexes can be built at the site. This can occur if no zone or permitted use information can be linked to the parcel.					

### permitted\_use\_mixeduse

Domain Value	Description					
true	Indicates that mixed use developments can be built at the site based on zoning information.					
false	Indicates that mixed use developments cannot be built at the site based on zoning information.					
maybe	Indicates that mixed use developments can potentially be built at the site based on zoning information. A 'maybe' flag signifies that other factors besides the zoning may come into play to determine whether mixed use developments can be built. This could relate to the location of the cadastre (whether it is in a city centre or rural town), the size of the parcel (potentially more cadastre would have to be purchased alongside the cadastre to meet total area requirements to build this type of building) as well as other factors. For example, in NSW there are standardised zone codes that are applied across the state (e.g. R3 Medium Density Residential). There will likely be different expectations of what can be developed for a parcel with this zone type in a rural town like Bathurst in comparison with a city centre like Parramatta. It is recommended that local controls and specifics of the site are consulted where a 'maybe' value exists to better understand local constraints.					
<null></null>	It is unknown whether mixed use developments can be built at the site. This can occur if no zone or permitted use information can be linked to the parcel.					

### permitted\_use\_townhouse

Domain Value	Description					
true	Indicates that townhouses can be built at the site based on zoning information.					
false	Indicates that townhouses cannot be built at the site based on zoning information.					
maybe	Indicates that mixed townhouses can potentially be built at the site based on zoning information. A 'maybe' flag signifies that other factors besides the zoning may come into play to determine whether townhouses can be built. This could relate to the location of the cadastre (whether it is in a city centre or rural town), the size of the parcel (potentially more cadastre would have to be purchased alongside the cadastre to meet total area requirements to build this type of building) as well as other factors. For example, in NSW there are standardised zone codes that are applied across the state (e.g. R3 Medium Density Residential). There will likely be different expectations of what can be developed for a parcel with this zone type in a rural town like Bathurst in comparison with a city centre like Parramatta. It is recommended that local controls and specifics of the site are consulted where a 'maybe' value exists to better understand local constraints.					
<null></null>	It is unknown whether townhouses can be built at the site. This can occur if no zone or permitted use information can be linked to the parcel.					

### planning\_insights\_overlays

### overlay\_category

Domain Value	Description					
flood	The overlay falls within the high-level overlay category of 'flood'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'flood' attribute.					
bushfire	The overlay falls within the high-level overlay category of 'bushfire'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'bushfire' attribute.					
infrastructure	The overlay falls within the high-level overlay category of 'infrastructure'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'infrastructure' attribute.					
environment	The overlay falls within the high-level overlay category of 'environment'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'environment' attribute.					
heritage	The overlay falls within the high-level overlay category of 'heritage'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'heritage' attribute.					
industry	The overlay falls within the high-level overlay category of 'industry'. The related record (match on base_cadastre_pid) in the planning_insights table will have a 'true' value for the 'industry' attribute.					

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### **Update Frequency**

Planning Insights is continuously updated and released with the most up to date data available on a quarterly schedule in the months of March, June, September and December.

Planning Insights Release Month	Cadastre Release Month used in Planning Insights	G-NAF Release Month used in Planning Insights
March	February	February
June	Мау	Мау
September	August	August
December	November	November

### Extent/Geographic Description

Planning Insights is an aspatial dataset and therefore has no spatial coverage unless joined to Cadastre or G-NAF. Once joined to Cadastre, Planning Insights has spatial coverage across Australia. Planning information may not be available for land held by the Commonwealth, as this land is not managed by State or Local Government authorities.



A detailed description of the coverage for each State and Territory is provided in the table below.

State	Specific Area	Coverage
ACT		Complete coverage
NSW		Complete coverage
NT		Complete coverage
ОТ	Christmas and Cocos (Keeling) Islands	No coverage
	Jervis Bay	No coverage
	Norfolk Island	No coverage
QLD		Complete coverage
SA		Complete coverage
TAS		Complete coverage
VIC		Complete coverage.
WA		Complete coverage.

### **Delivery Format**

Planning Insights is provided at the State/Territory level. The data is made available in PSV (Pipe Separated Values) file format.

