BS 7666-2:2006

BRITISH STANDARD

Spatial datasets for geographical referencing –

Part 2: Specification for a land and property gazetteer

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Contents

Summary of pages

This document comprises a front cover, an inside front cover, pages i and iv, pages 1 to 23, an inside back cover and a back cover.

Foreword

Publishing information

This part of BS 7666 was published by BSI and came into effect on 28 July 2006. It was prepared by Technical Committee IST/36, Geographic information. A list of organizations represented on this committee can be obtained on request to its secretary.

Information about this document

BS 7666 was originally published over the period 1994 to 1996 in four parts.

These four parts were revised separately over the period 2000 to 2002. During 2004 to 2005, all the parts were revised together, with a new Part 0: *General model for gazetteers and spatial referencing* being added. This provides a common structure for gazetteers of any class of geographic object.

BS 7666 now comprises the following parts:

- Part 0: General model for spatial referencing;
- Part 1: Specification for a street gazetteer;
- Part 2: Specification for a land and property gazetteer;
- Part 5: Specification for a delivery point gazetteer.

These parts supersede BS 7666-1:2000, BS 7666-2:2000, BS 7666-3:2000 and BS 7666-4:2002. The new Part 0 has subsumed *Part 3: Specification for addresses*. Part 1 has subsumed *Part 4: Specification for recording public rights of way* but in other respects is similar in scope to that published previously. The scope of Part 2 is largely unchanged. Part 5 is new in scope.

Parts BS 7666-1:2000, BS 7666-2:2000, BS 7666-3:2000 and BS 7666-4:2002 are now withdrawn. Thus Parts 3 and 4 will not form part of the standard although there will now be a Part 5. Renumbering has not taken place to avoid any confusion with the withdrawn standards.

The main changes that have been made to this Part of the Standard are as follows:

- the structure, content and terminology are made consistent with new general model in Part 0;
- the structure and content are made consistent with the revised Part 1;
- the addition of a requirement for gazetteer metadata;
- the addition of a facility for recording descriptive identifiers in multiple languages;
- the addition of a facility for classification of BLPUs;
- the addition of a facility for cross-referencing to other datasets;
- the addition of an identifier for an LPI;
- change to the role of provenance;
- field lengths are no longer prescribed;
- addition of a requirement for a data quality report;
- other minor changes in the light of experience of use.

Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a British Standard cannot confer immunity from legal obligations.

Introduction

This part of BS 7666 is designed to facilitate the creation and maintenance of gazetteers of varying scope, from specialist interest in a restricted area to universal coverage for general use. It has been designed in the expectation that such gazetteers will increasingly need to be matched, merged and cross-referenced in order to promote access to, and sharing of, related land and property data.

A key design principle is that the application of this part of the standard, in conjunction with the other parts of BS 7666, will help to establish a common set of identifiers for use across a range of applications.

An external application will reference a basic land and property unit in the gazetteer via its unique property reference number. The unique property reference number or other identifier may be used to cross-refer a basic land and property unit to other information held external to the gazetteer. Examples are revenue, planning, distribution and utility records. This enables data from different sources to be co-related or interchanged via the gazetteer, and requires the currency of the data to be maintained after initial set-up.

1 Scope

This part of BS 7666 specifies the logical data structure for a gazetteer of land and property, consistent with Part 0 of this standard. It is based upon the concept of a basic land and property unit (BLPU), and specifies the data to be recorded and maintained in a gazetteer. It also specifies the way in which the boundary of a BLPU may be represented and linked to the gazetteer. It does not provide a database design or a transfer format.

This part of BS 7666 is intended for use by those compiling land and property gazetteers, for a range of purposes including property records and addressing. It enables different users of land and property information to link different land and property identifiers (LPI) via a common unique property reference number (UPRN).

A checklist for verification of conformity is given in Annex A.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the reference cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

BS 7666-0, *Spatial datasets for geographical referencing — Part 0: General model for gazetters and spatial referencing.*

BS 7666-1, *Spatial datasets for geographical referencing — Part 1: Specification for a street gazetteer.*

BS ISO 8601, *Data elements and interchange formats — Information interchange — Representation of dates and times.*

3 Terms and definitions

For the purposes of this part of BS 7666, the terms and definitions given in BS 7666-0 and the following apply.

3.1 addressable object

geographical object that may be identified and referenced by means of one or more addresses

3.2 basic land and property unit BLPU

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

3.3 BLPU provenance

basis for the existence and extent of a basic land and property unit

NOTE Provenance may be determined by e.g. land title, tenancy or rental agreement, physical features, occupancy or use.

3.4 land and property identifier LPI

structured text entry that identifies a basic land and property unit

3.5 land and property gazetteer

record of instances of basic land and property units covering a defined geographic area

3.6 primary addressable object

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

3.7 secondary addressable object

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

3.8 unique property reference number UPRN

unique numeric identifier for a basic land and property unit

4 Land and property gazetteer requirements

4.1 Land and property gazetteer scope

A land and property gazetteer shall contain all instances of BLPUs within its territory of use, according to a defined scope.

