



Spatial data-sets for geographical referencing —

Part 3: Specification for addresses

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Committees responsible for this British Standard

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Foreword

This part of BS 7666 was originally prepared by the Address Standard Working Party for the Local Authorities Associations' Geographic Information Advisory Group (formerly the Geographic Information Steering Group). It has been subsequently reviewed and revised under the auspices of Technical Committee IST/36, Geographic information. It supersedes BS 7666-3:1994 which is withdrawn.

BS 7666 comprises four parts:

- *Part 1: Specification for a street gazetteer;*
- *Part 2: Specification for a land and property gazetteer;*
- *Part 3: Specification for addresses;*
- *Part 4: Specification for the recording of public rights of way.*

Parts 1, 2 and 4 specify the contents of data-sets, whilst Part 3 specifies a format and is an enabling mechanism for creating references.

Part 1 specifies the data to be maintained in a gazetteer of streets. It specifies ways of referencing a street so that data can be accessed by street name, description, route number or unique reference number, and the means for specifying its spatial location. A street provides a basic reference for use in each of the other parts of the standard.

Part 2 specifies the data to be maintained in a gazetteer of land and property. A land and property gazetteer is built around the concept of a basic land and property unit (BLPU). Each BLPU is uniquely identified by one or more land and property identifiers (LPIs), which include a reference to a street as defined in Part 1, and an address as defined in Part 3.

Part 3 specifies a model and structure for an address and provides a means by which an address may be constructed. The purpose of an address is to provide a description of a real-world object by reference to its location. An object for which an address may be constructed is termed an "addressable object".

Part 4 specifies the format for a data-set for recording public rights of way. A public right of way is referenced to a street as defined in Part 1.

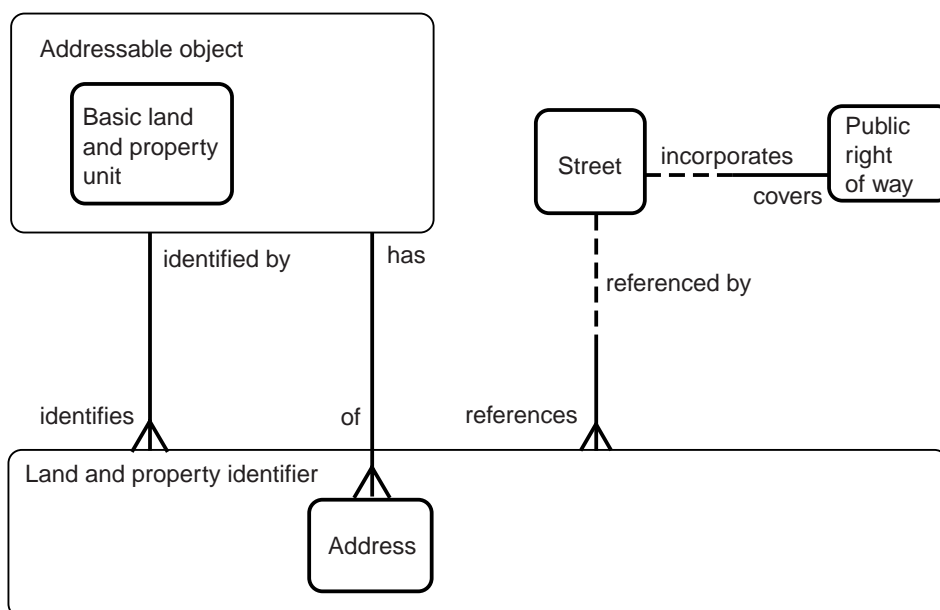
Each part of the standard is built around the concept of a fundamental entity. The relationships between these entities are shown in Figure 1.

Annexes A and B are informative.

It has been assumed in the drafting of this British Standard that the execution of its provisions is entrusted to appropriately qualified and experienced people.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

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NOTE The concepts, terminology and diagramming standards used in the figure are based on the Structured Systems Analysis and Design Method in accordance with BS 7738-1 for logical modelling.

Entities are denoted by boxes. A box within a box is used to show that one entity is a sub-type of another (super-type). For example, "basic land and property unit" is a sub-type of "addressable object".

Relationships between entities are denoted by lines between the boxes, with the description of the relationship reading clockwise (see Key). For example, a basic land and property unit is identified by many land and property identifiers, and a land and property identifier identifies one basic land and property unit.

Key

	One-One	One-Many	Many-Many
"Mandatory" (Always exists)	—————	—————<	>—————<
"Optional" (Might not exist)	- - - - -	- - - - -<	>- - - - -<
"Optional/Mandatory" ("Optional" one way "Mandatory" the other)	- - - - -	- - - - -<	>- - - - -<

Figure 1 — Relationships between the fundamental entities given in BS 7666

Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 11 and a back cover.