#### **PSV** files

Format name

Pipe Separated Value files

#### Specification

PSV files may be used in relational database applications and may be viewed in spreadsheets. This format provides files with the following extension \*.psv

#### Language

English

### **Product Versioning**

Planning Insights versioning is managed through incrementing when there is a change to the product schema or a significant change in data population, these are described further below:

- A schema change can affect a major or minor increment to the versioning. Additive changes (changes that won't break customers' ability to work with the data) will be incremented with a minor version increment, an example is the addition of a new attribute. Removal of attributes or changing the structure of the Planning Insights schema will enact a major change to identify that this requires the attention of all customers and partners.
- Where a significant geography of Australia either has a new population of data for an attribute or is populated from a much higher quality source a minor increment will be applied to the product version.

Therefore, Planning Insights versioning will not increment with every data update. Published releases will have a name e.g. 'March 2023' and will reference a version of the Planning Insights product e.g. '1.0'.

## Annex A - User Guide

The Planning Insights dataset is to be used in conjunction with Cadastre or G-NAF (Geocoded National Address File) products to enable spatial representation and analysis. Annex A describes how these linkages are made and considerations for users when applying the linkages.

### Linkages to Cadastre – Primary Linkages

Planning Insights provides a linkage to Cadastre where the Planning Insights base\_cadastre\_pid is equal to the base\_cadastre\_pid in Cadastre. Joining the data in this manner will provide both primary and secondary linkages. Please note that there are records in Cadastre that do not link to Planning Insights but have been assigned a default base\_cadastre\_pid value that is equal to that record's cadastre\_pid. These are non-Road parcels whose base\_cadastre\_pid will not match a base\_cadastre\_pid in planning\_insights. Please also note that this join will enable links to Cadastre that have a title\_status of 'Not Titled' - user discretion is advised when utilising links to these parcels.

A primary link is one where the cadastre has direct spatial intersection with a planning zone or overlay boundary. Primary links are generally made to Cadastre with parcel\_type of 'Lot', but in some scenarios can also be made with Strata or Stratum parcel types. Road parcels are not linked to in Planning Insights. If only primary linkages are required by a user, the above join can be run while filtering out Cadastre where the Cadastre cadastre\_pid is not equal to the Cadastre base\_cadastre\_pid, which indicates that the cadastre is not linked to directly and is a secondary link.

#### **Primary Link Example 1**

Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
1	Primary	cp76d87f9b350b5	cadc50f78c5afc1	cadc50f78c5afc1	NSW	Lot	Yes

The majority of primary links will be to Lot parcels in Cadastre. The cadastre parcel with cadastre\_polygon\_pid of `cp76d87f9b350b5' is a Lot parcel at a site with no other parcels present. Zoning and overlay information are spatially linked to this Lot parcel (primary link).



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Primary Link Example 2							
Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
2	Primary	cpb0d3cfd01b465	cad8c8084d2de59	cad8c8084d2de59	NSW	Stratum	Yes

In the states of ACT, NSW, QLD and TAS there are parcels with height or depth limitations (e.g. a tunnel passes underneath the parcel) called 'Stratum' parcels. In the NSW example for the cadastre\_polygon\_pid of 'cpb0d3cfd01b465', the NSW Jurisdiction has supplied a single Stratum parcel at a site (blue parcel). Geoscape has a concept of 'base parcels' in the Cadastre product which describes the counts of Strata parcels (e.g. units, townhouses) for a strata development and provides a 'base' coverage of Lot parcels. Base parcels have a base\_parcel value of 'Yes' in Cadastre. At this site, Geoscape has created a Lot parcel (source = 'Geoscape Australia', red parcel) underneath the provided Stratum parcel (blue parcel) to provide Lot coverage. Planning Insights has provided a primary link to the Stratum parcel (primary link) at this location as the Geoscape Australia sourced Lot parcel here is not provided by the NSW Jurisdiction.



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#### Primary Link Example 3

Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
3	Primary	cpc41085cda5076	cad99f503d0000e	cad99f503d0000e	VIC	Strata	Yes

At this site in VIC there are Strata parcels (blue parcels) that do not have an underlying Lot parcel provided by the VIC Jurisdiction. At these sites, Geoscape creates a base Lot parcel with source value of 'Geoscape Australia' (red parcel) that is representative of the development (parcels with same plan). These Geoscape Australia parcels are created to enable the representation of strata counts for the development. In other states a primary link to the Geoscape Australia parcel will generally be made in Planning Insights over a link to Strata. However, for VIC many Strata parcels have been assigned a primary linkage to Planning Insights due to large developments that don't meet a traditional definition of strata, with the Strata parcels being linked to in preference over the created Geoscape Australia Lot parcel.



