

# Spatial data-sets for geographic referencing —

## Part 1: Specification for a Street Gazetteer

# Committees responsible for this British Standard

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- Advanced Technology Marine Systems
- Association for Geographic Information
- BAe Sema Ltd.
- Berkshire County Council
- CAM Ltd.
- Cambridgeshire County Council
- Digital Equipment Co. Ltd.
- Dudley District Council
- Institute of Terrestrial Ecology
- Laser Scan Ltd.
- Local Government Management Board
- Logica UK Ltd.
- London Fire and Civil Defence Authority
- Ministry of Defence
- Ordnance Survey
- Royal Engineers Survey
- Royal Institution of Chartered Surveyors
- University of Edinburgh

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# Contents

|                                                              | Page               |
|--------------------------------------------------------------|--------------------|
| Committees responsible                                       | Inside front cover |
| Foreword                                                     | ii                 |
| Section 1. General                                           |                    |
| 1.1 Scope                                                    | 1                  |
| 1.2 Informative references                                   | 1                  |
| 1.3 Definitions                                              | 1                  |
| Section 2. Structure of data-sets                            |                    |
| 2.1 Street references                                        | 3                  |
| 2.2 Street data                                              | 3                  |
| 2.3 Cross-referencing between streets                        | 4                  |
| Section 3. Criteria for inclusion                            |                    |
| 3.1 General                                                  | 6                  |
| 3.2 Special cases                                            | 6                  |
| Section 4. Street data                                       |                    |
| 4.1 Unique street reference number                           | 7                  |
| 4.2 Record type                                              | 7                  |
| 4.3 Descriptive identifier                                   | 7                  |
| 4.4 Responsible authority                                    | 7                  |
| 4.5 Record history                                           | 7                  |
| 4.6 Spatial locator                                          | 8                  |
| 4.7 Cross-references to other streets                        | 8                  |
| Section 5. Elementary street units                           |                    |
| 5.1 Unique identifier                                        | 9                  |
| 5.2 Record history                                           | 9                  |
| 5.3 Spatial locator                                          | 9                  |
| 5.4 Intermediate points                                      | 9                  |
| Section 6. Data quality                                      |                    |
| 6.1 General                                                  | 10                 |
| 6.2 Lineage                                                  | 10                 |
| 6.3 Currency                                                 | 10                 |
| 6.4 Positional accuracy                                      | 10                 |
| 6.5 Attribute accuracy                                       | 10                 |
| 6.6 Completeness                                             | 10                 |
| Annex A (informative) Relationship with external data models | 11                 |
| Annex B (informative) Street number log                      | 11                 |
| Figure 1 — Entity hierarchy of street references             | 4                  |
| Figure 2 — Attribute structure of street record              | 4                  |
| Figure 3 — The elementary street unit                        | 5                  |
| Table 1 — Street reference attribute fields                  | 3                  |
| Table 2 — Attributes of elementary street units              | 5                  |
| Table 3 — Record types                                       | 7                  |
| List of references                                           | Inside back cover  |

## Foreword

This Part of BS 7666 has been prepared under the direction of the Information Systems Technology Standards Policy Committee. It has been prepared by the National Street Gazetteer Working Party for the local authorities associations' Geographic Information Advisory Group (formerly Geographic Information Steering Group).

The standard comprises three Parts:

- *Part 1: Specification for a Street Gazetteer;*
- *Part 2: Specification for a Land and Property Gazetteer<sup>1)</sup>;*
- *Part 3: Format for Addresses<sup>1)</sup>.*

Streets are defined in different ways by different people for different purposes, and references can be by name, number or description. In this standard, a general, all-encompassing definition is taken, and four ways of referencing streets are defined. Individual streets may have multiple references, and different street references may overlap.

This standard defines the data structures in terms of a data model, which is designed to provide a link to other data-sets such as the Computerized Street and Road Works Register (CSRWR), a Land and Property Gazetteer (LPG) (Part 2 of this standard) and the United Kingdom Pavement Management System (UKPMS). It is intended to have minimum effect on those local authorities which already have established a street gazetteer and to be compatible with a range of other street-based systems.

