

Product:

**PSMA** | G-NAF<sup>®</sup>

Prepared:

February 2016



# Getting started

A guide to unpacking G-NAF



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# Unpacking G-NAF

## Overview

This document provides a simple guide to setting up G-NAF data in a database for the first time. It assumes a developed understanding of relational databases and using structured query language (SQL).

## What is G-NAF?

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 does not contain any personal information or details relating to an individual or business.

G-NAF is a large dataset. It contains nearly 14 million addresses.

## References

- G-NAF Product Description

## Tools and resources

- G-NAF dataset (PSV format)
- Relational database application

## Directory structure

A G-NAF release is provided with the following resource in these directories:

- **Documents** – contains the G-NAF Product Description and current Release Notes.
- **Extras** – contains example SQL scripts to assist in database creation.
- **Authority Code** – provides tables which contain common lookup values such as street types. There are 15 tables.
- **Standard** – provides tables comprising address data. These tables are grouped by their state/territory jurisdiction. Each of the 9 jurisdiction categories has 16 tables, therefore, a dataset of national coverage would require all 144 tables.

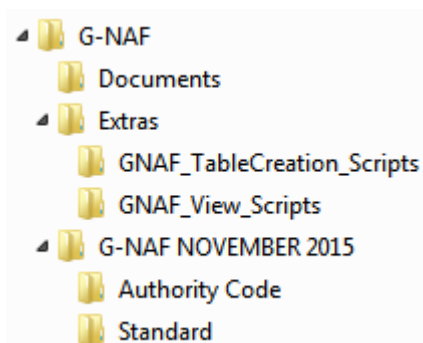
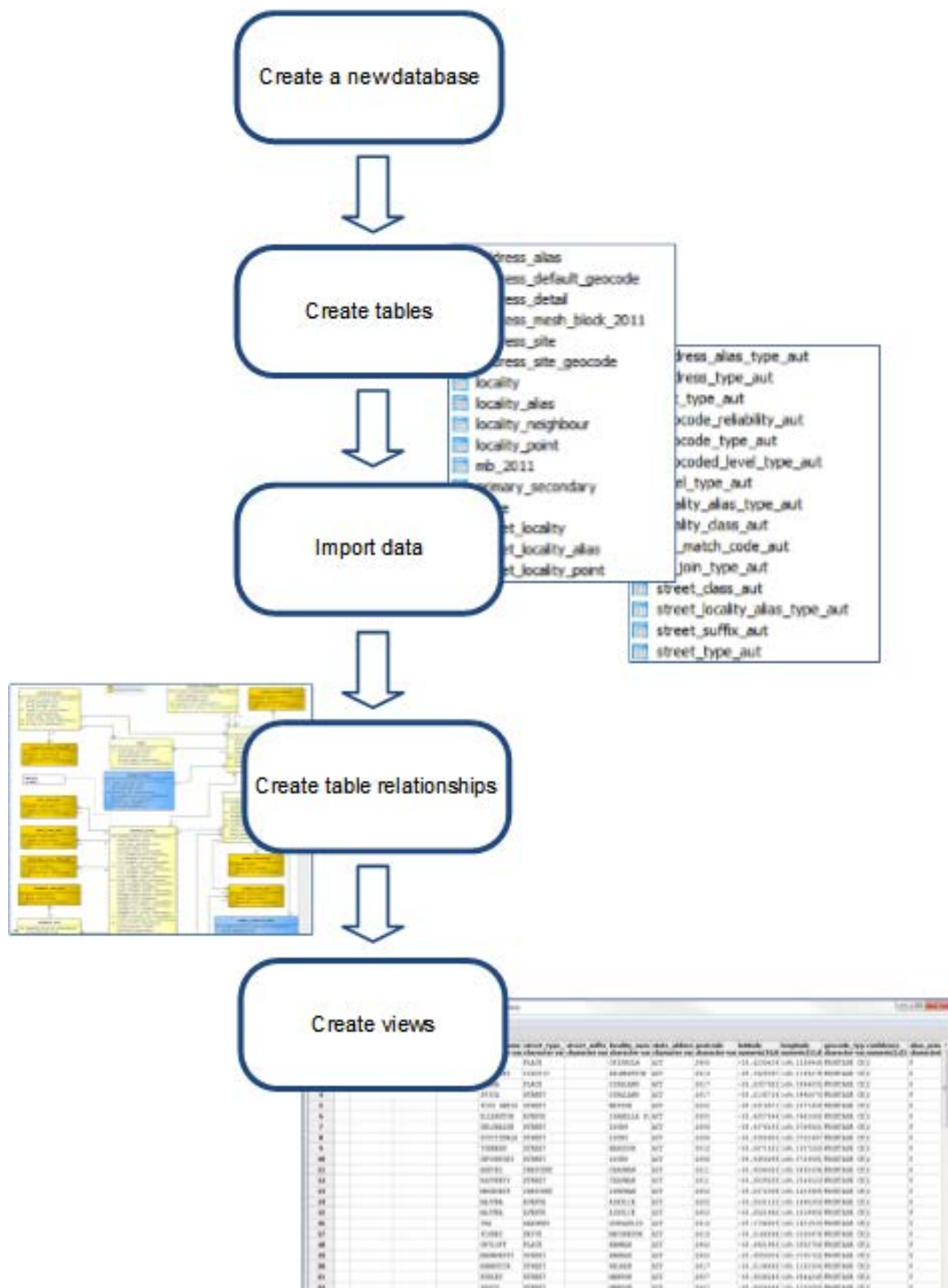