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Introduction

Addresses are widely used:

- a) to reference particular objects of interest;
- b) for access and delivery to locations;
- c) to aggregate data by spatial location.

The most common form of address is the postal address. This consists of a series of routing instructions that are used for the sorting and delivery of mail. It contains only the minimum information necessary to effect secure delivery. The maximum dimensions of the postal address and its locations on forms, for the purposes of standardizing its presentation and structure, are specified in ISO 11180.

The postcode is a proprietary system, devised by the Royal Mail, that forms a summary of a postal address. This is readily converted to a machine-readable format which facilitates the sorting of mail. Postal addresses and postcodes are used widely to identify objects that have mail delivery points and for additional purposes such as the aggregation of spatial data. However, postcodes are assigned only to buildings and organizations that receive mail. There are many other objects that also need an address.

Basic addresses are a description based on recognizable names of objects and locations. The United Kingdom divides into a set of high-level areas which can describe widely accepted geographic areas or administrative areas such as counties and unitary authorities. Within these, are towns and localities. Streets may lie within a locality, a town, or a county. A number of different types of real-world objects may have addresses constructed within this context.

1 Scope

This part of BS 7666 specifies a model and basic structure for addresses in terms of data, definitions, tables and fields and provides a nationally-consistent means of structuring address-based information. This part of BS 7666 describes the classes of objects for which an address may be constructed and provides a means whereby a secondary range of objects may be similarly referenced.

This part of BS 7666 may be used for the construction of an address for the purposes of referencing a location for a range of geographic objects, the interchange of address-based data and the aggregation of other data related to it. It is not intended for the definition of addresses for the purposes of postal delivery. This part of BS 7666 is not a specification for a database of addresses.

NOTE A checklist for verification of conformity of an address to this standard is given in annex A.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 7666-1:2000, *Spatial data-sets for geographical referencing — Specification for a street gazetteer*.

BS 7666-2:2000, *Spatial data-sets for geographical referencing — Specification for a land and property gazetteer*.

3 Definitions

For the purposes of this part of BS 7666, the definitions given in BS 7666-1:2000 and BS 7666-2:2000 apply together with the following.

3.1

address

means of referencing an object for the purposes of unique identification and location

3.2

addressable object

real-world object that has a fixed location and may be identified and referenced by means of one or more addresses

3.3

administrative area

geographic area that may be either:

- a) a highest level local administrative area, which may be a county or a unitary authority; or
- b) London; or
- c) an island or island group.

3.4

basic land and property unit (BLPU)

area of land, property or structure of fixed location having uniform occupation, ownership or function

3.5

designated street name

name for a street that has been allocated by a street naming authority

NOTE This can normally be identified by a name plate on the street.

3.6

locality

neighbourhood, suburb, district, village, estate, settlement or parish that may form part of a town, or stand in its own right within the context of one or more administrative areas

NOTE Where an industrial estate contains streets, it is defined as a locality in its own right.

3.7

postcode

set of characters identifying a group of postal delivery points, defined by the Royal Mail to facilitate the sorting and delivery of mail

NOTE 1 A postcode comprises two sets of alphanumeric characters. The first set of characters comprises up to four characters and the second set comprises three characters. The character sets are normally separated by a blank. Examples of postcodes are W1A 2BS, PO1 3AX, SW1P 3AD, TQ12 3HP and S1 1AA.

NOTE 2 A postcode will not exist for many addressable objects.

3.8

primary addressable object

addressable object that can be addressed without reference to another addressable object

3.9

secondary addressable object

addressable object that is addressed by reference to a primary addressable object

3.10

street

whole or part of a highway, road, lane, footpath, square, court, alley or passage

NOTE The term "street" is used throughout this standard to encompass the terms "street", "road" and "thoroughfare".

3.11

street description

description, allocated by a street naming authority, used to identify a street that does not have a designated street name

3.12

street number

road or route number allocated to a street by the Department of the Environment, Transport and the Regions, the Scottish Executive, the National Assembly for Wales or the local highway authority

NOTE Examples of numbered streets are "A1" and "C1111".

3.13

town

city or town that is not an administrative area, a suburb of an administrative area that does not form part of another town or a London district

3.14

unofficial street name

name by which a street is known, but which has not been designated by a street naming authority

NOTE Such a street name may cover all or part of one or several streets. Examples are "Lovers Lane", "The Great North Road", and "The old A14".