NOTE 1 Examples of gazetteer scopes are "Registered land titles in England and Wales", "Occupied residential property units and commercial premises in Redlands District Council area", "Land and property owned or used by the Acme Industrial Corporation in Great Britain".

NOTE 2 The land and property gazetteer may include BLPUs relating to any specified time period. BLPUs that no longer exist may be recorded in the gazetteer.

4.2 Basic land and property unit

Each BLPU shall be identified by one or more Land and Property Identifier (LPI). The LPI shall contain a spatial reference as defined in Part 0 of this standard.

NOTE 1 A BLPU may have several LPIs, e.g. in different languages, or where a historic name that is no longer used is recorded.

A BLPU may be related to other BLPUs (e.g. a numbered flat within a block).

NOTE 2 BLPUs may overlap, e.g. railway arches and subterranean public conveniences. A BLPU may be an aggregation of other BLPUs or a part of another BLPU. For example, a farm may be an aggregation of land parcels which are themselves BLPUs, or a flat could be a subdivision of a block of flats which is itself a BLPU.

4.3 BLPU extent

A BLPU may be represented by one or more extents, each representing a different BLPU provenance.

NOTE 1 Examples of BLPU provenances are ownership, tenancy, occupancy and usage.

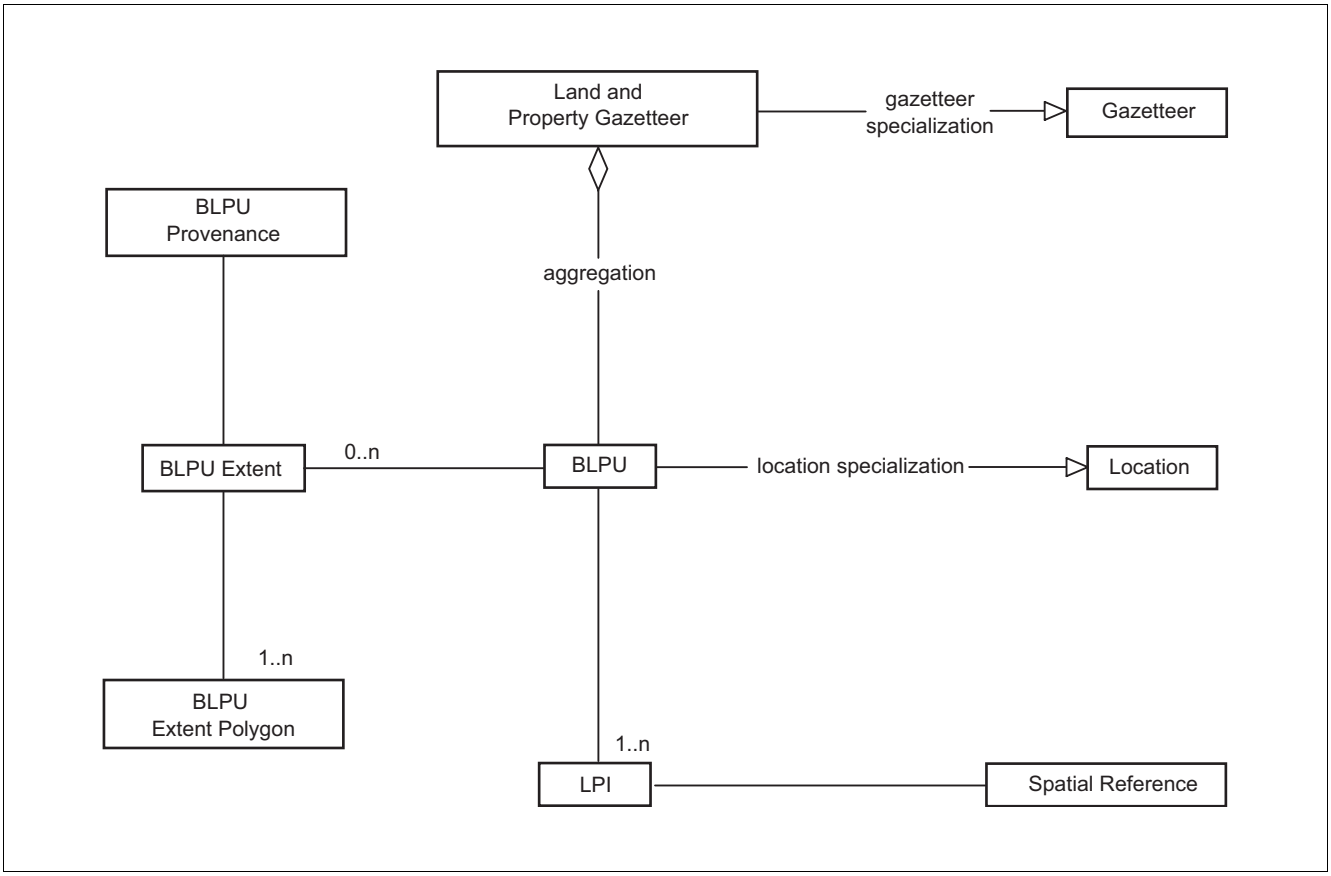
BLPU extents may be included in the gazetteer. A BLPU extent may be discontinuous. A BLPU extent recorded in the gazetteer shall be described by one or more BLPU extent polygons.