NOTE 1 The CSRWR is a proposed electronic notice and database system for Great Britain to assist in the management of street works.

NOTE 2 The UKPMS is a proposed national management system for prioritizing structural maintenance works on highways.

The preparation of this standard allows for the concept of a National Street Gazetteer that contains entries for all streets as defined in this standard regardless of status. After the data has been created, it will be sent to a distribution agency, in computer based form, in a recognized standard format. The distribution agency will be responsible for the distribution of the data. The means by which this is done is outside the scope of this standard.

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.

**Compliance with a British Standard does not of itself confer immunity from legal obligations.**

### Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 18, an inside back cover and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

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<sup>1)</sup> In preparation.

# Section 1. General

## 1.1 Scope

This Part of BS 7666 specifies the data to be maintained in a gazetteer of all streets in England, Scotland and Wales so that different users of street information can use the same data with consistency of content, accuracy, currency and format.

This Part of BS 7666 may also be suitable for other countries or regions.

NOTE 1 Some external data-sets which require linkage to a street gazetteer are described by The Local Government Management Board [1] and in Annex A.

The effectiveness of this standard will depend upon, and relies upon, operational systems to provide new or revised information for maintenance and enhancement of the gazetteer. In general terms, district authorities have responsibility for the development control function which governs the creation, demolition and naming of streets.

This standard specifies ways of referencing a street so that data can be accessed by street name, description, route number or unique reference number. It also specifies the means of representing its spatial location. This allows for both a general location, and full detailed description of the position of the street. A format is also specified for recording a set of other related data in the gazetteer such as the responsible authority, the record history and overlaps with other streets.

This standard specifies what needs to be checked and reported for assessing or verifying the quality of data in the street gazetteer but does not include specific tests.

NOTE 2 A companion implementation Guide [2] provides practical advice on how to establish a Street Gazetteer and how to collect the data.

## 1.2 Informative references

This British Standard refers to other publications that provide information and guidance. Editions of these publications current at the time of issue of this standard are listed on the inside back cover, but reference should be made to the latest editions.

## 1.3 Definitions

For the purposes of this Part of BS 7666, the following definitions apply.

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

### 1.3.1

#### computerized street and road works register (CSRWR)

a register of past, current and proposed openings of streets for the purpose of coordinating the activities of the highway authority and those organizations empowered to use streets as a route for utility services and sewers

### 1.3.2

#### coordinated point

a defined point whose position is recorded as a pair of coordinates relative to the national grid, to a resolution of 1 m

NOTE In the UK, this normally requires six digits for each coordinate, except for some Scottish islands where seven digits are required for the northing. The easting or X coordinate is given before the northing or Y coordinate. For the purposes of this standard, if the grid reference is measured to an accuracy of 10 m or lower, then the grid reference is filled with trailing zeros to create a 1 m resolution.

### 1.3.3

#### designated street name

a 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.

### 1.3.4

#### elementary street unit

a contiguous length of street primarily between adjacent junctions

NOTE Ends of an elementary street unit also occur at dead ends and change of street name or number.

### 1.3.5

#### entity

the general term for a real world phenomenon about which data is recorded

### 1.3.6

#### land and property gazetteer

a definitive list of all land parcels and properties uniquely identified and updated at regular intervals

### 1.3.7

#### location

an area encompassing a whole street to enable a unique reference to be created for the street

### 1.3.8

#### responsible authority

the local or national authority that is currently responsible for naming or numbering a street

NOTE This will not necessarily be the authority that actually designated the street name or street number for a particular street.

### 1.3.9

#### **spatial locator**

a means of identifying the geographic position of an entity within a defined reference system

### 1.3.10

#### **street**

the whole or part of any highway, road, lane, footpath, square, court, alley or passage, irrespective of whether it is a thoroughfare or not

NOTE The street provides the basic referencing unit for an application such as a computerized street works register.

### 1.3.11

#### **street description**

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

NOTE There will be no street name plate on the street.

