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About the Postal Address File (PAF)

This guide provides a technical description of the New Zealand Post Postal Address File (PAF). Please read this document in conjunction with the PAF release notes available with the product. This provides additional information about the current PAF release. This document is intended for developers who are interested in understanding more about the PAF.

PAF Address inclusions and exclusions

General inclusions

A PAF address includes:

- New Zealand postal addresses only
- English alphabet and numeric addresses only
- Complete urban and rural addresses – where a complete address consists of:
 - Street Number
 - Street Name
 - Suburb (where appropriate)
 - Town/City or Maitown, and
 - Postcode.
- Postal delivery types of PO Box, Private Bag for **numbered** occurrences only (named and unnumbered bags are excluded)
- Counter Delivery Locations and Community Mailboxes (CMB)
- Suburb, Town/City or Maitown aliases
- Alternative Street Names

Specific Inclusion and Exclusions

PAF will include the following New Zealand Addresses:

- Addresses that are delivered to by New Zealand Post's postal round network.
- PO Boxes.
- Private Bags.
- Rural Delivery (RD) Service Network addresses.
- Counter Delivery.
- Community Mailboxes (CMB).

PAF will exclude the following data:

- Un-number Rural Addresses – rural addresses where no street number has been assigned.
- Non-New Zealand addresses.
- Central Business District (CBD) addresses are not fully covered, in particular any floor levels for buildings that are not recorded as a postal delivery point.
- Industrial site addresses are not fully covered, as these are generally serviced by Post Office Boxes/Private Bags.
- Secondary addresses for conglomerate type establishments such as universities, nursing homes, and caravan parks, which are generally serviced by the establishment itself.
- Box addresses not registered at New Zealand Post facilities.
- Vacant land parcels where no dwelling exists.
- Personal, business and company names.
- New Zealand regions as defined by regional authorities, and New Zealand districts as defined by territorial authorities (except for Town/City alternative names).
- Physical addresses that have not been used previously as a deliverable address.

PAF Design

File structure overview

The PAF currently consists of the following six files that can be joined using common keys:

1. Delivery Addresses (PAF2_Version_Delivery_Addresses.dat)
2. Alternative Street Names (PAF2_Version_Alternative_Street_Names.dat)
3. Alternative Suburb Names (PAF2_Version_Alternative_Suburb_Names.dat)
4. Alternative Town/City Names (PAF2_Version_Alternative_Town_City_Names.dat)
5. Abbreviations (PAF2_Version_Abbreviations.dat)
6. Record Usage (PAF2_Version_Record_Usage.dat)

The PAF consists of the following six files. Each file contains a header and footer record to indicate version, expiry date and number of detail records. They also contain a header record containing field names. The five tables on the following pages are examples of how a PAF could be structured.

File	Description
Delivery addresses (approx 1.8 million records, 153 MB)	The main file containing approximately 1.8 million active delivery points (postal addresses).
Alternative Street Names (approx 3,000 records, 55 KB)	Some streets are known by alternative names, in particular state highways. This file contains known alternates for streets in the delivery addresses file.
Alternative Suburb Names (approx 8,000 records, 10 KB)	Some urban delivery points will have multiple commonly-used suburbs associated with them, in particular where suburb boundaries have not been defined. This file contains known alternates for suburbs, and also unacceptable suburbs that cannot be used on the linked urban delivery points.
Alternative Town/City Names (approx 3,000 records, 80 KB)	Some delivery points will have multiple commonly-used towns, cities and/or mailtowns associated with them. This file contains known alternates for these, and also unacceptable towns/cities/mailtowns that cannot be used on the linked urban delivery points.
Abbreviations (approx 320 records, 10 KB)	The Address Standards contain allowable abbreviations for street type, unit type and street direction. This file contains these abbreviations.
Record Usage (6 records, 1 KB)	All records in the PAF contain a Record Usage ID. This file explains the intended usage of each record in the PAF.

Address types

The table below shows the fields that may be populated by address type.