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### Linkages to Cadastre – Secondary Linkages

Secondary links are links that have not been made through a direct spatial intersection between cadastre and planning zone or overlay boundaries. Instead, these secondary linkages are inferred through a spatial relationship between the centroid of cadastre with no primary link and the polygon of a cadastre that has a primary link. Secondary linkages have been created principally to enable unlinked parcels such as Stratum (parcels with height or depth limitations) and Strata parcels (e.g. units, townhouses, etc.) to inherit the zoning and overlay information of the underlying Lot parcel that has a primary link.

For example, the orange Lot parcel below has a direct spatial link (primary) to planning zone and overlay boundaries. The cadastre\_pid and base\_cadastre\_pid match for this record.

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	cadastre_polygon_pid	cpfe125954db835
	cadastre_pid	cad4f0beced777d
	contributor_id	NULL
Carlos .	date_created	11-Aug-22
	date_modified	NULL
	state	SA
	lot	NULL
Ľ.,	plan	C23462
	parcel_id	C/23462//
	source	Geoscape Australia
	contributor_status	NULL
	title_status	NULL
	parcel_type	Lot
	base_parcel	Yes
	base_cadastre_pid	cad4f0beced777d
	strata_type	NULL
	total_strata_count	2
	horizontal_strata_count	2
	vertical_strata_count	NULL
	area	905.41

At this same location a blue Strata parcel exists that has not been linked to planning zone or overlay boundaries through spatial intersection. The red centroid of this Strata parcel intersects the orange cadastre with a primary link, so a secondary link to planning zone and overlay information is made to the Strata parcel. The Strata parcel is therefore assigned a base\_cadastre\_pid of `cad4f0beced777d' which matches the cadastre\_pid of the orange Lot parcel with a primary linkage. The cadastre\_pid and base\_cadastre\_pid will match for the Strata parcel which is indicative of a secondary linkage.

	cadastre_polygon_pid	cp9b0f8f5566729
	cadastre_pid	cad9793d1bf034a
	contributor_id	NULL
	date_created	11-Aug-22
	date_modified	NULL
	state	SA
	lot	F1
	plan	C23462
	parcel_id	C/23462/F/1
	source	SA
	contributor_status	NULL
	title_status	Titled
	parcel_type	Strata
	base_parcel	NULL
	base_cadastre_pid	cad4f0beced777d
	strata_type	Horizontal
The state of the s	total_strata_count	NULL
	horizontal_strata_count	NULL
C & SARA	vertical_strata_count	NULL
	area	412.45

User discretion is advised when utilising these secondary links as they are spatial linkages to cadastre with primary linkages rather than direct spatial linkage to planning zone or overlay boundaries. A potential risk here would be that the cadastre with secondary linkage does not actually intersect the planning zone or overlay boundary for which it has been assigned zone or overlay information through a primary link to a cadastre. For example, if a green flood overlay intersected the orange Lot parcel (primary link) but not the blue Strata parcel (secondary link), the blue Strata parcel would still receive a flood overlay flag through the secondary relationship. This can also occur for planning zone assignment but will be to a much lesser extent across Planning Insights due to the better alignment between planning zones and cadastre.



#### Secondary Link Example 1

Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
1	Secondary	cp801f9e3572ce9	cad97b07820903d	cad59418a6700a6	SA	Strata	No
1	Primary	cp3c9fc0f4a1874	cad59418a6700a6	cad59418a6700a6	SA	Lot	Yes

The cadastre with cadastre\_polygon\_pid of 'cp801f9e3572ce9' is a Strata parcel that relates to a block of townhouses (blue parcels) with plan of 'S638'. At this site a Geoscape Australia parcel (red) has been created to provide base Lot coverage and enable strata counts for the site. Planning Insights provides a primary link here between planning zone/overlay information and the Geoscape Australia parcel which has a cadastre\_pid of 'cad59418a6700a6', instead of the Strata parcels. To provide a secondary link to this Strata parcel, Geoscape has assigned the Strata parcels at this site (e.g. cadastre\_polygon\_pid = 'cp801f9e3572ce9') a base\_cadastre\_pid of 'cad59418a6700a6' which allows them to be linked to zoning and overlay information that relates to the Geoscape Australia parcel.



