Ordnance Survey

OS VECTORMAP DISTRICT

User guide and technical specification

OS VectorMap District

Product guide

Contents

Preface

This product guide (hereafter referred to as the guide) is designed to provide an overview of OS VectorMap District (hereafter referred to as the product) and it gives guidelines and advice on how a customer might derive the maximum benefit from the product. It assumes a general knowledge of geographic information. If you find an error or omission in this guide, or otherwise wish to make a comment or suggestion as to how we can improve the guide, please contact us at the address shown below under contact details or complete the product and service performance report form at annexe A and return it to us.

Contact details

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You are advised to copy the supplied data to a backup medium.

Using this guide

The documentation is supplied in portable document format (PDF) only. Free Adobe® Reader® software, which displays the specification, incorporates search and zoom facilities, and allows you to navigate within. Hyperlinks are used to navigate between associated parts of the specification and to relevant internet resources by clicking on the blue hyperlinks and the table of contents.

This product guide contains basic information you will need to understand, use, and manage OS VectorMap District. The OS VectorMap District technical specification contains detailed technical information and data format specification.

Annexe A in the product guide is a product and service performance report form for you to submit any comments on OS VectorMap District.

Chapter 1   **Introduction**

Overview

OS VectorMap District is a free mapping dataset designed for providing contextual mapping output on paper, PCs, hand-held devices, or the Internet. Available as pre-styled static images (Raster data) and points, lines, and polygons (Vector data). The vector format of the product consists of layers to enable you to customise and style output to suit your needs.

OS VectorMap District has been improved to offer enhanced functionality as well as offering greater consistency with other OS products, including OS Open Map – Local.

The product now offers significantly improved generalisation, resulting in a more attractive map that compliments the more detailed street-level OS VectorMap® Local product.

Key Features

The key features of OS VectorMap District product are:

- Provides a clear visual backdrop map that can be easily styled to meet specific needs.
- Please refer to the Product Cartographic Stylesheets webpage for styling options: os.uk/resources/carto-design/cartographic-stylesheets.html
- Offers flexibility to user through ease of use to control content display.
- Suitable for varying scenarios around the mid-range scale of 1:25,000
- Analyse data in relation to important public buildings, roads, railways, lines and more
- Compatible with other open datasets available from data.gov.uk and many other sources.

Applications

The purpose of OS VectorMap District data is to support a wide range of customer applications that utilise geographic information. These may include:

- **Backdrop mapping on your website**

  For your area, you may wish to take advantage of free data on the Government's data.gov.uk website, for example, air pollution data. The layered structure of OS VectorMap District enables you to display the map to show only the features you want to show – for example, roads, place names and buildings.

  You may want to style the data as a faded map backdrop to ensure your own or third-party overlaid data are clearly portrayed. For example, backdrop mapping can be used by public sector organisations to share information with the public. Such applications include providing the location of GP surgeries or dentists to the public, or the performance of schools based on exam results in a district.

- **Develop an interactive web application**

  OS VectorMap District has been designed for on-screen use, with generalised detail and an appropriate level of content that gives an uncluttered appearance. Subscribers to the OS OpenSpace® application programming interface (API) can build location-based services using the map to guide smartphone users and provide location-specific information.

- **Display your business location**

  Do you want to tell your customers how to get to your business? The district view of OS VectorMap District is ideal for creating a map of a suburban area or part of a city, complete with locality names for context.

  Your customers can then zoom in to your business at a street level using the OS VectorMap District product.

  OS VectorMap District topographic features are generalised representations of real-world objects, including buildings, roads, railways, and rivers. The data also includes non-topographic features such as administrative and electoral boundaries (GML and Shapefile format only), cartographic text and symbols.

Chapter 2　OS VectorMap District

Generalisation

The detail within OS VectorMap District has been generalised from Ordnance Survey large-scale data. Map generalisation is the process of reducing the scale and complexity of map detail whilst maintaining the important elements and characteristics of the location.

Map generalisation comprises of the following processes:

- **Selection/omission:** some features that appear at larger scales are not selected at the smaller scales. For example, in the public amenities layer individual features in close proximity can be grouped to a single point.

- **Simplification:** simplification can take a number of forms in OS VectorMap District. It can be line simplification, for example, in a vector product; a very winding stream could have the number of data points that represent it reduced.

- **Exaggeration:** features that are small but are too important to a particular landscape to be omitted are enlarged. For example, some isolated rural buildings are often enlarged to a minimum size rather than being omitted.

- **Aggregation:** aggregation is the combining of a number of small features to make a larger one, such as buildings.