### 1.3.12

#### **street gazetteer**

a maintained index of streets, their addresses and geographic locations

### 1.3.13

#### **street name alias**

an alternative name used in addition to the designated street name for the exact same street

NOTE This is used where a street has two designated names, for example in Wales where one name is in English and the other name is in Welsh. It is not for use for alternative names for part of a street or more than one street, which are recorded in the gazetteer as an unofficial street name.

### 1.3.14

#### **street naming authority**

a body designated with the responsibility for naming all streets in a defined area

NOTE This will normally be a District Council, Metropolitan District, London Borough including the City of London or Scottish Island Council. It will not necessarily be the highway authority.

### 1.3.15

#### **street number**

a road or route number allocated to a street by the Department of Transport, Scottish Office, Welsh Office or the local highway authority

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

### 1.3.16

#### **tolerance**

a measure of the radius of influence around a point whose exact position is not well-defined

NOTE This is used to deal with different definitions of the end of a street for different applications.

### 1.3.17

#### **unofficial street name**

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

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

## Section 2. Structure of data-sets

### 2.1 Street references

A street gazetteer shall be based around the concept of a street as defined in 1.3. It shall comprise records of street references. Each street reference shall be one of the following:

- a) designated street name;
- b) street description;
- c) street number;
- d) unofficial street name.

**NOTE 1** The primary entity can be considered to be the street reference, with sub-entities corresponding to each of the types of street reference. This entity hierarchy is shown diagrammatically in Figure 1. Individual streets may have more than one entry in the gazetteer as a result of being referenced in multiple ways, and different street references may overlap.

### 2.2 Street data

Each record shall contain the following information about the street:

- a) a unique street identifier in the form of a unique street reference number;
- b) the street reference (sub-entity) type;
- c) a descriptive identifier, comprising name, number or description, together with a location which may be described by some or all of locality name, town name and county name;
- d) the responsible authority;
- e) details of the record history, comprising version number, and dates of entry and (where appropriate) closure;
- f) a spatial locator, comprising grid references for the extremity points and a tolerance;
- g) a variable number of cross-references to all other overlapping street references.

**NOTE 1** In addition, a designated street name may have a single street name alias. This is an alternative descriptive identifier for the exact same street, and has corresponding attributes.

**NOTE 2** The attribute structure is shown diagrammatically in Figure 2. The attribute fields are described in Table 1. The field lengths show the type and the maximum number of characters allowed. Access to a record is provided via a key, which provides a unique identifier for the record. The unique street reference number and record version number together provide the primary key. The descriptive identifier (or identifiers where there is a street name alias) and the record version number provide an alternative key.

**Table 1 — Street reference attribute fields**

|                                                           | Field                                                  | Length  | Clause |
|-----------------------------------------------------------|--------------------------------------------------------|---------|--------|
| Unique street identifier                                  | Unique street reference number                         | I8      | 4.1    |
| Record type                                               | Street reference type                                  | I1      | 4.2    |
| Descriptive identifier                                    | Name, number or description                            | A100    | 4.3    |
|                                                           | Locality name                                          | A35     |        |
|                                                           | Town name                                              | A30     |        |
|                                                           | County name                                            | A30     |        |
| Responsible authority                                     | Authority code                                         | I4      | 4.4    |
| Record history                                            | Version number                                         | I2      | 4.5    |
|                                                           | Entry date                                             | I8      |        |
|                                                           | Closure date                                           | I8      |        |
| Spatial locator                                           | Extremity points                                       | 2 × I14 | 4.6    |
|                                                           | Tolerance                                              | I3      |        |
| Cross-references                                          | References to other streets or elementary street units | see 2.3 | 4.7    |
| <b>Key</b><br>I denotes integer<br>A denotes alphanumeric |                                                        |         |        |