Figure 1 - Example view of G-NAF zip file contents

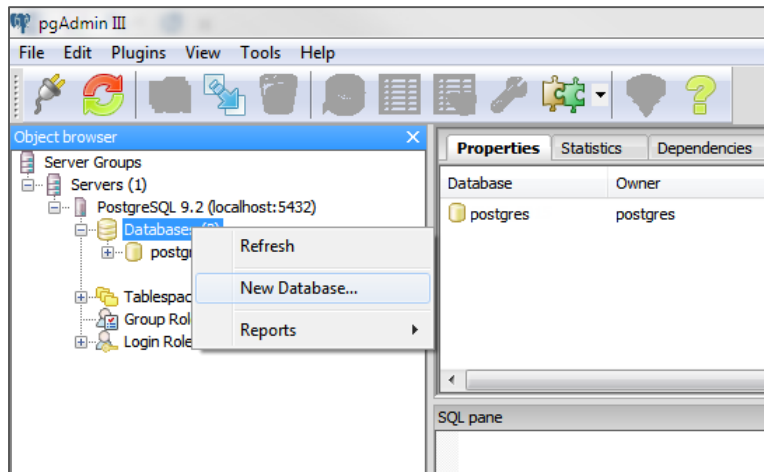
## Process overview



## Process

### Create a new database

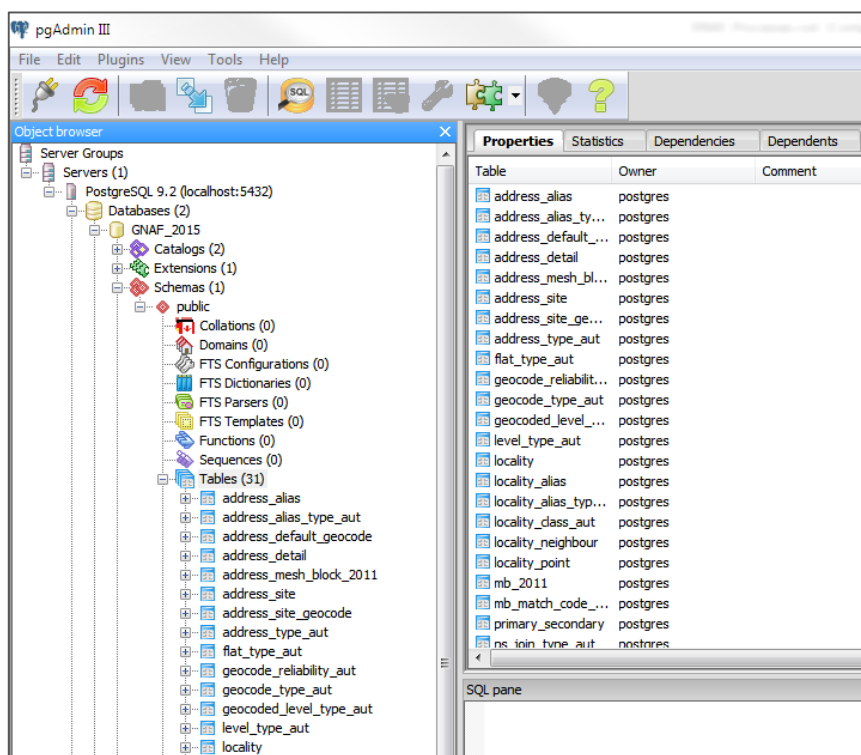
Using your chosen database application, create a new database.