- **Symbolisation:** features that are shown in detail in other OS products, such as OS VectorMap Local may be shown by standard symbolisation in OS VectorMap District. For example, railway stations are depicted as point symbols.

- **Displacement:** the movement of the representation of a feature away from its ground position in order to maintain its prominence. There is very little displacement in OS VectorMap District, but in certain circumstances, some features may be moved away from adjacent detail if their representation would otherwise be lost; for example, some buildings are moved away from road edges to ensure they remain prominent.

Feature types

The following is a description of the features that are available in the product. A full list of feature classes and their associated attributes is given in chapter 4 in the technical specification.

Not all features available in the product are included in the raster format. For a full list of features and their styling in the raster format please refer to the legends in chapter 3 of the technical specification.

The GML naming of attributes is used in the main text of this guide; the naming of the attributes in shape files will be different due to the limitations of the shape file format.

Buildings

A built entity that includes a roof. This is a generalised building and could be made up of an amalgamation of other buildings and structures.

Shapefile:　　　　　**Building.shp**

GML FeatureType:　　**Building**

Glasshouses

A building constructed largely of glass for the purposes of commercial horticulture. This is a generalised glasshouse and could be made up of an amalgamation of individual glasshouses. Only glasshouses larger than 5000m^2 are included.

Shapefile:　　　　　**Glasshouse.shp**

GML FeatureType:　　**Glasshouse**

Roads

Road alignments A road is defined as a metalled way for vehicles. A vehicle is defined as one with wheels on both sides of its body. Metalling is defined as any artificial (man-made) surface including areas of asphalt, concrete and gravel. Roads that form part of the public network and driveways to private properties that are over 100m in length are captured. Dual carriageways are represented by centrelines when the two carriageways are closer than 32.5m, roundabouts are represented by points when smaller than 450m^2, dead ends are removed when shorter than 36m and roads are simplified with a 4m tolerance.

Road alignments will have one of the following 13 classifications, each of which can be separately identified by the 'classification' attribute – see chapter 5 in the technical specification:
- 'Motorway'
- 'Primary Road'
- 'A Road'
- 'B Road'
- 'Minor Road'
- 'Pedestrianised Street'
- 'Local Street'
- 'Private Road Publicly Accessible'
- 'Motorway, Collapsed Dual Carriageway'
- 'Primary Road, Collapsed Dual Carriageway'
- 'A Road, Collapsed Dual Carriageway'
- 'B Road, Collapsed Dual Carriageway'
- 'Minor Road, Collapsed Dual Carriageway'

Shapefile:	**Road.shp**
GML FeatureType:	**Road**

Roundabouts: Roundabouts smaller than 450m^2 are represented as point features, and the roads are extended to meet at the centre point. Mini roundabouts are not included.

Shapefile:	**Roundabout.shp**
GML FeatureType:	**Roundabout**

See technical guide for full list of roundabout 'classification' attribute values.

Road tunnels: Road tunnels are represented as approximate centrelines of the road that runs through the tunnel.

Shapefile:	**RoadTunnel.shp**
GML FeatureType:	**RoadTunnel**

Differences between vector and raster formats:
- A selection of road names and numbers are shown in the raster product, where space permits.

Motorway junctions

Point feature representing the approximate location of numbered junction on a motorway.

Shapefile:	**MotorwayJunction.shp**
GML FeatureType:	**MotorwayJunction**

Surface water

An inland waterway body sufficiently wide enough to capture as an area feature. Small lakes and small islands in waterbodies are not included.

Shapefiles:	**SurfaceWater_Line.shp, SurfaceWater_Area.shp**
GML FeatureTypes:	**SurfaceWater_Line, SurfaceWater_Area**

Tidal boundary/High and Low Water Marks

In England and Wales these tide lines will be the levels of mean tides, for example, of a tide between a spring and neap tide. In Scotland the tide lines are those of mean spring tides. In places where there is no Foreshore (for example vertical cliffs), the TidalBoundary is classified as 'High Water Mark'.

Shapefile: **TidalBoundary.shp**

GML FeatureType: **TidalBoundary**

Tidal water

Polygons defining the extents of tidal water, up to the High Water Mark defined by the TidalBoundaries and the Normal Tidal Limit of rivers. Tidal water is not included under bridges.

Shapefile: **TidalWater.shp**

GML FeatureType: **TidalWater**

Foreshore

The part of the shore or beach which lies between the Low Water Mark and High Water Mark defined by the TidalBoundaries. The same condition may exist in non-contiguous off-shore areas.