NOTE 2 A BLPU extent polygon may be a "hole" cut out from another polygon forming part of the same BLPU extent.

4.4 Relationship between classes

The relationships between BLPU, LPI, BLPU provenance, BLPU extent and BLPU extent polygon are shown in Figure 1.

Figure 1 **Land and property gazetteer model**



NOTE The diagramming conventions used in this diagram are explained in Annex B. A land and property gazetteer is a specialization of a gazetteer, and a BLPU is a specialization of a location, as defined in Part 0 of this standard.

5 Gazetteer metadata

5.1 Mandatory elements

A land and property gazetteer shall have the following mandatory (M) metadata elements:

a) **name**: name of the gazetteer;

b) **scope**: description of the content of the gazetteer, including the rules for inclusion or exclusion, e.g. "occupied residential and commercial property";

c) **territory of use**: geographic domain of the street gazetteer, e.g. Great Britain, England and Wales, Scotland, Northern Ireland;

d) **gazetteer owner**: the organization or organizations with overall responsibility for the gazetteer, e.g. "the Local Government Information House" or "DNA-Scotland";

e) **custodian**: organization or organizations responsible for the compilation and maintenance of the data in the gazetteer, e.g. the Land and Property Gazetteer Custodian;

f) **coordinate system**: coordinate reference system used in the gazetteer to describe position, e.g. National Grid (NG) of Great Britain, or Irish Transverse Mercator (ITM);

g) **current date**: the date at which the gazetteer can be considered to be current.

5.2 Optional elements

A land and property gazetteer shall have the following optional (O) metadata elements:

a) **coordinate axis units**: unit of measure of coordinates, e.g. metres;

b) **metadata date**: date of last update of metadata;

c) **BLPU classification scheme**: the classification scheme used in the gazetteer;

d) **state coding scheme**: the coding scheme used to define the logical state of a BLPU recorded in the gazetteer;

*NOTE An example coding scheme is given in **C.2** in Annex C.*

e) **language**: the language(s) used in the gazetteer for names, identified by a three letter code as specified in BS ISO 639-2 (see Annex C);

NOTE Where no language is specified, a default of English is assumed.

f) **character set**: any non-English character set(s) used to record entries in the gazetteer, e.g. Gaelic;

g) **external cross-referencing scheme**: any external cross-referencing scheme used in the gazetteer to reference the BLPU, other than that defined in this Standard, e.g. Ordnance Survey TOIDs (topographic identifiers).

5.3 Structure

Metadata about the gazetteer shall be structured in accordance with Table 1.

NOTE 1 A UML model is shown in Annex B which also shows the relationships with the other classes. An example metadata set is given in Annex D.

NOTE 2 As appropriate, additional attributes can be added by the user in the context of a particular application.

Table 1 **Gazetteer metadata**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Data type** [e]
name	name	M	1	CharacterString
scope	scope	M	1	CharacterString
territory of use	terOfUse	M	1	CharacterString
gazetteer owner	gazOwner	M	1	CharacterString
custodian	cust	M	1	CharacterString
coordinate system	coordSys	M	1	CharacterString
coordinate axis units	coordAxisUnit	O	1	CharacterString
metadata date	metaDat	O	1	Date
BLPU classification scheme	BLPUClassScm	O	1	CharacterString
state coding scheme	statCodScm	O	1	CharacterString
current date	curDat	M	1	Date
language	language	O	N	Language [f]
character set	charSet	O	N	CharacterString
external cross-referencing scheme	extXRefScm	O	N	CharacterString

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The form of the attribute.

[f] See Annex C.

All dates shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

6 Basic land and property units

6.1 Mandatory attributes

A BLPU recorded in the gazetteer shall have the following mandatory (M) attributes:

a) **unique property reference number**: a unique identifier for the BLPU (see **6.5.1**);

b) **entry date**: date that the BLPU record was added to the gazetteer;

c) **update date**: date of last change made to the BLPU record;

d) **start date**: date at which the BLPU was created;

NOTE When the start date is not known, a notional date at which it is known to exist should be used, e.g. 2000-01-01.

e) **coordinate reference**: a representative point for the BLPU (see **6.5.2**);

f) **representative point code**: a code identifying the choice of the representative point (see **6.5.2**);

g) **logical status**: the level of acceptance of the BLPU record by the gazetteer custodian (see **6.5.3**);

h) **administrator**: organization responsible for defining the characteristics of the BLPU.

6.2 Optional attributes

Where appropriate, a BLPU recorded in the gazetteer shall also have one or more of the following optional (O) attributes:

a) **BLPU classification**: code for the type of BLPU (see Annex C);

NOTE Where a BLPU can have multiple classifications, the BLPU classification should be the principal classification.

b) **end date**: the date at which the BLPU ceased to exist;

c) **state**: a code identifying the physical status of the BLPU (see Annex C);

d) **current state date**: the date at which the BLPU achieved its current state in the real-world;

NOTE When the current state date is not known, a notional date at which it is known to be in that state should be used, e.g. 2000-01-01.

e) **external cross-reference(s)**: identifier of corresponding object recorded elsewhere, e.g. one or more Ordnance Survey TOIDs (Topographic Identifier), or a delivery point address as defined in BS 7666-5.