### Create tables

You will need to create the necessary tables in your database. The Product Description provides the G-NAF data model in Appendix B. The tables can be created individually using the G-NAF data model as a guide.

Alternatively, in the 'Extras' folder provided with G-NAF data, an example table creation script is provided: `create_tables_ansi.sql`. Running this script should create all the necessary tables and associated properties.



## Import data

Using your database import utility, progressively import the G-NAF data into your database tables.

Ensure you select the correct delimiter for the data (“|”).

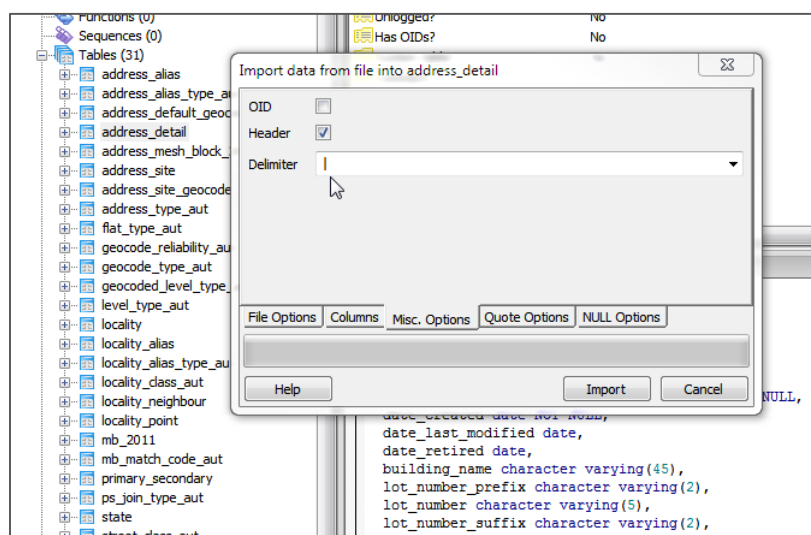
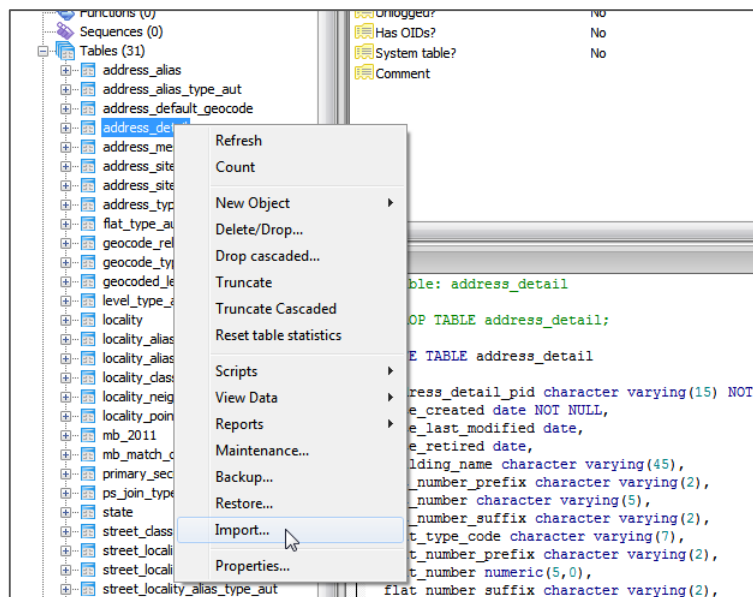
Import the Authority Code data from the ‘Authority Code’ folder. The following list shows the relationship between the database tables and their respective data:

Database Table	Data File
ADDRESS_ALIAS_TYPE_AUT	Authority_Code_ADDRESS_ALIAS_TYPE_AUT_psv.psv
ADDRESS_TYPE_AUT	Authority_Code_ADDRESS_TYPE_AUT_psv.psv
FLAT_TYPE_AUT	Authority_Code_FLAT_TYPE_AUT_psv.psv
GEOCODE_RELIABILITY_AUT	Authority_Code_GEOCODE_RELIABILITY_AUT_psv.psv
GEOCODE_TYPE_AUT	Authority_Code_GEOCODE_TYPE_AUT_psv.psv
GEOCODED_LEVEL_TYPE_AUT	Authority_Code_GEOCODED_LEVEL_TYPE_AUT_psv.psv
LEVEL_TYPE_AUT	Authority_Code_LEVEL_TYPE_AUT_psv.psv
LOCALITY_ALIAS_TYPE_AUT	Authority_Code_LOCALITY_ALIAS_TYPE_AUT_psv.psv
LOCALITY_CLASS_AUT	Authority_Code_LOCALITY_CLASS_AUT_psv.psv
MB_MATCH_CODE_AUT	Authority_Code_MB_MATCH_CODE_AUT_psv.psv
PS_JOIN_TYPE_AUT	Authority_Code_PS_JOIN_TYPE_AUT_psv.psv
STREET_CLASS_AUT	Authority_Code_STREET_CLASS_AUT_psv.psv
STREET_TYPE_AUT	Authority_Code_STREET_TYPE_AUT_psv.psv
STREET_LOCALITY_ALIAS_TYPE_AUT	Authority_Code_STREET_LOCALITY_ALIAS_TYPE_AUT_psv.psv
STREET_SUFFIX_AUT	Authority_Code_STREET_SUFFIX_AUT_psv.psv

Import the Standard Address data from the ‘Standard’ directory. This is broken up by jurisdiction. To create a national dataset, you will need to repeat your steps to append additional jurisdiction data to its corresponding table.

The following shows the relationship of the address table to address data for the Australian Capital Territory (ACT):

Database Table	Data File
ADDRESS_ALIAS	ACT_ADDRESS_ALIAS_psv.psv
ADDRESS_DEFAULT_GEOCODE	ACT_ADDRESS_DEFAULT_GEOCODE_psv.psv
ADDRESS_DETAIL	ACT_ADDRESS_DETAIL_psv.psv
ADDRESS_MESH_BLOCK_2011	ACT_ADDRESS_MESH_BLOCK_2011_psv.psv
ADDRESS_SITE_GEOCODE	ACT_ADDRESS_SITE_GEOCODE_psv.psv
ADDRESS_SITE	ACT_ADDRESS_SITE_psv.psv
LOCALITY	ACT_LOCALITY_psv.psv
LOCALITY_ALIAS	ACT_LOCALITY_ALIAS_psv.psv
LOCALITY_NEIGHBOUR	ACT_LOCALITY_NEIGHBOUR_psv.psv
LOCALITY_POINT	ACT_LOCALITY_POINT_psv.psv
MB_2011	ACT_MB_2011_psv.psv
PRIMARY_SECONDARY	ACT_PRIMARY_SECONDARY_psv.psv
STATE	ACT_STATE_psv.psv
STREET_LOCALITY	ACT_STREET_LOCALITY_psv.psv
STREET_LOCALITY_ALIAS	ACT_STREET_LOCALITY_ALIAS_psv.psv
STREET_LOCALITY_POINT	ACT_STREET_LOCALITY_POINT_psv.psv



## Create table relationships

You will need to create the necessary primary and foreign key relationships and constraints between your database tables. The Product Description provides the G-NAF data model in Appendix B.

In the 'Extras' folder provided with G-NAF data, an example script to create the relationships is provided: `add_fk_constraints.sql`. Running this script should create all the necessary tables and associated properties.