Shapefile: **Foreshore.shp**

GML FeatureType: **Foreshore**

Administrative boundaries

A line feature representing the limit of a government administrative area. In the event that a boundary represents the limit of more than one administrative area, classifications are applied in hierarchical order, with priority given to the largest containing area. An exception is made for National boundaries, which will be coincident with the underlying local government boundary.

The attribute 'classification' defines the type of boundary:
- 'National'
- 'District Or London Borough'
- 'County Or Region Or Island'
- 'Parish Or Community'

Shapefile: **AdministrativeBoundary.shp**

GML FeatureType: **AdministrativeBoundary**

Differences between vector and raster formats:

- In the raster product only the national boundaries are depicted.

Railway tracks

All railways are represented as lines and are broken where they pass under bridges, buildings or other obstructing detail. Railway sidings and the tracks of travelling structures are not included. The attribute 'classification' defines the type of railway:

- 'Multi Track'

- 'Single Track'

- 'Narrow Gauge'

Shapefile: **RailwayTrack.shp**

GML FeatureType: **RailwayTrack**

Railway tunnels

Railway tunnels are represented as approximate centrelines of the railway that runs through the tunnel.

Shapefile: **RailwayTunnel.shp**

GML FeatureType: **RailwayTunnel**

Railway stations

Point feature representing the buildings and platforms by a railway line where a train may stop to pick-up or drop-off goods or passengers. The attribute 'classification' defines the type of station:

- 'Light Rapid Transit Station'

- 'Railway Station'

- 'London Underground Station'

- 'Railway Station and London Underground Station'

- 'Light Rapid Transit Station and Railway Station'

- 'Light Rapid Transit Station and London Underground Station'

The name of the station is held in the attribute 'DISTNAME' in Shape and distinctiveName in GML.

The position of the railway station will be close to a railway alignment but will not necessarily be coincident with it.

Shapefile: **RailwayStation.shp**

GML FeatureType: **RailwayStation**

Functional sites

A point feature that represents the location of certain types of function or activity with appropriate attribution. The classifications are:

- Air Transport
- Education Facility - School
- Education Facility - Higher
- Medical Care
- Road Transport
- Road Services
- Water Transport
- Place Of Worship
- Leisure Centre
- Police Station

Please note:

- Only available in the vector product, functional sites include features previously supplied as 'PublicAmenity' and 'Airport' features. In previous product releases a cartographic selection was applied to these features, which is now replaced with a complete supplied set.
- Some functional sites may contain multiple sites (points) such as Educational Facility where they may have both Educational Facility – School and Educational Facility – Higher.

Shapefile: **FunctionalSite.shp**

GML FeatureType: **FunctionalSite**

Woodland

Areas of trees; coniferous, non-coniferous and mixed are represented as polygons. Small areas of woodland are omitted and small clearings in woodland are filled.

Shapefile: **Woodland.shp**

GML FeatureType: **Woodland**

Ornament

Ornament features are facsimiles of artwork, represented as a polygon, these were originally drawn on paper maps to depict coastal rocks, outcropping rocks, cartographic slopes and scree.

Shapefile: **Ornament.shp**

GML FeatureType: **Ornament**

Electricity transmission line

Cables used to supply electricity that is suspended between pylons.

Shapefile: **ElectricityTransmissionLine.shp**

GML FeatureType: **ElectricityTransmissionLine**

Named places

A representative point feature giving the general location of a settlement name or geographic place name, for the purposes of text placement.

- GML supports all the characters in the Welsh language and all names are stored in the 'distinctiveName' attribute. Legacy formats such as shapefile, do not support the full Welsh alphabet, therefore an alternative is provided using either the 'DISTNAME' or 'HTMLNAME' attributes.

When using the OS VectorMap District shapefile **NamedPlace.shp**:

- If labelling using the **DISTNAME** attribute, accents appear on vowels, but the Welsh consonants will have their circumflexes removed: W, w, Y, y.

- If labelling using the **HTMLNAME** attribute, the accents on vowels will be the same, but the Welsh consonants will be encoded using HTML escape characters, which **will** display correctly when displayed using software that can interpret these characters (Ŵ,ŵ,Ŷ,ŷ).

- **fontHeight:** the suggested height of the font is Small, Medium, Large and Extra Large

- **textOrientation**: the orientation of the text string in degrees clockwise from horizontal. It is held as a number between -90 and 90. This is named ORIENTATIO in Shape and textOrientation in GML

Shapefile: **NamedPlace.shp**

GML FeatureType: **NamedPlace**

Summit / Spot height

Point feature which in most cases represents the location of a summit of a hill or mountain, together with an elevation measurement.