Address type	Indicates	Available fields by address type	
Urban	Urban Delivery address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Street Number Street Alpha Unit Type Unit Identifier Floor Building Name Street Alias ID 	<ul style="list-style-type: none"> Street Name Street Type Street Direction Suburb Alias ID Suburb Name City/Town/Mailtown Alias ID City/Town/Mailtown Postcode Old Postcode Record Usage ID
Box	PO Box Address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Delivery Service Type Box Bag Number Box Lobby Name 	<ul style="list-style-type: none"> Town/City/Mailtown Alias ID Town/City/Mailtown Postcode Old Postcode Record Usage ID
Bag	Private Bag Address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Delivery Service Type Box Bag Number Box Lobby Name 	<ul style="list-style-type: none"> Town/City/Mailtown Alias ID Town/City/Mailtown Postcode Old Postcode Record Usage ID
Rural	Rural Delivery Address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Street Number Street Alpha Unit Type Unit Identifier Street Alias ID Street Name 	<ul style="list-style-type: none"> Street Type Street Direction Town/City/Mailtown Alias ID Town/City/Mailtown Postcode Rural Delivery Number Old Postcode Record Usage ID
Counter	Counter Delivery Address – PostShops etc	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Delivery Service Type Box Lobby Name <p>NB: this field will be populated with the Post Centre Name associated with the Counter Delivery</p>	<ul style="list-style-type: none"> Town/City/Mailtown Alias ID Town/City/Mailtown (NZL City Value) Postcode Old Postcode Record Usage ID
CMB Urban	Community MailBox Urban Address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Delivery Service Type Box Bag Number 	<ul style="list-style-type: none"> Town/City/Mailtown Alias ID Town/City/Mailtown (NZL City Value) Postcode Old Postcode Record Usage ID
CMB Rural	Community MailBox Rural Address	<ul style="list-style-type: none"> Action Indicator Delivery Point ID Address Type Delivery Service Type Box Bag Number 	<ul style="list-style-type: none"> Town/City/Mailtown Alias ID Town/City/Mailtown (Mailtown Value) Postcode RD Number Old Postcode Record Usage ID

Delivery Addresses file

Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file	Alphanumeric	60	e.g. Delivery addresses
Version Number	The version number of this extract	Alphanumeric	10	YYYYQNVNN - YYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicates the action performed on this record since the last extract version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modify
Delivery Point ID	A unique reference number assigned to each delivery point address in the file	Integer	7	System Generated
Address Type	Indicates the type of delivery point	Character	16	URBAN Counter BAG CMB Urban BOX RURAL CMB Rural
Street Number	Holds the base street number. For Rural addresses these are allocated by territorial authorities. The field content is the numbers provided by rural delivery customers.	Integer	15	Range 1 – 100000 inclusive
Street Alpha	Holds the alpha component of a street number	Character	1	Range A – Z One character only
Unit Type	Describes the category of a sub-dwelling type within a building of building compiles. This is used in conjunction with the Unit Identifier address element.	Character	10	APARTMENT SHOP FLAT SUITE KIOSK UNIT ROOM VILLA

Element name	Description	Type	Optimum field size	Format rules and examples
Unit Identifier	Holds the address elements that identifies a specific deliver sub dwelling delivery point within a building or building complex	Alphanumeric	10	A combination of Characters and Numeric Values e.g. W506A BB2 SP1322 N007A WPH e.g. TOP PENTHOUSE
Floor	Holds the Floor type and identifier in a multi level building	Alphanumeric	12	e.g. Level 1 Floor G Basement
Building Name	Holds the building property name for a recognised significant building	Alphanumeric	50	
Street Alias ID	Foreign key value used to link to the Alternative Street Name File	Alphanumeric	15	
Street Name	Holds the name of the street	Character	60	e.g. QUEEN, HIGH
Street Type	The street type that follows a Street Name to indicate the sub group the street has been allocated	Character	15	e.g. ROAD, CRESCENT, LANE
Street Direction	Direction of the thoroughfare split into sections that the delivery point is located on. It can indicate that the thoroughfare is split from a point into sections that are north/south or east/west etc., or there is a central or extended section.	Character	10	e.g. NORTH WEST
Delivery Service Type	Describes the type of Delivery Service applicable to this delivery point.	Character	16	PO Box, Counter Delivery, Private Bag, CMB.
Box Bag Number	The PO Box/Private Bag number	Alphanumeric	15	
Box Bag Lobby Name	The name of the New Zealand Post outlet or Agency outlet where the PO Box, Private Bag or Counter Delivery is physically located	Character	35	
Suburb Alias ID	Foreign key value used to link to the alternative suburb name file.	Alphanumeric	15	
Suburb Name	Holds the name applied to a group of geographically associated streets	Character	35	