4 Basis of addresses

4.1 Context for addresses

An addressable object may have one or more addresses; each such address shall identify one addressable object.

NOTE 1 The following may be considered as addressable objects:

- a) uniquely identifiable structures;
- b) basic land and property units (BLPU) as specified in BS 7666-2.

An addressable object shall be either a primary addressable object or a secondary addressable object. A primary addressable object shall be a single entity that is addressed directly via a street, locality, town or administrative area.

A secondary addressable object shall be addressed via a primary addressable object; it may be a sub-division of a primary addressable object, or it may be related in some way to a primary addressable object, for example by adjacency.

NOTE 2 Primary addressable objects include all buildings occupied by people (for purposes of residence, business or other activity) such as houses, independently accessed and numbered flats, offices, shops, factories, warehouses and public buildings. They usually have a publicly identifiable name tag. Flats or maisonettes within large buildings or tower blocks may be considered as primary addressable objects if the name of the building or tower block does not form a necessary part of the address.

NOTE 3 Secondary addressable objects include flats forming part of a named or numbered property and factory sub-units. A secondary addressable object may be within the same premises, as in the case of a flat within a house. Alternatively, it may be in a different building as in the case of "The Outpatients' Department, Addenbrooke's Hospital". Some types of addressable object, such as street furniture, pumping stations, monuments and public toilets, may either be primary or secondary addressable objects.

NOTE 4 There may be application-specific forms of an address where addressable objects are referenced to a particular geographic referencing system. One such system is the postcode. Through use of the postcode, a link between different types of addresses may be made.

4.2 Basic data model

An address shall be based upon a logical data model comprising the following entities:

- a) addressable object, with sub-types:
 - primary addressable object;
 - secondary addressable object;
- b) address;
- c) street;
- d) locality;
- e) town;
- f) administrative area;
- g) postcode.

NOTE This data model is shown in Figure 2.

One and only one relationship shall exist between each of the address, street and locality and the higher level entities to which they may be related.