Shapefile: **SpotHeight.shp**

GML FeatureType: **SpotHeight**

Coordinate referencing system

The vector product formats provide for the use of a variety of coordinate reference systems. At present, only the British National Grid (BNG) is used in OS VectorMap District. The BNG spatial reference system uses the OSGB36° geodetic datum and a single Transverse Mercator projection for the whole of Great Britain. Positions on this projection are described using easting and northing coordinates in units of metres.

Height datum

The BNG is a horizontal spatial reference system only; it does not include a vertical (height) reference system. In OS VectorMap District, heights are given by the 'height' attribute in the 'SpotHeight' feature. The geometric attributes therefore contain horizontal geometry only.

Currency

OS VectorMap District is derived from large-scale data, copyright 2017.

Completeness

During production many checks are undertaken to ensure that data supplied to customers are both accurate and complete. During digital manipulation in creating the data, all sources of that data are checked for conformance to specification.

These quality control checks take the form of:

- visual checks by operators;
- data testing against the product specification; and
- testing is carried out on a selection of tiles from a full national set.

Coordinate resolution

Coordinates have a precision of 1 cm and are stored to two decimal places of a metre.

Chapter 3 **OS VectorMap District style definition**

It is the flexibility to select and style the different feature classes in different ways that makes the vector format of OS VectorMap District such a versatile contextual mapping product. It can be flexibly styled in a wide variety of ways to best provide a geographic context to the customer's overlay information.

Fig.1 Vector

The raster version is ready-styled as backdrop and full colour and these styles are fixed within the limitations of the image viewing software. Below is an example of both the raster styles. The full graphic legends are available on line here.

Fig.2 backdrop raster
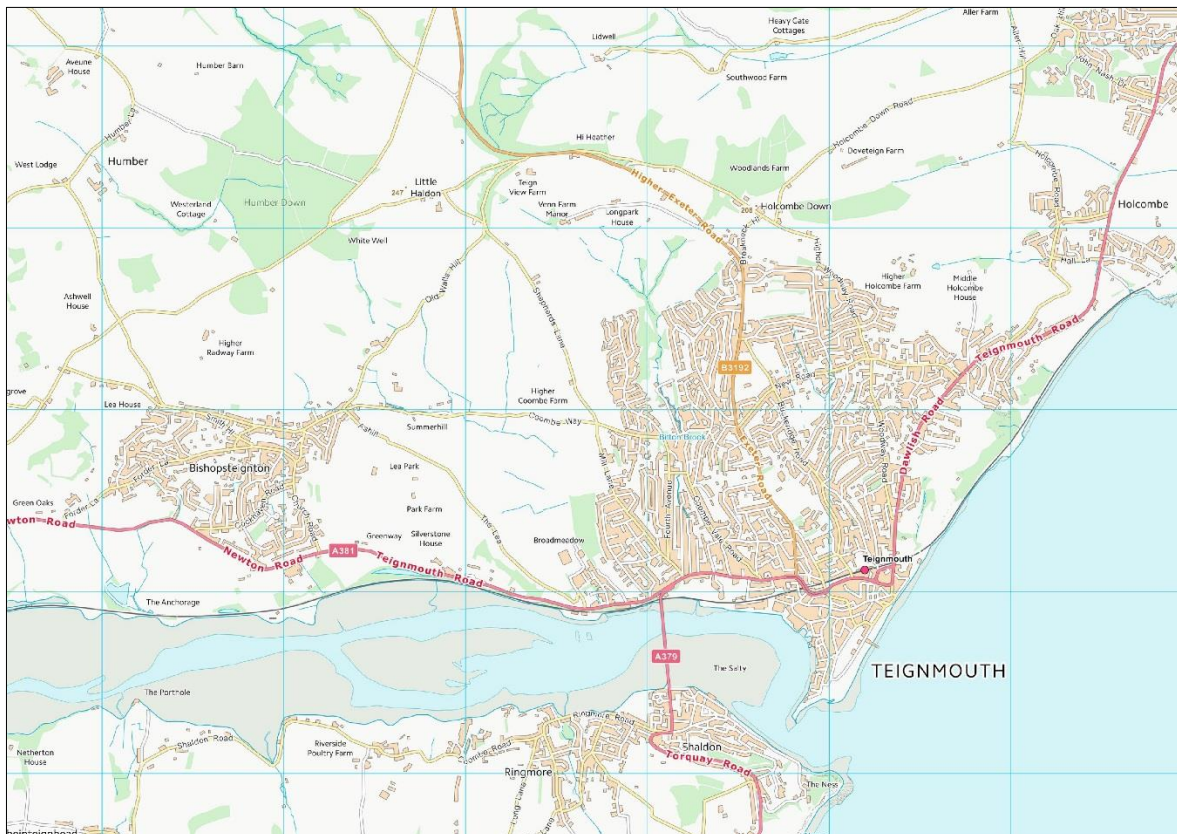
Fig.3 full colour raster

Chapter 4   **Product Supply**

Supply Format

OS VectorMap District is available as:

- Vector: ESRI Shapefile with each tile dataset zipped using gzip.