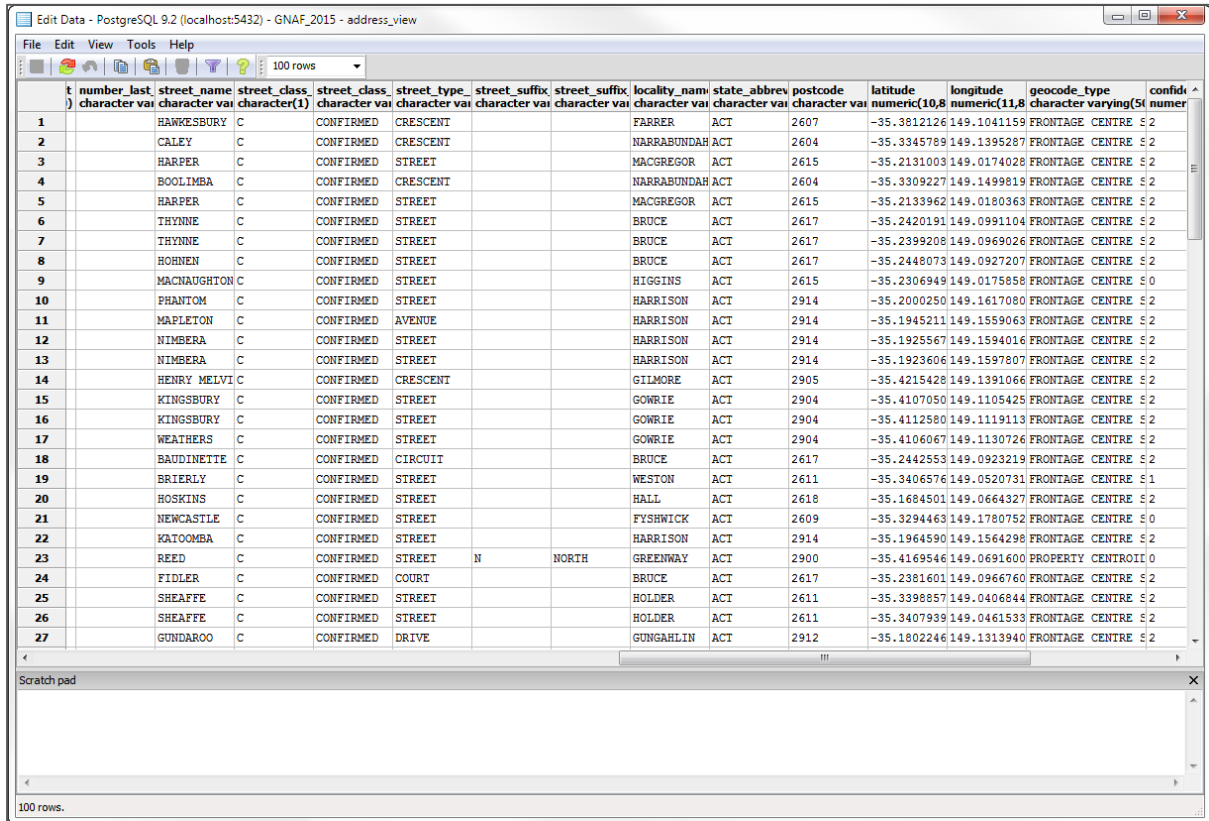


## Create views

You are now ready to create database views to explore the G-NAF data.

In the 'Extras' folder provided with G-NAF data, an example view script is provided:  
address\_view.sql

Running this script should create a view displaying a range of address information.