6.3 Associations

A BLPU shall have the following association:

a) **identified by** one or more **LPI**.

A BLPU may also have the following association:

b) **delineated** by one or more **BLPU extent**.

6.4 Structure

A BLPU record shall be structured in accordance with Table 2.

NOTE 1 A UML model is shown in Annex B. Examples are given in Annex D.

NOTE 2 As appropriate, additional attributes can be added by the user in the context of a particular application, e.g. ward, secondary classification.

Table 2 **Attributes of a BLPU**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Data type** [e]
unique property identifier	uprn	M	1	CharacterString
BLPU classification	BLPUClass	O	1	CharacterString
entry date	entryDat	M	1	Date
update date	updatDat	M	1	Date
start date	startDat	M	1	Date
end date	endDat	O	1	Date
state	state	O	1	CharacterString
current state date	curStatDat	O	1	Date
coordinate reference	coordRef	M	1	Point
representative point code	repPtCode	M	1	Integer
logical status	logStat	M	1	Integer
administrator	admin	M	1	CharacterString
external cross-reference	extXRef	O	N	CharacterString
role name [f]: identified by	identBy	M	N	LPI
role name [f]: delineated by	delinBy	O	N	BLPUextent

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The form of the attribute.

[f] The name of the association.

All dates shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

6.5 Attributes

6.5.1 Unique property reference number

Each BLPU referenced in the gazetteer shall have a unique property reference number. The reference number shall not be changed if responsibility for the BLPU transfers from one custodian to another.

6.5.2 Coordinate reference and representative point code

A representative point shall be chosen for the BLPU and given a pair of coordinates in a defined coordinate system.

NOTE The representative point should lie within the BLPU but, where information is lacking, may fall outside. Where the representative point lies outside the BLPU, it may be given the coordinate of either the south-west corner of the 100 metre grid square (when using a metric grid) containing the BLPU, or the start point of the street in which the BLPU lies.

The representative point code shall identify the choice of representative point. Values shall be as given in Table 3.

Table 3 **Representative point code**

Code	Description
1	Visual centre
2	General internal point
3	South-west corner of coordinate grid square (100 m or nearest equivalent) [a]
4	Start point of the referencing street
5	Representative point for Unit Postcode [b]
9	Unspecified [b]

[a] This value should be used only when using a metric grid, e.g. the National Grid of Great Britain.
[b] This value should be used only on a temporary basis.

6.5.3 Logical status

BLPU logical status codes shall be as in Table 4.

Table 4 **BLPU logical status**

BLPU record status	BLPU logical status	Description
Approved	1	BLPU identified by at least one approved LPI and confirmed by the gazetteer custodian as the most appropriate spatial identification
Candidate	5	BLPU posted for inclusion in the gazetteer but awaiting approval by the gazetteer custodian [a]
Provisional	6	BLPU held in the gazetteer on a temporary basis [b]
Historical	8	BLPU no longer in use [c]
Rejected	9	BLPU not approved by the gazetteer custodian and awaiting deletion [d]

[a] A candidate BLPU is only identified by a candidate LPI.

[b] An example is a building plot. The purpose of a provisional BLPU is to assist in the matching or reconciliation of identifiers.

[c] In this case, an end date will be recorded. The purpose of an historic BLPU is to facilitate the maintenance of cross-references to historic datasets. An example is where a building has been demolished.

[d] For a rejected BLPU, the associated LPIs should also be rejected.

7 Land and property identifiers

7.1 Mandatory attributes

An LPI shall have the following mandatory (M) attributes:

a) **identifier**: an identifier for the LPI;

b) **object name**: the name of the object (see **7.5.1**);

c) **spatial reference**: a spatial reference for the BLPU in the form of a street (see **7.5.2**);

d) **start date**: the date at which the LPI was created;

NOTE When the start date is not known, a notional date at which it is known to exist should be used, e.g. 2000-01-01.

e) **entry date**: the date that the LPI record was added to the gazetteer;

f) **update date**: the date of last change made to the LPI record;

g) **logical status**: the confidence level of the LPI record (see **7.5.3**).

7.2 Optional attributes

Where appropriate, an LPI shall also have one or more of the following optional (O) attributes:

a) **language**: code identifying the language in which the names in the LPI are given (see Annex C);

NOTE The language indicates the status of the name in a multi-lingual context, and not the language of the text which may include individual names in another language.

b) **end date**: the date at which LPI ceased to exist;

c) **postcode**: the postcode as assigned by Royal Mail for the address contained in the LPI;

d) **level**: the vertical position of the BLPU within a structure, or relative to another BLPU, e.g. “floor 13” and “subway”;

e) **official address marker**: indicator of whether the address recorded in the LPI corresponds to an entry in the official name and numbering register.