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#### Secondary Link Example 2

Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
2	Secondary	cp86fb93ca8792b	cadbc9f4cc9f87e	cadc578985b89a9	NSW	Stratum	No
2	Primary	cpa2905237ecc1d	cadc578985b89a9	cadc578985b89a9	NSW	Lot	Yes

The cadastre with cadastre\_polygon\_pid of `cp86fb93ca8792b' is a Stratum parcel (blue parcel) in Sydney that has a tunnel running underneath it and therefore has a depth limitation. Geoscape creates a base Lot parcel (source = `Geoscape Australia') under this Stratum parcel for base Lot coverage (red parcel) with cadastre\_pid of `cadc578985b89a9'. Planning Insights has not provided a primary link between the planning zone/overlay information and the Stratum polygon and has instead provided a primary link to the created Geoscape Australia parcel. To provide a secondary link to this Stratum parcel, Geoscape has assigned it with a base\_cadastre\_pid of `cadc578985b89a9' which allows it to be linked to planning zone and overlay information that relates to the Geoscape Australia parcel.



#### Secondary Link Example 3

Example Number	Link Type	cadastre_polygon_pid	cadastre_pid	base_cadastre_pid	state	parcel_type	cadastre_pid and base_cadastre_pid match
3	Secondary	cp45f31b183f7c3	cad6512d1295efd	cad152c87fef07e	WA	Lot	No
3	Primary	cp68472e764d6a9	cad152c87fef07e	cad152c87fef07e	WA	Lot	Yes

In a small number of cases, a parcel with a Lot parcel type can have a secondary linkage. This occurs where there is a Lot parcel that overlaps a second parcel but only the second parcel has been linked to with a primary linkage. The example cadastre (cadastre\_polygon\_pid = `cp45f31b183f7c3', cadastre\_pid = `cad6512d1295efd', blue parcel) is a small Lot parcel that overlaps a larger Lot parcel (cadastre\_pid = `cad152c87fef07e', red parcel) that has been assigned a base\_parcel value of `Yes'. In this case the larger parcel has been linked to via a primary link as it is the base Lot parcel. To provide a secondary link to the smaller Lot parcel, Geoscape has assigned it with a base\_cadastre\_pid of `cad152c87fef07e' which allows it to be linked to planning zone and overlay information that relates to the larger Lot parcel.



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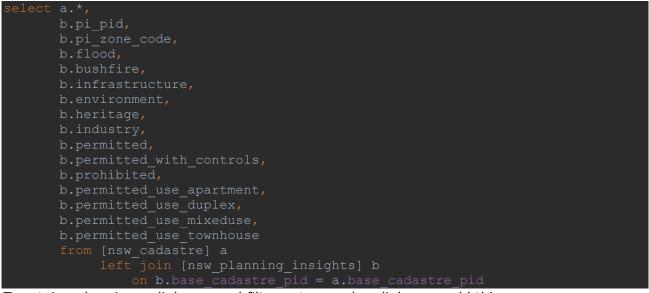
### Linkages to Cadastre - planning\_insights

To spatially enable the planning\_insights table, a join can be made to the polygon geometry within the cadastre table, using the base\_cadastre\_pid between the two tables to make the join. Any other required information from cadastre such as parcel\_id, parcel\_type, area, etc. can also be selected in this join.

An inner join can be used if only the records in cadastre that have a link to planning\_insights are required. This will exclude road cadastre and cadastre for which there is no planning zone or overlay information. To link to all cadastre, use a left join (see example below). If only primary linkages are required, filter to exclude cadastre where the cadastre\_pid and base\_cadastre\_pid do not match (secondary linkages) from the join. It is recommended that these joins are done within a database due to the size of the datasets involved. Please note that the cadastre and planning\_insights tables have attributes with the same names (e.g. 'state', 'date\_created'), so it is recommended to either prefix one table's attributes or retain only the attributes from one table for the join.

The result of the join will provide high-level zoning and overlay information for the cadastre, as well as permitted, permitted with controls and prohibited uses. Please note that the pi\_zone\_code will only provide a single zone code for the cadastre, even if two zones relate to it. It is recommended to consult the planning\_insights\_zoning table for this detailed zoning information.

An example of how to join the tables is shown below. This SQL keeps all attribution from cadastre and attaches all attribution from planning\_insights except for state and date\_created attributes. Please note that cadastre that don't join to planning\_insights will have empty string values for the planning insights attribution.



To retain only primary linkages and filter out secondary linkages, add this:

where a.cadastre pid = a.base cadastre pid;

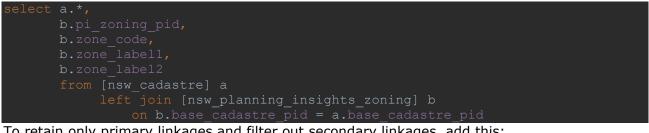
### Linkages to Cadastre - planning\_insights\_zoning

To spatially enable the planning\_insights\_zoning table, a join can be made to the polygon geometry within the cadastre table, using the base\_cadastre\_pid between the two tables to make the join. Any other required information from cadastre such as parcel\_id, parcel\_type, area, etc. can also be selected in this join.