id	number_last	street_name	street_class	street_class	street_type	street_suffix	street_suffix	locality_name	state_abbrev	postcode	latitude	longitude	geocode_type	confidence
1		HAWKESBURY	C	CONFIRMED	CRESCENT			FARRER	ACT	2607	-35.3812126	149.1041159	FRONTAGE CENTRE	5 2
2		CALEY	C	CONFIRMED	CRESCENT			NARRABUNDDAH	ACT	2604	-35.3345789	149.1395287	FRONTAGE CENTRE	5 2
3		HARPER	C	CONFIRMED	STREET			MACGREGOR	ACT	2615	-35.2131003	149.0174028	FRONTAGE CENTRE	5 2
4		BOOLIMBA	C	CONFIRMED	CRESCENT			NARRABUNDDAH	ACT	2604	-35.3309227	149.1499919	FRONTAGE CENTRE	5 2
5		HARPER	C	CONFIRMED	STREET			MACGREGOR	ACT	2615	-35.2133962	149.0180363	FRONTAGE CENTRE	5 2
6		THYNNE	C	CONFIRMED	STREET			BRUCE	ACT	2617	-35.2420191	149.0991104	FRONTAGE CENTRE	5 2
7		THYNNE	C	CONFIRMED	STREET			BRUCE	ACT	2617	-35.2399208	149.0969026	FRONTAGE CENTRE	5 2
8		HOHNEN	C	CONFIRMED	STREET			BRUCE	ACT	2617	-35.2448073	149.0927207	FRONTAGE CENTRE	5 2
9		MACNAUGHTON	C	CONFIRMED	STREET			HIGGINS	ACT	2615	-35.2306949	149.0175858	FRONTAGE CENTRE	5 0
10		PHANTOM	C	CONFIRMED	STREET			HARRISON	ACT	2914	-35.2000250	149.1617080	FRONTAGE CENTRE	5 2
11		MAPLETON	C	CONFIRMED	AVENUE			HARRISON	ACT	2914	-35.1945211	149.1559063	FRONTAGE CENTRE	5 2
12		NIMBERA	C	CONFIRMED	STREET			HARRISON	ACT	2914	-35.1925567	149.1594016	FRONTAGE CENTRE	5 2
13		NIMBERA	C	CONFIRMED	STREET			HARRISON	ACT	2914	-35.1923606	149.1597807	FRONTAGE CENTRE	5 2
14		HENRY MELVI	C	CONFIRMED	CRESCENT			GILMORE	ACT	2905	-35.4215428	149.1391066	FRONTAGE CENTRE	5 2
15		KINGSBURY	C	CONFIRMED	STREET			GOWRIE	ACT	2904	-35.4107050	149.1105425	FRONTAGE CENTRE	5 2
16		KINGSBURY	C	CONFIRMED	STREET			GOWRIE	ACT	2904	-35.4112580	149.1119113	FRONTAGE CENTRE	5 2
17		WEATHERS	C	CONFIRMED	STREET			GOWRIE	ACT	2904	-35.4106067	149.1130726	FRONTAGE CENTRE	5 2
18		BAUDINETTE	C	CONFIRMED	CIRCUIT			BRUCE	ACT	2617	-35.2442553	149.0923219	FRONTAGE CENTRE	5 2
19		BRIERLY	C	CONFIRMED	STREET			WESTON	ACT	2611	-35.3406576	149.0520731	FRONTAGE CENTRE	5 1
20		HOSKINS	C	CONFIRMED	STREET			HALL	ACT	2618	-35.1684501	149.0664327	FRONTAGE CENTRE	5 2
21		NEWCASTLE	C	CONFIRMED	STREET			FYSHWICK	ACT	2609	-35.3294463	149.1780752	FRONTAGE CENTRE	5 0
22		KATOOMBA	C	CONFIRMED	STREET			HARRISON	ACT	2914	-35.1964590	149.1564298	FRONTAGE CENTRE	5 2
23		REED	C	CONFIRMED	STREET	N	NORTH	GREENWAY	ACT	2900	-35.4169546	149.0691600	PROPERTY CENTR	0 0
24		FIDLER	C	CONFIRMED	COURT			BRUCE	ACT	2617	-35.2381601	149.0966760	FRONTAGE CENTRE	5 2
25		SHEAFFE	C	CONFIRMED	STREET			HOLDER	ACT	2611	-35.3398857	149.0406844	FRONTAGE CENTRE	5 2
26		SHEAFFE	C	CONFIRMED	STREET			HOLDER	ACT	2611	-35.3407939	149.0461533	FRONTAGE CENTRE	5 2
27		GUNDAROO	C	CONFIRMED	DRIVE			GUNGAHLIN	ACT	2912	-35.1802246	149.1313940	FRONTAGE CENTRE	5 2

## More information

For more information, refer to the [G-NAF Product Description](#).