NOTE The official name and numbering register is the formal register that each local authority with street naming and numbering responsibility in England and Wales is required to maintain. It contains entries for all designated street names and premise numbers allocated by the authority. The marker is set to “Y” if the address is included in the register, “N” if it is not and left blank if not known.

7.3 Associations

An LPI recorded in the gazetteer shall have the following relationships:

a) **identifies** one **BLPU**.

7.4 Structure

An LPI record shall be structured in accordance with Table 5.

NOTE 1 A UML model is shown in Annex B. Examples are given in Annex D.

NOTE 2 As appropriate, additional attributes may be added in the context of a particular application, e.g. “townland” in Northern Ireland, “posttown”.

Table 5 **Attributes of an LPI**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Data type** [e]
identifier	identifier	M	1	CharacterString
language	language	O	1	Language [f]
object name	objNam	M	1	AddressableObject
spatial reference	spatRef	M	1	SpatRef
entry date	entryDat	M	1	Date
update date	updatDat	M	1	Date
start date	startDat	M	1	Date
end date	endDat	O	1	Date
postcode	postcode	O	1	CharacterString
level	level	O	1	CharacterString
official address marker	offAddMk	O	1	CharacterString
logical status	logStat	M	1	Integer
Role name [g]: identifies	identifies	M	1	BLPU

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The allowable set of values for the attribute.

[f] See Annex C.

[g] The form of the attribute.

All dates shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

7.5 Attributes

7.5.1 Object name

The object name shall comprise a primary addressable object name and optionally a secondary addressable object name as shown in Table 6.

Table 6 **Attributes of an addressable object**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Domain** [e]
primary addressable object name	PAOName	M	1	CharacterString
secondary addressable object name	SAOName	O	1	CharacterString

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The allowable set of values for the attribute.

The primary addressable object name shall identify either:

a) the BLPU itself (in which case there is no secondary addressable object name); or

b) the primary addressable object of the BLPU to which the secondary addressable object is referenced.

The primary addressable object name shall be defined according to the following descending order of priorities:

1) a designated premises number for the BLPU, e.g. “42”;

2) a premises name for the BLPU, e.g. “Bush House”;

3) an organization name for the corporate occupier of the BLPU, e.g. “Tesco”;

4) a description of the BLPU, e.g. “development site bounded by Church Lane and Priory Avenue”.

NOTE 1 If both the designated premises number and premises name exist, both may be recorded.

NOTE 2 If the BLPU forms part of a larger BLPU for purposes of identification or is addressed by reference to another BLPU, it is deemed to be a secondary addressable object.

The secondary addressable object name shall identify the BLPU by reference to another BLPU described by a primary addressable object name.

NOTE 3 Examples of secondary addressable object names are “flat 5” and “second floor”.

7.5.2 Spatial reference

The spatial reference for the BLPU shall take the form of a reference for the street that provides access to the BLPU, or is the last street on a route providing access to the BLPU where no street provides direct access to the BLPU, in the form of either:

- the unique street reference number of the street, as recorded in a street gazetteer as defined in BS 7666-1; or
- a descriptive identifier for the street, comprising the street name and sufficient names of locality, town and administrative area to create a unique identifier for the street, as defined in BS 7666-1.

7.5.3 Logical status

LPI logical status codes shall be as given in Table 7.

Table 7 **LPI logical status**

LPI record status	LPI logical status	Description
Approved preferred	1	An identifier or address corresponding to the entry in the official street name and numbering register (if such exists); otherwise the address deemed by the gazetteer custodian to be the correct and most commonly used [a]
Approved alternative	2	An identifier or address recognized by the gazetteer custodian as being in common use but differing from the official/ preferred LPI [b]
Alternative	3	An identifier or address that is not the approved preferred or approved alternative [c]
Candidate	5	An identifier or address posted for inclusion in the gazetteer but awaiting confirmation/approval by the gazetteer custodian
Provisional	6	An identifier or address held in the gazetteer on a temporary basis [d]
Historical	8	An identifier or address no longer in use [e]
Rejected	9	An identifier or address that has not been approved by the gazetteer custodian and awaiting deletion [f]

[a] For any BLPU, only one LPI can have approved preferred status for any value of the language code.

[b] An approved alternative LPI assists the unambiguous identification of the land and property (e.g. in language, spelling or local naming custom). This status shall only be applied to one LPI record for each BLPU and there shall also be a corresponding LPI with logical status 1.

[c] For any BLPU, there may be many LPIs with logical status 3. Examples of alternative LPI are special interest identification, previous name or description, and, on an interim basis, plot numbers that have been superseded by street numbers.

[d] An example is a plot number. The purpose of a provisional LPI is to assist in the matching or reconciliation of identifiers.

[e] The purpose of an historic LPI is to facilitate the maintenance of cross-references to historic datasets. It should not be used in any new transactions. An example is where a postcode has changed. For any BLPU, there may be many historic LPIs.

[f] An example of a rejected LPI is a candidate LPI that is found to be a duplicate or misspelled entry.