An inner join can be used if only the records in cadastre that have a link to planning\_insights\_zoning are required. This will exclude road cadastre and parcels for which zoning information has not been linked to. To link to all cadastre, use a left join (see example below). If only primary linkages are required, filter to exclude cadastre where the cadastre\_pid and base\_cadastre\_pid do not match (secondary linkage) from the join. It is recommended that these joins are done within a database due to the size of the datasets involved. Please note that the cadastre and planning\_insights\_zoning tables have attributes with the same names ('state' and 'date\_created') so it is recommended to either prefix one table's attributes or retain only the attributes from one table for the join.

The result of the join will provide in-depth zoning information for the cadastre. Please note that multiple planning zones can relate to a single cadastre.

An example of how to join the tables is shown below. This SQL keeps all attribution from cadastre and attaches all attribution from planning\_insights\_zoning except for the state and date\_created attributes. Please note that cadastre that don't join to planning\_insights\_zoning will have empty string values for the planning zone attribution.



To retain only primary linkages and filter out secondary linkages, add this:

where a.cadastre pid = a.base cadastre pid;

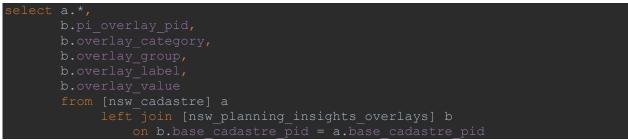
### Linkages to Cadastre - planning\_insights\_overlays

To spatially enable the planning\_insights\_overlays table, a join can be made to the polygon geometry within the cadastre table, using the base\_cadastre\_pid between the two tables to make the join. Any other required information from cadastre such as parcel\_id, parcel\_type, area, etc. can also be selected in this join.

An inner join can be used if only the records in cadastre that have a link to planning\_insights\_overlays are required. This will exclude road cadastre and parcels for which overlay information has not been linked to. To link to all cadastre, use a left join (see example below). If only primary linkages are required, filter to exclude cadastre where the cadastre\_pid and base\_cadastre\_pid do not match (secondary linkage) from the join. It is recommended that these joins are done within a database due to the size of the datasets involved. Please note that the cadastre and planning\_insights\_overlays tables have attributes with the same names ('state' and 'date\_created') so it is recommended to either prefix one table's attributes or retain only the attributes from one table for the join.

The result of the join will provide in-depth overlay information for the cadastre. Please note that multiple overlays can relate to a single cadastre.

An example of how to join the tables is shown below. This SQL keeps all attribution from cadastre and attaches all attribution from planning\_insights\_overlays except for the state and date\_created attributes. Please note that cadastre that don't join to planning\_insights\_overlays will have empty string values for the overlay attribution.



To retain only primary linkages and filter out secondary linkages, add this:

where a.cadastre pid = a.base cadastre pid;

### Linkages to Cadastre - Multipolygon Cadastre

There are cadastre that are comprised of more than one polygon. These can be identified by searching for duplicate cadastre\_pid values in the cadastre table. These records will have the same cadastre\_pid but different cadastre\_polygon\_pid values. This usually occurs where the cadastre has been split by a road, river or other feature, but the parts together still represent the smallest legal area of land capable of sale without further approval to subdivide. Please note that due to the nature of the link from Cadastre to Planning Insights (base\_cadastre\_pid linkage), if an overlay (e.g. flood, bushfire, etc.) intersects only one of these parcels the overlay relationship will be applied to both parcels through the base\_cadastre\_pid. This also applies to the planning zone relationships with these parcels, but to a much lesser extent due to the better alignment of planning zones with cadastre. An example is shown below that describes the two polygons (cadastre\_polygon\_pid values of `cpa23de6b188159' and `cpd85eee2e3ce50') that are part of the same cadastre (cadastre\_pid value of `cad6124658cc2cb').



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### Linkages to G-NAF through planning\_insights\_address

G-NAF (Geocoded National Address File) is a trusted index of Australian address information. It contains the state, suburb, street, number and coordinate reference (or "geocode") for street addresses in Australia. G-NAF addresses are linked to base\_cadastre\_pids in Cadastre through spatial intersection, which allows Planning Insights attribution at the cadastre level to be assigned to the address. The relationship between G-NAF and Planning Insights is provided within the planning\_insights\_address table which links G-NAF ADDRESS\_DETAIL\_PID to Planning Insights base\_cadastre\_pid. G-NAF Addresses for which Geoscape has low confidence that they physically exist at a location, such as LOCALITY (address point placed in centre of suburb/locality) and STREET LOCALITY (point placed in centre of street) geocodes are excluded from this spatial link. Retired G-NAF addresses (confidence = -1) are also excluded from the linkage. These addresses will not link to Planning Insights information.