Element name	Description	Type	Optimum field size	Format rules and examples
Town City Maitown Alias ID	Foreign key value used to link to the Alternative Suburb Town/City/Maitown File.	Alphanumeric	15	
Town City Maitown	Holds the name of the Town/City/Maitown associated with this delivery point.	Character	35	
Postcode	Holds the four digit code defined by New Zealand Post, which is used to describe the locations linked to sorting zones for mail sorting purposes	Alphanumeric	4	The field should contain a leading zero for all values less than 1000.
RD Number	Rural Post – Rural Delivery route number	Alphanumeric	6	NB: Oamaru is the only Town/City, where alpha and numeric character can occur
Old Postcode	Holds the pre June 2006 four digit postcode for this delivery point.	Alphanumeric	4	The field should contain a leading zero for all values less than 1000. This element will be NULL for records inserted after June 2006.
Record Usage ID	Foreign key value to link to the Record Usages file to determine the allowable usages of this address data.	Integer	10	
Footer				
Number of records	The number of data records contained within this file, also includes separate subtotals for the number of inserted, modified and deleted records.	Alphanumeric	60	e.g. 1837902 INSERTED 20866 MODIFIED 109361 DELETED 14721

Alternative Street Names file

Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file.	Alphanumeric	60	e.g. Alternative Street Names
Version Number	The version number of this extract	Alphanumeric	10	YYYYQNVNN - YYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicator of the action against the record from the last supplied version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modified
Street Alias ID	Identifier used to link to the Delivery Address file.	Alphanumeric	15	
Street Name	Holds the alternative name for the street	Character	60	
Street Type	Holds the Street Type for the Alternative Street Name	Character	15	
Street Direction	Holds the Direction for the Alternative Street Name	Character	10	e.g. NORTH SOUTH
Record Usage ID	Foreign key value to link to the Record Usages file to determine the allowable usages of this address data.	Integer	10	
Footer				
Number of records	The number of data records contained within this file, also includes separate subtotals for the number of inserted, modified and deleted records.	Alphanumeric	60	3047 INSERTED 63 MODIFIED 0 DELETED 16

Alternative Suburb Names file

Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file	Alphanumeric	60	e.g. Alternative Suburb Names
Version Number	The version number of this extract	Alphanumeric	10	VYYYYQNVNN - VYYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicates the action performed on this records since the last extract version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modify
Suburb Alias ID	Identifier used to link to the Delivery Address file.	Integer	15	
Suburb Name	Holds the alternative or alias suburb name, used to assist in address validation	Character	35	
Record Usage ID	Foreign key value to link to the Record Usages file to determine the allowable usages of this address data.	Integer	10	
Footer				
Number of records	Number of records	Alphanumeric	60	7762 INSERTED 1357 MODIFIED 0 DELETED 215

Alternative Town City Names file

Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file.	Alphanumeric	60	e.g. Alternative Town City Names
Version Number	The version number of this extract	Alphanumeric	10	YYYYQNVNN - YYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicator of the action against the record from the last supplied version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modified
Town City Maitown Alias ID	Identifier used to link to the Delivery address file.	Alphanumeric	15	
Town/City Maitown Name	Holds the alternative Town/City/Maitown name, used to assist in address validation where it is commonly referred to by an alternative or alias name	Character	60	
Record Usage ID	Foreign key value to link to the Record Usages file to determine the allowable usages of this address data.	Integer	10	
Footer				
Number of records	The number of data records contained within this file, also includes separate subtotals for the number of inserted, modified and deleted records.	Alphanumeric	60	3264 INSERTED 38 MODIFIED 1 DELETED 10