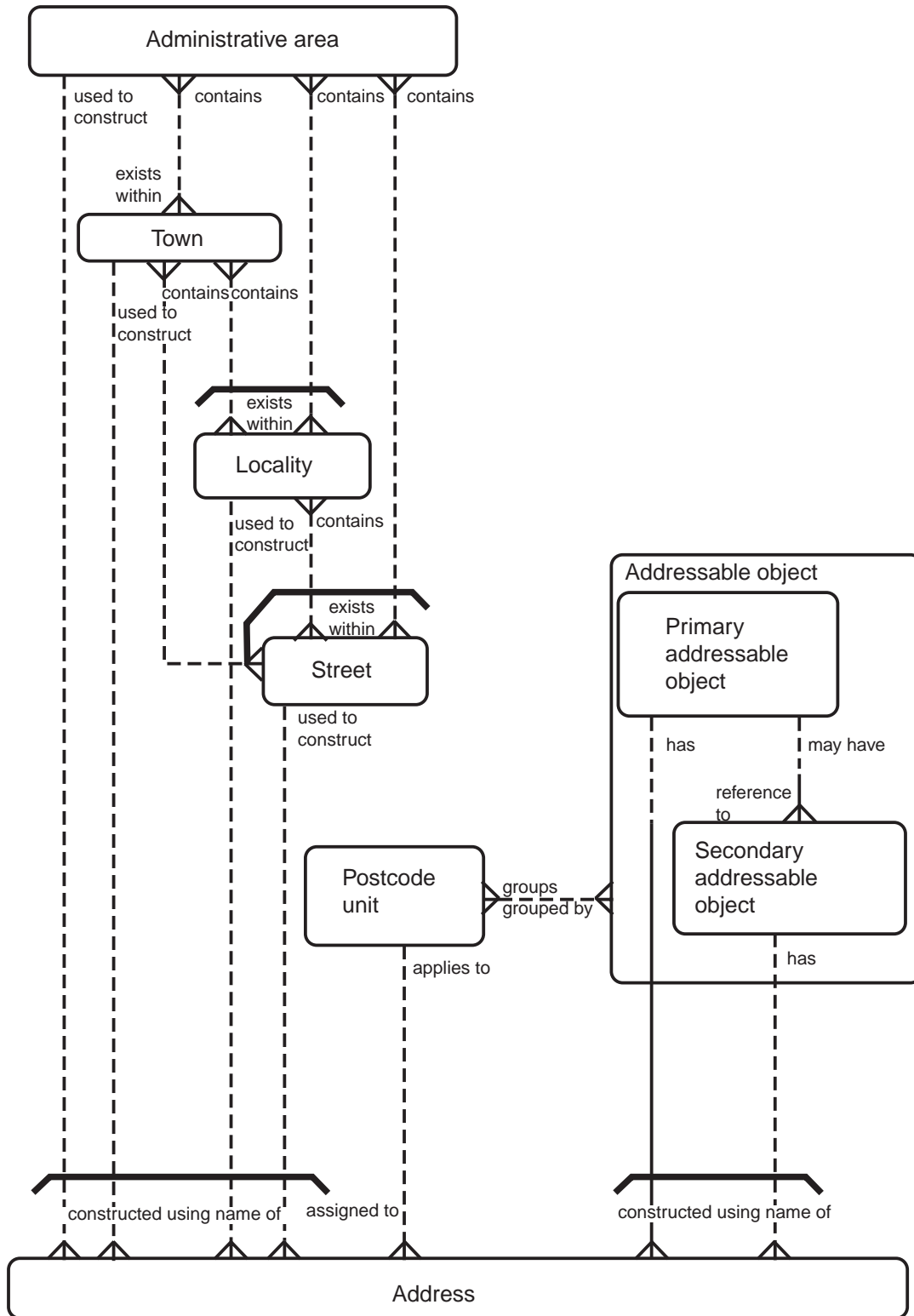


Figure 2 — Basic data model for addressing

5 Entities in an address

5.1 Administrative area

An administrative area shall have an administrative area name by which the administrative area shall be uniquely identified within the United Kingdom.

NOTE Examples of administrative area names are “Cambridgeshire”, “Grampian”, “Isle of Wight”, “London”, “Southampton”.

5.2 Town

A town shall have a town name and shall be uniquely identified within the United Kingdom:

- a) by its town name alone, for example, Cirencester; or
- b) by the combination of its town name and the name of the administrative area within which the town exists, for example Stroud, Gloucestershire.

NOTE Examples of town names are “Luton”, “Gosforth”, “Ealing”.

5.3 Locality

A locality shall have a locality name and shall be uniquely identified within the United Kingdom by:

- a) the combination of its locality name and the related administrative area name of the administrative area within which the locality exists, for example Barnsley, Gloucestershire; or
- b) the combination of its locality name, the town name of the related town within which the locality exists and, if necessary to identify the town, the related administrative area name within which the town exists, for example Stratton, Cirencester.

NOTE Examples of locality names are “Arndale Centre”, “Chesterton”, “White City Estate”.

5.4 Street

5.4.1 Attributes

A street shall have:

- a) a unique street reference number; and
- b) a street name, comprising one of the following:
 - designated street name;
 - street description;
 - street number;
 - unofficial street name.

NOTE Examples of street names are “St Mary’s Way South”, “service road on trading estate”, “C1234”, “Stagsden By-pass”.

5.4.2 Unique identifiers

A street shall be uniquely identified within the United Kingdom by either:

- a) the combination of its designated street name and the related town name of the town within which the street exists and, if necessary to identify the town, the related administrative area name of the administrative area within which the town exists; or
- b) the combination of its designated street name, the locality name of the related locality within which the street exists, the town name of the related town within which the locality exists and (if necessary to identify the town or in the case of a locality not within a town) the related administrative area name of the administrative area within which the town or locality exists.

5.5 Addressable object

5.5.1 Attributes

An addressable object shall have a description, an addressable object name and an address, and shall be uniquely identified within the United Kingdom by each of its related addresses.

5.5.2 Sub-types

Sub-types of addressable objects shall be as follows:

- a) primary addressable object;
- b) secondary addressable object.

5.6 Primary addressable object

5.6.1 Attributes

A primary addressable object shall have at least one of the following attributes:

- a) designated premise number;
- b) premise name.

The designated premise number shall be the number within the street as supplied by the local authority naming and numbering section and displayed on the outside of the property.

Each primary addressable object shall have a primary addressable object name. The primary addressable object name shall be the designated premise number if one exists. If a designated premise number does not exist, then the primary addressable object name shall be the premise name if one exists.

If a designated premise number and a premise name do not exist, the primary addressable object name shall be the organization name, if one exists. If a designated premise number, premise name and organization name do not exist, the primary addressable object name shall be a description.

NOTE Examples of primary addressable object names are "64", "17A", "Arndale House", "Bank Buildings", "Farmer Jones' Farm", "Oakwood", "Peabody Mansions", "Plot 17", "Woolworths".

5.6.2 Inherited unique identifiers

The primary addressable object shall inherit from the addressable object each of its related addresses.

5.7 Secondary addressable object

5.7.1 Attributes

Secondary addressable objects shall also have a secondary addressable object name.