8 BLPU provenance

8.1 Mandatory attributes

A BLPU provenance shall have the following mandatory (M) attributes:

a) **BLPU provenance code**: the classification of the provenance (see **8.5**);

b) **entry date**: the date that the BLPU provenance record was added to the gazetteer;

c) **update date**: the date of last change made to the BLPU provenance record.

8.2 Optional attributes

Where appropriate, a BLPU provenance shall also have one or more of the following optional (O) attributes:

a) **BLPU provenance annotation:** additional information for the BLPU provenance code;

NOTE 1 Examples of BLPU provenance annotation are a Title Deed Reference, the reference to a tenancy agreement or other such source used to validate the BLPU.

8.3 Associations

A BLPU provenance shall have the following relationship:

a) **forms basis for** one **BLPU extent.**

8.4 Structure

A BLPU provenance record shall be structured in accordance with Table 8.

NOTE A UML model is shown in Annex B.

Table 8 **Attributes of a BLPU provenance**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Datatype** [e]
provenance code	provCode	M	1	CharacterString
provenance annotation	provAnno	O	1	CharacterString
entry date	entryDat	M	1	Date
update date	updatDat	M	1	Date
role name [f]: forms basis for	formsBasisFor	M	1	BLPUExtent

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The form of the attribute.

[f] The name of the association.

All dates shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

8.5 Attributes

The BLPU provenance code shall be as given in Table 9.

Table 9 **Allowable BLPU provenance codes**

BLPU provenance	BLPU provenance code	BLPU provenance description
Registered land title	T	Title registered by a land registry
Unregistered land title	L	Title deeds or similar (but not registered)
Formal tenancy agreement	F	Subject of formal tenancy agreement
Rental agreement	R	Subject of rental agreement
Physical features	P	Defined by physical extent
Occupancy	O	Defined by identified occupancy
Use	U	Defined by established use

9 BLPU extents

9.1 Mandatory attributes

A BLPU extent shall have the following mandatory (M) attributes:

a) **entry date**: the date that the BLPU extent record was created;

b) **source date**: the date of the source of the BLPU extent data;

c) **update date**: the date that the BLPU extent record was last amended.

9.2 Optional attributes

Where appropriate, a BLPU extent shall also have one or more of the following optional (O) attributes:

a) **start date**: the date at which the BLPU extent came into existence;

NOTE 1 The start date is usually the same as the start date of the BLPU. However, it may be different, e.g. when a property was registered.

b) **end date**: date at which BLPU extent record ceased to be current;

c) **source description**: source and/or relevance of the data representing the BLPU.

NOTE 2 Examples of source description are large-scale vector digital mapping (1:1250 or 1:2500), medium scale raster/vector mapping (1:10,000), field survey, aerial photography, digital ortho-photography, satellite imagery and unsurveyed detail/closing links.

9.3 Associations

A BLPU extent shall have the following relationships:

a) **delineates** one **BLPU**;

b) **represents** one **BLPU provenance**;

c) **made up of** one or more **BLPU extent polygons**.

9.4 Structure

NOTE A UML model is shown in Annex B.

A BLPU extent shall be structured and in accordance with Table 10.

Table 10 **Attributes of a BLPU extent**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Data type** [e]
entry date	entryDat	M	1	Date
source date	sourceDat	M	1	Date
update date	updatDat	M	1	Date
start date	startDat	O	1	Date
end date	endDat	O	1	Date
source description	sourceDesc	O	1	CharacterString
role name [f]: delineates	delineates	M	1	BLPU
role name: made up of	madeUpOf	M	N	BLPUExtentPolygon
role name [f]: represents	represents	M	1	BLPUProvenance

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M) or optional (O).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The form of the attribute.

[f] The name of the association.

All dates shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

10 BLPU extent polygon

10.1 Mandatory attributes

A BLPU extent polygon shall have the following mandatory (M) attributes:

a) **polygon number**: number that uniquely identifies the polygon within those representing the BLPU;

b) **entry date**: the date that the BLPU extent polygon was created;

c) **polygon type**: whether the polygon is included or excluded from the BLPU extent.

NOTE The polygon type should be set to "H" where the polygon is a "hole" nested within another polygon forming part of the same BLPU extent, otherwise it should be blank.

10.2 Optional attributes

Where appropriate, a BLPU extent polygon shall also have one or other of the following optional (O) attributes:

a) **external cross-reference**: the identifier of a polygon recorded elsewhere, e.g. Ordnance Survey TOID (Topographic Identifier);

b) **polygon**: ordered set of coordinate pairs for each vertex, with coincident start and finish vertices.

10.3 Associations

A BLPU extent polygon shall have the following relationship:

a) **represents part of** one **BLPU extent**.

10.4 Structure

NOTE A UML model is shown in Annex B.

A BLPU extent polygon record shall be structured in accordance with Table 11.