G-NAF can be linked to Planning Insights by joining the ADDRESS\_DETAIL\_PID from the G-NAF ADDRESS\_DETAIL table to the address\_detail\_pid in the planning\_insights\_address table. From this, the base\_cadastre\_pid in the planning\_insights\_address table can be used to link out to the planning\_insights, planning\_insights\_zoning and planning\_insights\_overlays tables to provide the Planning Insights attribution at the address level. The LONGITUDE and LATITUDE values from the G-NAF ADDRESS\_DEFAULT\_GEOCODE table can also be linked to provide a spatial representation of the addresses as points. Please note that G-NAF coordinates are available in both GDA2020 and GDA94 projections – to ensure alignment to Planning Insights use G-NAF in the GDA2020 projection. When joining these tables, be aware of matching attribute names across tables e.g. address\_detail\_pid, date\_created, etc.

It is recommended that these tables are joined together in a database due to file sizes.

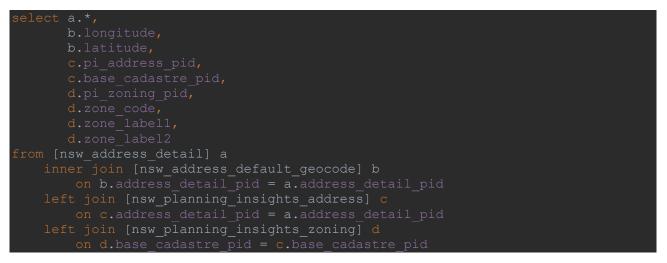
The SQL to join G-NAF to the Planning Insights tables is provided below. Please note that to make the output spatial you will need to convert the latitude and longitude values from the GNAF address\_default\_geocode table to point geometry. Also note that addresses that don't join to Planning Insights will have empty string values for the Planning Insights attribution.

select	a.*,
	b.longitude,
	b.latitude,
	c.pi address pid,
	c.base cadastre pid,
	d.pi_pid,
	d.state,
	d.pi_zone_code,
	d.flood,
	d.bushfire,
	d.infrastructure,
	d.environment,
	d.heritage,
	d.industry,
	d.permitted,
	d.permitted with controls,
	d.prohibited,
	d.permitted_use_apartment,

#### Link G-NAF to planning\_insights table



#### Link G-NAF to planning\_insights\_zoning table



#### Link G-NAF to planning\_insights\_overlays table

select a.*,
b.longitude,
b.latitude,
c.pi address pid,
c.base cadastre pid,
d.pi_overlay_pid,
d.overlay_category,
d.overlay_group,
d.overlay_label,
d.overlay_value
<pre>from [address_detail] a</pre>
<pre>inner join [nsw_address_default_geocode] b</pre>
on b.address_detail_pid = a.address_detail_pid
<pre>left join [nsw_planning_insights_address] c</pre>
<pre>on c.address_detail_pid = a.address_detail_pid</pre>
left join [nsw_planning_insights_overlays] d
on d.base_cadastre_pid = c.base_cadastre_pid

# Linkages to G-NAF – Address links to multiple cadastre with primary linkage to Planning Insights

Addresses are spatially linked to cadastre with primary linkages to Planning Insights for the planning\_insights\_address table. In some cases, an address point spatially intersects two cadastre that have a primary linkage to Planning Insights. Where this occurs, the address will link to both cadastre in the planning\_insights\_address table. This means that a single address\_detail\_pid can relate to more than one base\_cadastre\_pid in the planning\_insights\_address table, as shown below:

pi_address_pid	address_detail_pid	base_cadastre_pid	date_created
piaPmL9DoxtSI2Q	GAACT720406220	cadWeK3iaOr6GxV	2023-03-20
piaAFeNWElxp5KR	GAACT720406220	cad8720b51045ba	2023-03-20



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### Using the data

Once the data has been spatially enabled, a user can interact with and gain insights from the data. The examples below describe some of the applications of the data once spatially enabled.