Abbreviations file

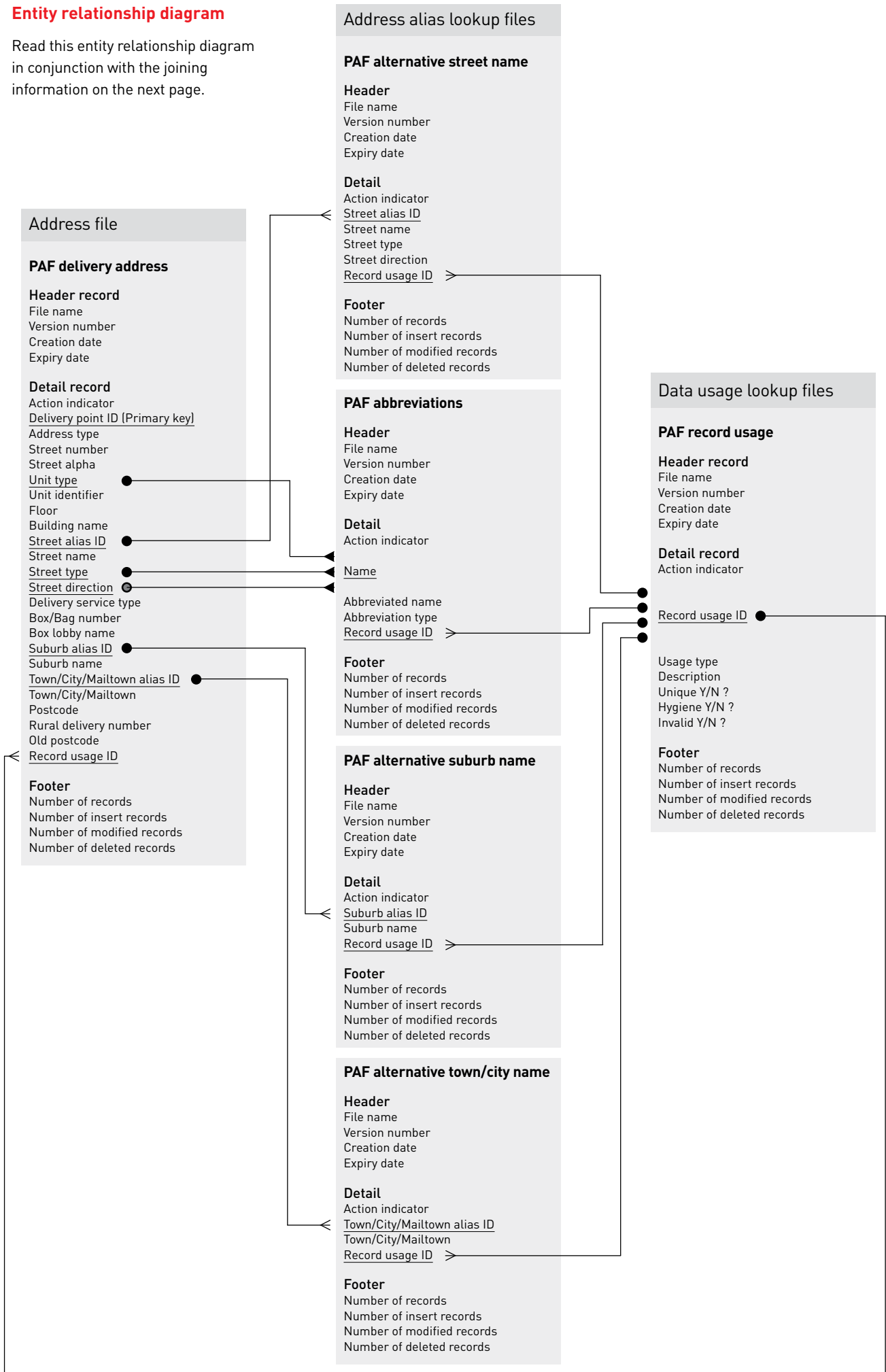
Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file	Alphanumeric	60	e.g. Abbreviations
Version Number	The version number of this extract	Alphanumeric	10	VYYYYQNVNN - VYYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicates the action performed on this records since the last extract version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modify
Name	The address attribute full name	Alphanumeric	60	
Abbreviated Name	The address attribute abbreviated name	Alphanumeric	60	
Abbreviation Type	The type of abbreviation	Character	25	
Record Usage Id	Foreign key value to link to the Record Usages file to determine the allowable usages of this address data.	Integer	10	
Footer				
Number of records	The number of data records contained within this file, also includes separate subtotals for the number of inserted, modified and deleted records.	Alphanumeric	60	318 INSERTED 0 MODIFIED 0 DELETED 0