Table 11 **Attributes of a BLPU extent polygon**

Name [a]	**UML name** [b]	**Obligation** [c]	**Maximum occurrences** [d]	**Domain** [e]
Polygon number	polygNo	M	1	Integer
entry date	entryDat	M	1	Date
Polygon type	polygTyp	M	1	CharacterString
External cross-reference	extXRef	C/polygon not recorded	1	CharacterString
Polygon	polyg	C/external cross-reference not recorded	1	Polygon [f]
role name [g]: represents part of	representsPartOf	M	1	BLPUExtent

[a] The unique name of the attribute.

[b] The name of the attribute used in the UML model.

[c] Whether the attribute is mandatory (M), optional (O) or conditional (C).

[d] Whether the attribute is single-valued (1) or may have multiple values (N).

[e] The allowable set of values for the attribute.

[f] Defined by an ordered set of points.

[g] The name of the association.

The entry date shall be recorded where appropriate as numeric values in accordance with BS ISO 8601, either in the basic format (YYYYMMDD) or in the extended format (YYYY-MM-DD), where YYYY is the year, MM is the month, and DD is the day.

11 Data quality

The quality of data in a land and property gazetteer shall be tested and reported. Associated with each gazetteer shall be a data quality report recording a standard set of data quality measures. This report shall contain details of any tests carried out, including details of the test methods, the date of the test, the name of the tester, and details of any source material or other information used. Where tests are performed on a sample or samples of the data, the samples shall be chosen at random, and their method of generation shall be recorded. The data quality report shall contain sections covering each of the following aspects:

a) **lineage**: a description of the source material from which the gazetteer and updates to it were derived and the methods of derivation;

b) **currency**: the date for which the gazetteer is current;

c) **positional accuracy**: results of tests of the positional accuracy of the coordinates in the gazetteer, in terms of distance on the ground;

NOTE Positional accuracy may be determined relative to an alternative information source that is deemed to be correct.

d) **attribute accuracy**: the results of tests carried out on the accuracy of the (discrete) attributes in the gazetteer, expressed as the percentage found correct, and of the continuous attributes (e.g. dates), expressed as a mean error;

e) **completeness**: the results of tests to verify that all entries have been included in the gazetteer in accordance with its stated scope, expressed as a percentage present, together with the results of tests to verify that there are no duplicate entries, expressed as a percentage of duplicates

f) **logical consistency**: the result of tests to verify that entries in the gazetteer have been recorded in a consistent manner.

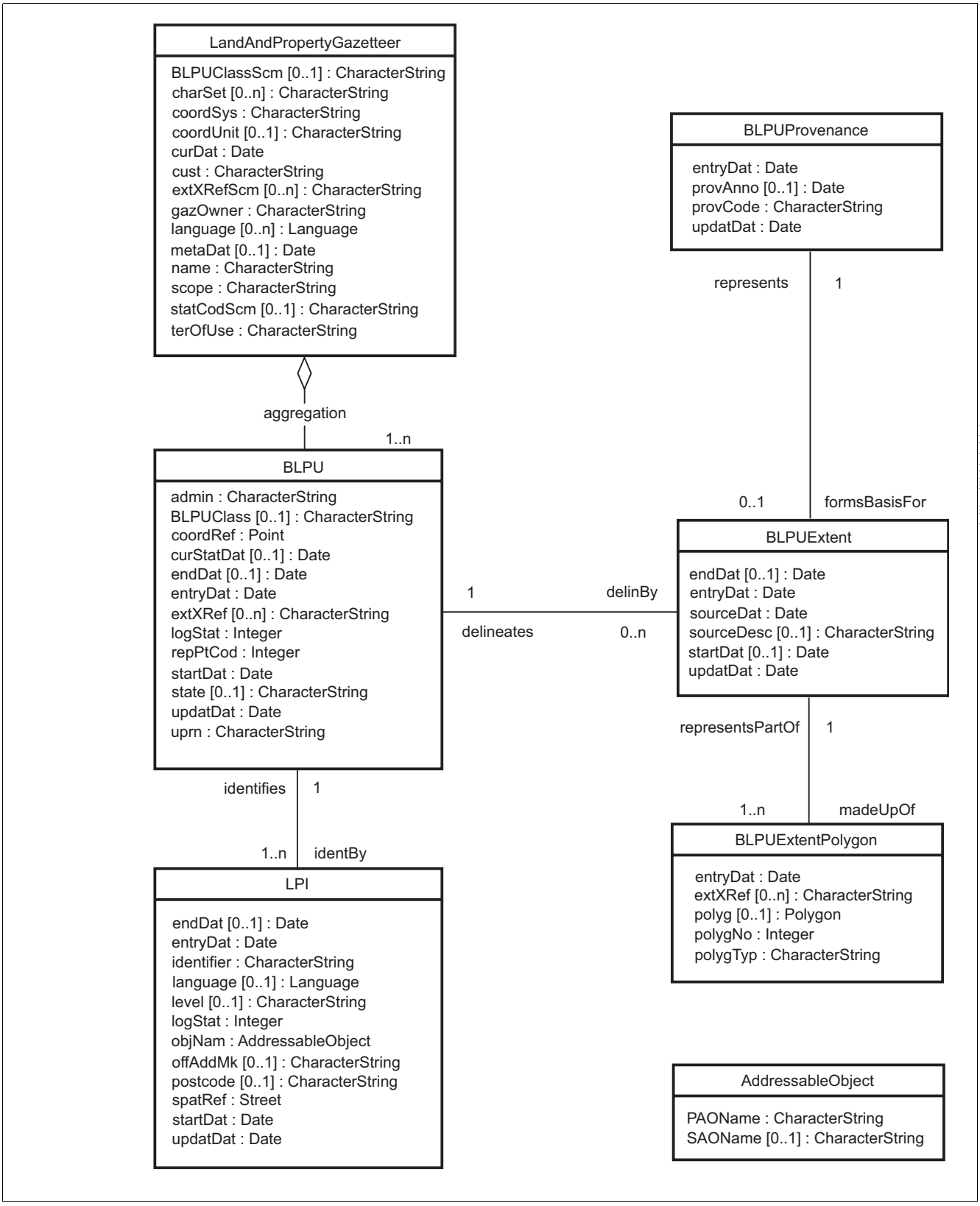
Annex A (normative) Checklist for conformity