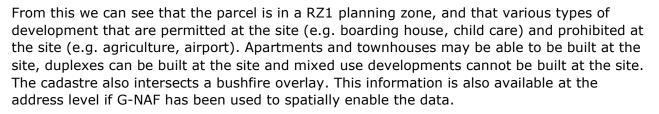
#### planning\_insights

A user can identify high-level planning zone and overlay information as well as permitted, permitted with controls and prohibited uses for a cadastre or address using the planning\_insights table. For example, the cadastre with cadastre\_polygon\_pid of `cpeca2b96d1a1f7' and base\_cadastre\_pid of `cad7d25f1165b2e' has a primary linkage to Planning Insights and has the following information associated:

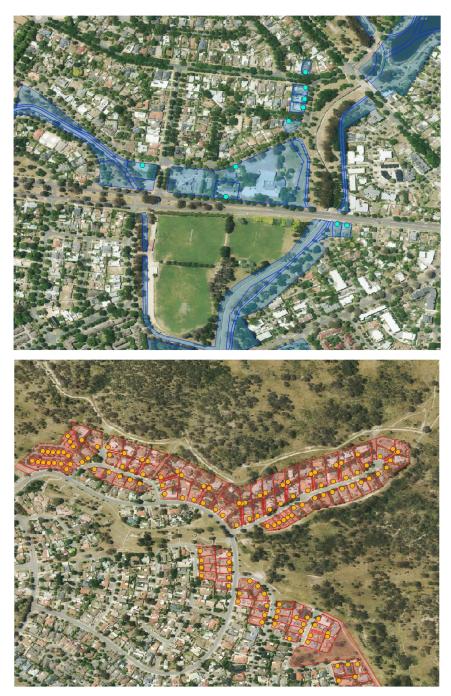


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cadastre_polygon_pid	cpeca2b96d1a1f7
cadastre_pid	cad7d25f1165b2e
contributor_id	66131380015
date_created	18-May-21
date_modified	NULL
state	ACT
lot	15
plan	NULL
parcel_id	TUGG/COND/138/15
source	ACT
contributor_status	Registered
title_status	Titled
parcel_type	Lot
base_parcel	Yes
base_cadastre_pid	cad7d25f1165b2e
strata_type	NULL
total_strata_count	NULL
horizontal_strata_count	NULL
vertical_strata_count	NULL
area	814.83
pi_pid	pinX4eQ5CSLV0IN
pi_zone_code	RZ1
flood	false
bushfire	true
infrastructure	false
environment	false
heritage	false
industry	false
permitted	ancillary use;boarding house;child care centre
permitted_with_controls	NULL
prohibited	agriculture;airport;animal care facility;animal h
permitted_use_apartment	maybe
permitted_use_duplex	true
permitted_use_mixeduse	false
permitted_use_townhouse	maybe



A user could also search for all parcels for which a flood overlay (blue parcels) or bushfire overlay (red parcels) has intersection. This is also applicable for Planning Insights when spatially enabled using G-NAF.



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#### planning\_insights\_zoning

A user can identify detailed planning zone information for a cadastre or address using the planning\_insights\_zoning table. For example, the cadastre with cadastre\_polygon\_pid of `cp06cb181ce7426' and base\_cadastre\_pid of `cad004d879047ea' has a primary linkage to Planning Insights and relates to the planning zones of `NUZ4' and `NUZ2':



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cadastre_polygon_pid	cp06cb181ce7426
cadastre_pid	cad004d879047ea
contributor_id	88010130005
date_created	18-May-21
date_modified	NULL
state	ACT
lot	5
plan	NULL
parcel_id	JERR/OAKS/13/5
source	ACT
contributor_status	Registered
title_status	Titled
parcel_type	Lot
base_parcel	Yes
base_cadastre_pid	cad004d879047ea
strata_type	NULL
total_strata_count	NULL
horizontal_strata_count	NULL
vertical_strata_count	NULL
area	24498.04
pi_zoning_pid	pizzSZa_mBZki1N
zone_code	NUZ2
zone_label1	NUZ2 Rural
zone_label2	Rural

cadastre_polygon_pid	cp06cb181ce7426
cadastre_pid	cad004d879047ea
contributor_id	88010130005
date_created	18-May-21
date_modified	NULL
state	ACT
lot	5
plan	NULL
parcel_id	JERR/OAKS/13/5
source	ACT
contributor_status	Registered
title_status	Titled
parcel_type	Lot
base_parcel	Yes
base_cadastre_pid	cad004d879047ea
strata_type	NULL
total_strata_count	NULL
horizontal_strata_count	NULL
vertical_strata_count	NULL
area	24498.04
pi_zoning_pid	piz8hpudF0KKPFT
zone_code	NUZ4
zone_label1	NUZ4 River Corridor
zone_label2	River Corridor