Record Usages file

Element name	Description	Type	Optimum field size	Format rules and examples
Header				
File Name	The name of the file describing the contents of the file.	Alphanumeric	60	e.g. Record Usages
Version Number	The version number of this extract	Alphanumeric	10	YYYYQNVNN - YYYY = Version year QN = Quarter number VNN = Version number
Creation Date	The creation date of this extract	Date	10	DD/MM/YYYY
Expiry Date	The expiry date of the extract (typically six months after creation date)	Date	10	DD/MM/YYYY
Detail				
Action Indicator	Indicator of the action against the record from the last supplied version	Character	1	Null/Blank = No change I = Insert D = Delete M = Modified
Record Usage ID	The numeric unique Identifier of the data usage type	Integer	10	
Usage Type	The Data Usage Type	Character	4	
Description	The Data Usage Type Description	Character	120	
Unique YN / NA	Usage attribute	Character	1	Y = Records are valid and suitable for use in unique validation (refer Software certification guide)
Base YN / NA	Usage attribute	Character	1	Y = Records are valid and suitable for use in base validation (refer Software certification guide)
Hygiene YN / NA	Usage attribute	Character	1	Y = A known invalid record, which must not appear on mail items.
Invalid YN / NA	Usage attribute	Character	1	Y = A known invalid record, which must not appear on mail items.
Footer				
Number of records	The number of data records contained within this file, also includes separate subtotals for the number of inserted, modified and deleted records.	Alphanumeric	60	6 INSERTED 0 MODIFIED 0 DELETED 0

Entity relationship diagram

Read this entity relationship diagram in conjunction with the joining information on the next page.



Joining PAF files

The files are joined as detailed below.

File...	Joins to...	Using field...
Delivery addresses	Alternative Street Names	STREET_ALIAS_ID
Delivery addresses	Alternative Suburb Names	SUBURB_ALIAS_ID
Delivery addresses	Alternative Town/City and Maltown Names	TOWN_CITY_MAILTOWN_ALIAS_ID
Delivery addresses	Abbreviations	Street Types: ABBREVIATIONS.ABBREVIATION_TYPE = "STREET_TYPE" and ABBREVIATIONS.NAME = DELIVERY_ADDRESSES.STREET_TYPE Unit Types: ABBREVIATIONS.ABBREVIATION_TYPE = "UNIT_TYPE" and ABBREVIATIONS.NAME = DELIVERY_ADDRESSES.UNIT_TYPE Street Directions: ABBREVIATIONS.ABBREVIATION_TYPE = "STREET_DIRECTION" and ABBREVIATIONS.NAME = DELIVERY_ADDRESSES.STREET_DIRECTION
Record Usages	Delivery addresses	RECORD_USAGE_ID
Record Usages	Alternative Street Names	RECORD_USAGE_ID
Record Usages	Alternative Suburb Names	RECORD_USAGE_ID
Record Usages	Alternative Town/City and Maltown Names	RECORD_USAGE_ID
Record Usages	Abbreviations	RECORD_USAGE_ID

If no joined record exists in the alternate files, there will be no alias ID in the delivery address file.

Record Usages

The RUID identifies the intended usage of each record and must be considered in joining strategies. This concept has been introduced to recognise that certain PAF address data can only be used for certain validation and matching activities.

The following table defines current valid RUID values and identifies related usage. This same information can be looked up in the PAF2_RECORD_USAGES file.

ID	RUID	Description	Unique	Base	Hygiene	Invalid
1000	PRAD	Primary address	Y	Y	Y	NA
1001	ALIA	Postally preferred alias	Y	Y	Y	NA
1002	ALMT	Alias used for matching only	NA	NA	Y	NA
1003	ALIN	Invalid component ¹	NA	NA	NA	Y
1004	ABBR	Postally preferred abbreviation	Y	Y	Y	NA
1005	SPRA	Spatial Primary address	Y	Y	Y	NA

¹ Designates a component which, if the component is used in the address, renders the address invalid

The record usage is defined in this table.

This flag...	Means...
Unique	Can be used when validating to a Unique address (for software certification).
Base	Can be used when validating to a Base address (for software certification).
Hygiene	Can be used for data hygiene activities including matching, cleansing or de-duplicating.
Invalid	Denotes an element which if used in an address will render that address invalid (for software certification).

This table will be keyed on record_usage_id and this will be assigned as a foreign key to ALL records in the PAF extract files. Therefore every address file will have an extra record_usage_id column introduced to the file's structure.

Each record will be assigned only one RUID.

Record action indicator

PAF is released quarterly. Amendments to the data can be identified using the record action indicator held for each record. The record action indicator values are:

If the record action indicator is...	The delivery address ID and associated address components have...
Blank / Null	Not changed since the previous version of PAF
I (Insert)	Added since the previous version of PAF
D (Delete)	Deleted since the previous version of PAF
M (Modify)	Modified since the previous version of the PAF