The secondary addressable object name shall be the name or number used to identify the secondary addressable object within or related to a primary addressable object.

NOTE Examples of secondary addressable object names are "4th floor", "Back", "Basement", "Flat above", "Room 101".

5.7.2 Inherited unique identifiers

The secondary addressable object shall inherit from the addressable object each of its related addresses.

5.8 Postcode unit

A postcode unit shall have a postcode by which it shall be uniquely identified. The postcode shall be the set of characters determined by the Royal Mail.

6 Addresses

6.1 Attributes

All attributes shall be derived from the entities to which an address is related.

6.2 Unique identifier

An address shall be uniquely identified by the combination of:

- a) a primary addressable object name;
- b) a secondary addressable object name in the case of an address related to a secondary addressable object;
- c) at least one and sufficient to ensure uniqueness within Great Britain of:
 - 1) street name (or other street reference as specified in BS 7666-1);
 - 2) locality name;
 - 3) town name;
 - 4) administrative area name.

6.3 Addressable object name

Each address record shall contain a primary addressable object name. Where a group of primary addressable objects have a collective name and individuals are identified by numbers within that group, the primary addressable object name shall comprise the number and the collective name.

NOTE An example of a primary object name for one of a group with a collective name is "3 Railway Cottages".

Where the addressable object is a secondary addressable object, both the primary addressable object name and the secondary object name shall be included. Sufficient fields shall be included to make the address unique within Great Britain and to enable the location to be identified.

6.4 Street

The street name shall be the name of the street in which the main access point of the addressable object lies, as specified in BS 7666-1. Where the street has more than one name, the street name used in the address shall be selected according to the following priority order:

- 1) designated street name;
- 2) street description;
- 3) street number;
- 4) unofficial street name.

6.5 Recording of addresses

Entries in fields shall be recorded in character format with only single spacing within fields. All names shall be the official names where they exist, and abbreviations shall not be used except where these form part of the official name. No punctuation shall be included within fields except apostrophes, ampersands, hyphens and parentheses which may be used where they are included in the official name.

NOTE 1 Each field identifier may have one or more aliases that create different addresses for the same addressable object. Examples of aliases are alternative language versions of names, such as English and Welsh.

NOTE 2 Examples of addresses according to this structure are given in annex B.

Annex A (informative)**Checklist for verification of conformity**

To determine the conformity of an address to this part of the standard, it should be verified that:

- a) the address comprises only the fields identified in 4.2;
- b) the address is unique within the United Kingdom, and enables the location to be identified;
- c) the street name, where present, is a designated street name or other valid street reference as specified in BS 7666-1;
- d) the address contains only single spacing within fields;
- e) all names used within the address are the official names, where they exist;
- f) there are no abbreviations within the address, except where these form part of the official name;
- g) there is no punctuation within fields, except apostrophes, ampersands, hyphens and parentheses in official names.

Annex B (informative)**Example addresses**

5 Jubilee Villas Chester Road Doddleston Chester CH4 8EQ	Primary addressable object name Street name Locality name Town name Postcode
45 St Bernards Road Hurn Christchurch Dorset BH23 1HF	Primary addressable object name and street name Locality name Town name Administrative area name Postcode
Beacon House William Brown Close Llantarnam Park Cwmbran Gwent NP44 3AB	Primary addressable object name Street name Locality name Town name Administrative area name Postcode
Mold Sewage Treatment Works Gas Lane Mold Clwyd CH7 1UR	Primary addressable object name Street name Town name Administrative area name Postcode
Peterstone Court Hotel Llanhamlach Brecon Powys LD3 7HP	Primary addressable object name Locality name Town name Administrative area name Postcode
Council House Mary Stevens Park Stourbridge DY8 2AA	Primary addressable object name Locality name Town name Postcode
4th floor 191 Victoria Street London SW1 5NE	Secondary addressable object name Primary addressable object name and street name Administrative area name Postcode

Hampden Park
Mount Florida
Glasgow
G42 9BA

Primary addressable object name
Locality name
Administrative area name
Postcode

Wembley Stadium
Wembley
London
HA9 0D

Primary addressable object name
Town name
Administrative area name
Postcode

The Cenotaph
Whitehall
London

Primary addressable object name
Street name
Administrative area name

Public toilets
Green Park Station
Piccadilly
London

Secondary addressable object name
Primary addressable object name
Street name
Administrative area name

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BS 7738-1, *Specification for information systems products using SSADM (Structured Systems Analysis and Design Method) — Part 1: Implementation of SSADM version 4.*

ISO 11180, *Postal addressing.*

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