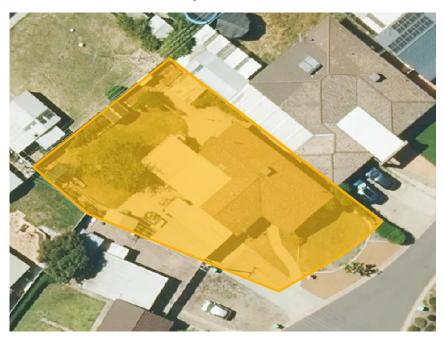
A user could query this data for a specific zone code to identify areas where specific development can take place. The example below shows a filter over the data where zone codes of 'RZ2' have been selected in the ACT. This is also applicable for addresses when G-NAF has been used to spatially enable the data.



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#### planning\_insights\_overlays

A user can identify detailed overlay information for a cadastre or address using the planning\_insights\_overlays table. For example, the cadastre with cadastre\_polygon\_pid of `cp6b64f5b196f88' and base\_cadastre\_pid of `cad0000276ef829' has a primary linkage to Planning Insights and relates to four overlays.



cadastre_polygon_pid	cp6b64f5b196f88
cadastre_pid	cad0000276ef829
contributor_id	66074300008
date_created	18-May-21
date_modified	NULL
state	ACT
lot	8
plan	NULL
parcel_id	TUGG/RICH/430/8
source	ACT
contributor_status	Registered
title_status	Titled
parcel_type	Lot
base_parcel	Yes
base_cadastre_pid	cad0000276ef829
strata_type	NULL
total_strata_count	NULL
horizontal_strata_count	NULL
vertical_strata_count	NULL
area	757.26
pi_overlay_pid	pio-R7zHE5GRbXo
overlay_category	NULL
overlay_group	Heritage and Culture
overlay_label	ACT Soil Landscapes by Process
overlay_value	TRANSFERRAL

cadastre\_polygon\_pid cp6b64f5b196f88 cadastre\_pid cad0000276ef829 contributor\_id 66074300008 date\_created 18-May-21 date\_modified NULL state ACT lot 8 plan NULL TUGG/RICH/430/8 parcel\_id source ACT contributor\_status Registered title\_status Titled parcel\_type Lot Yes base\_parcel cad0000276ef829 base\_cadastre\_pid NULL strata\_type total\_strata\_count NULL horizontal\_strata\_count NULL NULL vertical\_strata\_count area 757.26 pi\_overlay\_pid pioazuJUCQEtBSd NULL overlay\_category Planning Precincts overlay\_group overlay\_label Richardson Precinct Map overlay\_value Richardson cp6b64f5b196f88 cadastre\_polygon\_pid cad0000276ef829 cadastre\_pid contributor\_id 66074300008 date\_created 18-May-21 date\_modified NULL state ACT lot 8 plan NULL parcel\_id TUGG/RICH/430/8 source ACT contributor\_status Registered title\_status Titled parcel\_type Lot base\_parcel Yes cad0000276ef829 base\_cadastre\_pid strata\_type NULL NULL total\_strata\_count horizontal\_strata\_count NULL vertical\_strata\_count NULL 757.26 area pi\_overlay\_pid pioJ43558JZUSbd NULL overlay\_category Heritage and Culture overlay\_group overlay label Hydrogeological Landscapes overlay\_value South Canberra

cadastre_polygon_pid	cp6b64f5b196f88
cadastre_pid	cad0000276ef829
contributor_id	66074300008
date_created	18-May-21
date_modified	NULL
state	ACT
lot	8
plan	NULL
parcel_id	TUGG/RICH/430/8
source	ACT
contributor_status	Registered
title_status	Titled
parcel_type	Lot
base_parcel	Yes
base_cadastre_pid	cad0000276ef829
strata_type	NULL
total_strata_count	NULL
horizontal_strata_count	NULL
vertical_strata_count	NULL
area	757.26
pi_overlay_pid	pioE7ndVFebSBss
overlay_category	NULL
overlay_group	Heritage and Culture
overlay_label	ACT Soil Landscapes
overlay_value	Williamsdale

A user could query this data for a specific overlay to identify areas of higher risk, such as areas that intersect flood or bushfire overlays. The example below shows a filter over the data where overlay\_category of 'flood' (blue) and 'bushfire' (red parcels) have been selected in the ACT. This is also applicable for addresses when G-NAF has been used to spatially enable the data.



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