- Raster: TIFF and compressed using LZW (Lemple-Ziv-Welch) compression.

- Data: GML v3.2. Simple Features and schema zipped as a single file using gzip.

Supply Media

OS VectorMap District can be ordered from the Ordnance Survey OS OpenData™ website. This allows you to order your area of choice and format.

Data is available on DVD or as a download from:

os.uk/oswebsite/products/vectormap/district/index.html

The National Grid coverage for OS VectorMap District

Ordnance Survey divides Great Britain into squares 100 km by 100 km. Each of these squares has a unique two-letter reference, for example, TG in the diagram below.

OS VectorMap District vector format tiles are identified by quoting the National Grid reference of the south-west corner of the 100 km² area they cover, for example TG.
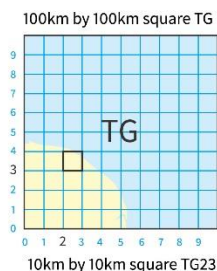
To describe an OS VectorMap District raster format tile, which covers 10 km by 10 km, first add a two-digit reference to the 100 km by 100 km square reference, with the easting first followed by the northing, for example, TG23. For additional information on how to use the National Grid, visit the Ordnance Survey website at:

os.uk/support/the-national-grid.html

Coverage and File Size

Coverage is England, Wales and Scotland.

- **Shapefile:**
  - 55 tiles, each covering 100 km x 100 km comprise the national set.
  - Each tile comprises a set of up to 24 Shapefiles.
  - Each Shapefile holds a single feature type.
  - Features within each Shapefile are cut into a 10 km x 10 km grid.
  - Tile sizes range from 1 Mb to 697 zipped Mb.
  - The data is not encrypted.
- **GML data:**
  - 55 tiles, each covering 100 km x 100 km comprise the national set.
  - Each 100 km tile is split into 20 km by 20 km tiles (809 in total).
  - Each tile comprises of up to 57 Feature Codes.
  - Features that cross the grid line are split.
  - Tile sizes range from 1 Mb to 347 Mb.
  - The data is not encrypted.
- **TIFF:**
  - 2863 tiles, each covering 10 km x 10 km comprise the national set.
  - Tiles range from 2 Mb to 6.7 Mb.

Seamless data

In the vector product features that cross tile edges are included in both tiles, represented as hairy tiles. This avoids the creation of invalid geometries by arbitrary cutting, and facilitates greater use of the data in analytical applications. All features have unique identifiers which can be used to remove duplicates across tile edges, if required.

Note that these identifiers will not be persisted or maintained between product releases.
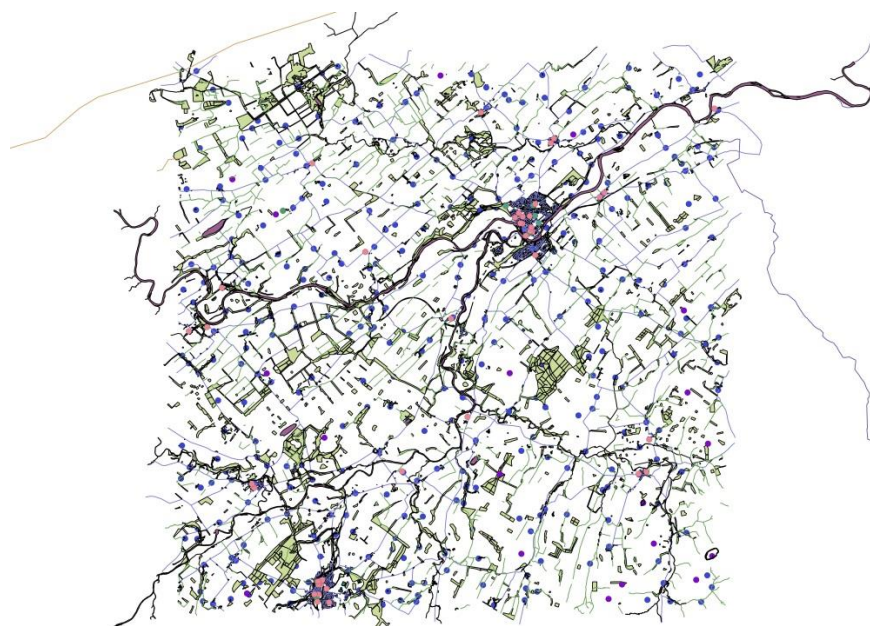
Fig. 4 Example of a hairy tile showing features crossing tile edges