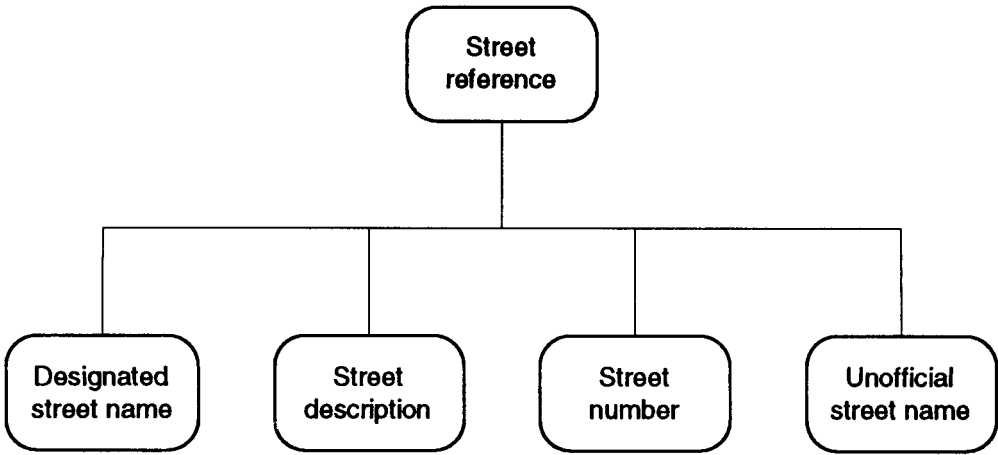


Figure 1 — Entity hierarchy of street references

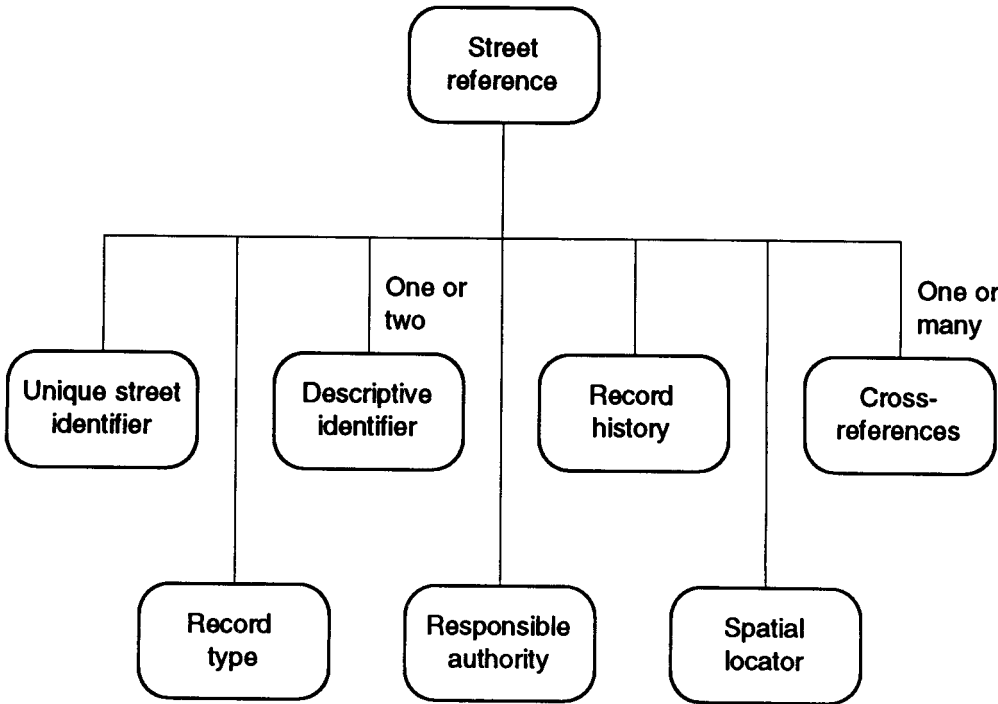


Figure 2 — Attribute structure of street record

2.3 Cross-referencing between streets

2.3.1 General

Other street references that a street reference overlaps either wholly or in part shall be identified in the gazetteer, either:

- a) by recording the unique eight digit street reference number of all street references that overlap; or

- b) by using elementary street units, and recording the unique 14 digit identifier of all of the elementary street units that make up the street.

NOTE Cross-referencing is required where streets referenced in different ways may not always be physically distinct, e.g. “The Avenue” may be part of “South Circular Road” and also “A205”.