A land and property gazetteer shall be conformant with this part of BS 7666 if it:

- has metadata as defined in Clause **5**;
- contains an entry for all BLPUs as defined in its scope;
- contains attributes for each BPLU as defined in Clause **6**;
- contains at least one LPI for each BLPU;
- contains attributes for each LPI as defined in Clause **7**;
- has a quality report as described in Clause **11**.

Annex B (normative) UML model

Figure B.1 **UML for a land and property gazetteer**



The model diagram is written in UML (Unified Modelling Language). It shows the classes of object as boxes, and the associations between them. The name of the object class is given in the top level of the box with the attributes in the lower level.

The minimum and maximum allowable number of attributes are indicated in brackets []. [0..] indicates that the attribute is optional, and [..n] implies multiple values are allowed. Where no range is given, a single attribute value is mandatory. The data type of the attribute is shown. These may be:

- CharacterString: a sequence of alphanumeric characters;
- Integer: a whole number;
- Date: a date, according to BS ISO 8601.

Where the attribute type is another class, the name of that class is given.

Relationships between object classes are identified by links (lines) between classes. These also show the multiplicity of the association from the perspective of the other class (target) to that class (source):

- 0..1 implies optionality;
- 1 implies one only;
- 1..n implies one or more;
- 0..n implies zero, one or more.

◊ represents an aggregation, e.g. the land and property gazetteer is an aggregation of BLPUs.

Δ represents a generalization, e.g. a gazetteer is a generalization of a land and property gazetteer.

Annex C (informative) Recommended coding schemes

The following code lists are recommended for use in a land and property gazetteer.

C.1 BLPU classification

Table C.1 **BLPU classification codes**

BLPU type code	Classification
R	residential
C	commercial
X	mixed residential and commercial
U	unclassified
L	land
A	agricultural
S	service and public [a]
T	transport and utility

[a] e.g. a hospital or a health centre.

C.2 BLPU state

Table C.2 **BLPU state codes**

State code	State
1	under construction
2	in use [a]
3	unoccupied
4	no longer existing

[a] This includes land parcels.

C.3 Languages

Table C.3 **Language codes**

State code	State
ENG	English
CYM	Welsh
GLE	Gaelic (Irish)
GAE	Gaelic (Scottish)
COR	Cornish
ULL	Ulster Scots

Annex D (informative) Examples

This annex provides examples of Land and Property Gazetteer data.

D.1 Gazetteer metadata

The following is an example of metadata for a land and property gazetteer.

name:	South Kesteven local land and property gazetteer
scope:	occupied residential property charged council tax and under electoral roll and commercial/industrial property charged non-domestic rates
territory of use:	South Kesteven
gazetteer owner:	South Kesteven District Council
custodian:	South Kesteven DC LLPG custodian
coordinate system:	National Grid of Great Britain
coordinate axis units:	metres
metadata date:	2006-02-01
BLPU classification scheme:	BS 7666-2:2006 Annex C.1
state coding scheme:	BS 7666-2:2006 Annex C.2
current date:	2006-02-01
language:	ENG
character set:	English
external cross-referencing scheme:	Ordnance Survey TOIDs

D.2 BLPU data

The following is an example of BLPU data for a residential property.

unique property identifier:	10003091086
BLPU classification:	R
entry date:	2001-04-02
update date:	2004-01-13
start date:	1974-01-01
end date:	–
state:	2
current state date:	2000-01-01
coordinate reference:	493406 324247
representative point code:	1
logical status:	1
administrator:	2530 South Kesteven DC
external cross-reference:	4687458709798468
identified by:	100030910861/1
delineated by:	7181783583487140

D.3 LPI data

The following is an example of an LPI for a detached house.

identifies:	100030910861
identifier:	100030910861/1
language:	ENG
object name:	2
spatial reference:	Chestnut Grove, Colsterworth, Lincolnshire
entry date:	2001-04-02
update date:	2004-08-16
start date:	1974-01-01
end date:	–
postcode:	NG33 5PE
level:	1
official address marker:	Y
logical status:	1

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