Chapter 5   **Further Information**

Further Information about **OS VectorMap District** can be found on the Ordnance Survey Website:

os.uk/business-and-government/products/vectormap-district.html

Getting Started Guide:

os.uk/docs/product-guides/os-vectormap-district-getting-started-guide.pdf

Legends

os.uk/docs/legends/os-vectormap-district-full-colour-legend.pdf

os.uk/docs/legends/os-vectormap-district-backdrop-legend.pdf

Schema

os.uk/xml/cmdschema/district/v2.1/district.xsd

Cartographic styles

os.uk/resources/carto-design/cartographic-stylesheets.html

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Annexe A   Product and service performance report form

Ordnance Survey welcomes feedback from its customers about **OS VectorMap District**

If you would like to share your thoughts with us, please print a copy of this form and when completed post or fax it to the address below.

Your name: ....

Organisation: ....

Address: ....

....

....

Postcode: ....

Phone: ....

Fax: ....

Email: ....

Quotation or order reference: ....

Please record your comments or feedback in the space below. We will acknowledge receipt of your form within three (3) working days and provide you with a full reply or a status report within 21 working days.

If you are posting this form, please send it to:

OS VectorMap District Product Manager, Ordnance Survey, Adanac Drive,
Southampton, SO16 0AS.

If you wish to return it by fax, please dial 02380 056159.

Any personal information that you supply with this report form will be used by Ordnance Survey only in the improvement of its products and services. It will not be made available to third parties.

OS VectorMap District

Technical specification

Contents

Preface

Purpose of this specification and disclaimer

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Chapter 1   **Introduction**

OS VectorMap District is a mapping dataset designed for providing contextual mapping output on paper, PCs, handheld devices or the Internet. The vector format of the product consists of layers to enable you to customise and style output to suit your needs.

The product can be used as mapping in its own right or can be used to provide a flexible geographic context reference for customers overlay information.

The nominal viewing scale is 1:25 000, with a recommended viewing scale range of 1:10 000 to 1:25 000.

The data is available on DVD; or download as.zip file

Available Formats

OS VectorMap District will be supplied in three open source formats:

- Vector data in Geography Markup Language (GML) 3.2 Simple Features Profile level 1.

- A national vector dataset in ESRI® Shapefile.

- Specific National Grid Reference square(s) in ESRI Shapefile

Identifiers

Each feature will be given a unique identifier. The GML product will have the property *gml:id* which will hold the features unique identifier. The ESRI Shapefile will have the property *ID* which will hold each features unique identifier. The identifier will not be persistent between product versions and therefore there will be no change history information for a feature.

UML Diagram and Table Conventions

The data structure is described below by means of UML class diagrams and accompanying tables containing text. The UML diagrams conform to the approach specified in ISO 19103 Conceptual schema.

Colour conventions have been used in the diagrams and tables to distinguish the properties that have been added in this specification.

In the UML diagram classes in the Ordnance Survey product specification are orange. All code lists are coloured blue. The tables which follow in this Technical Specification use orange for a feature type and blue for a code list.

Lexical Conventions

- Class names are conceptually meaningful names (singular noun) in UpperCamelCase

- Class names end in "Value" or "Classification" where the class is assigned the stereotype <<CodeList>>

- Property names (attributes and associations) are in lowerCamelCase

Stereotypes

The following stereotypes are used on UML elements:

Stereotype	UML Element	Description
FeatureType	Class	A spatial object type. [ISO 19136].
CodeList	Class	A controlled set of values for a free text data type that may be extended.

Chapter 2   **GML Overview**

This chapter describes the GML format for OS VectorMap District. It is recommended that you read this in conjunction with the Open Geospatial Consortium (OGC) document, *Geography Markup Language v3.2.1.*

The XML specifications that GML is based on are available from the World Wide Web Consortium (W3C®) website: http://www.w3.org.

Information about Unicode and UTF-8, the character encoding we have chosen, is available on the Unicode Consortium website: http://www.unicode.org/.

Use of examples

Any examples in this chapter that mention specific data content are to be taken as examples only.

Clarification of terms used in this chapter

Feature attribute

A property of a feature implemented as an XML element, as defined in ISO 19109.

XML attribute

Attribute as used in an XML context is referred to as an XML attribute.

Property

Most feature attributes are encoded as GML properties – property means a GML property.

Schema overview and location

XML schemas are used to define and validate the format and content of the GML. The GML v3.2 specification provides a set of schemas that define the GML feature constructs and geometric types. These are designed to be used as a basis for building application-specific schemas, which define the data content.

The Ordnance Survey application schemas, which are referenced by the data, are available in the product release.

These schemas make use of XSDs (XML schema definitions) and DTDs (document type definitions) produced by the W3C®, which are available from the W3C website at http://www.w3.org/XML/1998/namespace.html.

Schema descriptions

The W3C-provided XSDs and DTDs are:

- **xml.xsd** – to allow the use of the xml:lang attribute for language qualification.
- **XMLSchema.dtd** – required by xml.xsd.
- **datatypes.dtd** – required by XMLSchema.dtd.

The OGC-provided schemas are:

- **feature.xsd** – the feature and property constructs.
- **geometry.xsd** – the geometric constructs such as polygon and point.
- **xlinks.xsd** – a schema based on the W3C XLINK recommendation provided by the OGC to make use of the XLINK constructs.

The Ordnance Survey-provided schema is:

- **district.xsd** – the feature type, complex type and simple type declarations.

Code Lists

os.uk/xml/codelists/map/NamedPlaceClassificationVMD.xml
os.uk/xml/codelists/map/RailwayStationClassificationVMD.xml
os.uk/xml/codelists/map/RailwayTrackClassificationVMD.xml
os.uk/xml/codelists/map/RoadClassificationVMD.xml
os.uk/xml/codelists/map/RoundaboutClassificationVMD.xml
os.uk/xml/codelists/map/TidalBoundaryClassificationVMD.xml
os.uk/xml/codelists/map/FontHeightClassificationVMD.xml
os.uk/xml/codelists/map/AdministrativeBoundaryClassificationVMD.xml
os.uk/xml/codelists/map/FunctionalSiteClassification.xml

Format description

Documentation

The 'OSVectorMapDistrict' schema document defines the following XML namespaces:

district   http://namespaces.os.uk/cmd/district/v2.1

gml   http://www.opengis.net/gml

xsi   http://www.w3.org/2001/XMLSchema

xlink   http://www.w3.org/1999/xlink

The location of the schema is defined as:
http://namespaces.os.uk/cmd/district/v2.1 https://os.uk/xml/cmdschema/district/v2.1/district.xsd

Features within each tile are provided in a FeatureCollection.

Simple Features Profile – Level 0

GML is designed to support a wide variety of capabilities, ranging from simple contextual mapping, such as
OS VectorMap District, to products that include complex geometric property types or even spatial and temporal
topology. The Simple Features Profile of GML 3.2 defines a restricted subset of GML, allowing scope for greater
interoperability.

This product conforms to Simple Features Profile – Level 0.

Geometry

A geometric property is one that describes a specific geometry. All geometric properties are encoded according to
the Simple Features Profile, as referenced above.

The XML attribute 'srsName' shall be set to 'urn:ogc:def:crs:EPSG::27700', which uses eastings and northings
specified in metres.

*NOTE: EPSG (European Petroleum Survey Group) provides numeric identifiers for many common projections and
associated projection or coordinate metadata (such as measurement units or central meridian) for each identifier.*

All exterior polygon boundaries have an anticlockwise orientation and all interior polygon boundaries have a
clockwise orientation.
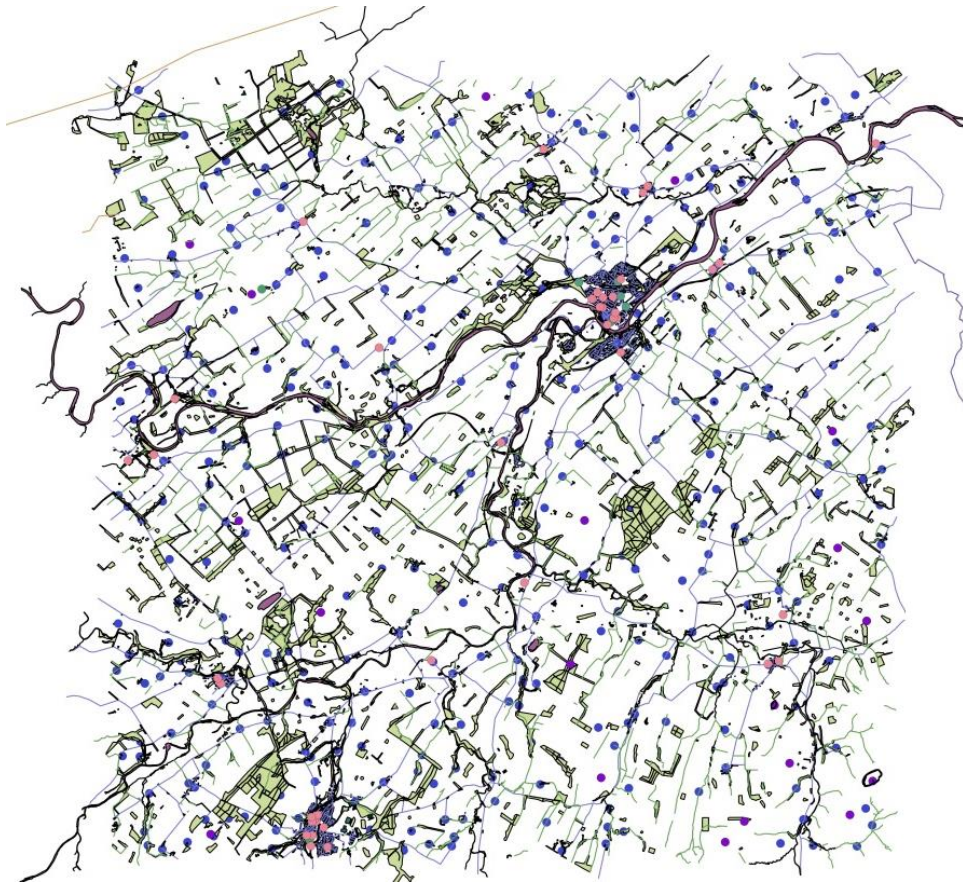
Raw GML data extract from NT
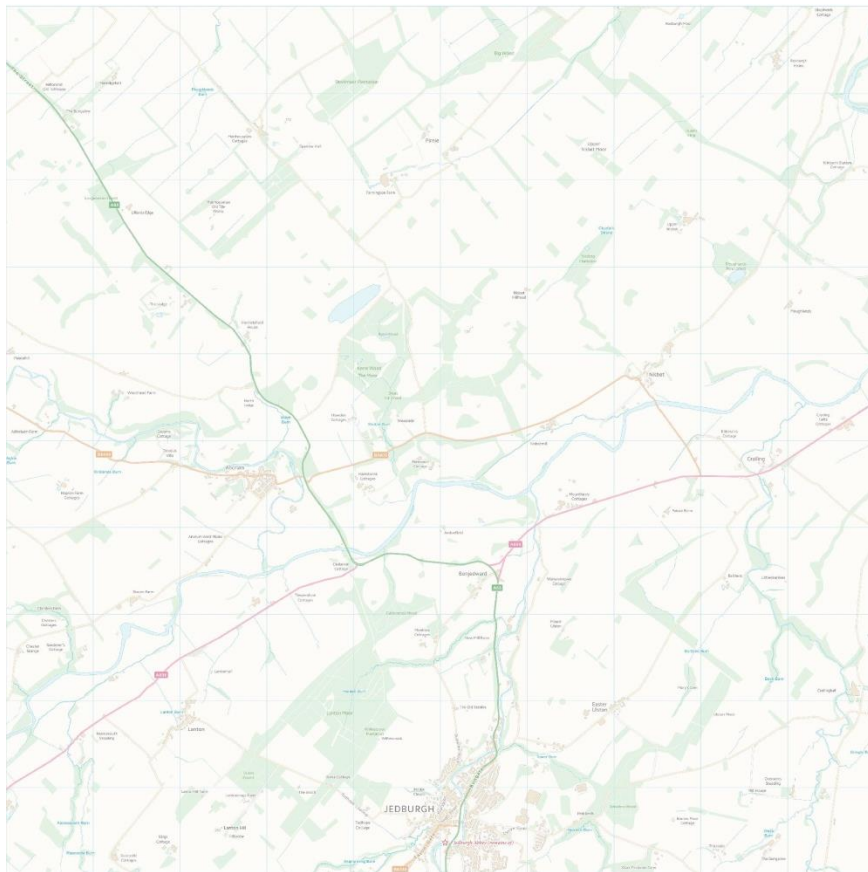
VMD GML open data styled using open GIS software

Chapter 3   **Raster Specification**

The following chapters include information about OS VectorMap District raster, file compression, symbology, georeferencing and formats.

Specification	OS VectorMap Local
Data Source	Derived data
Number of tiles in Great Britain	2863 (edgematched)
Tile size	10km x 10km
	Because digital maps frequently cover very large areas they are split down into squares known as tiles, each of which covers part of an overall area.
Availability	National, country and tile supply available
Resolution	254 dots per inch
Data structure	Raster
Data Specification	Selection of map features combined
Colour Palette	256 fixed colours
Transfer format	TIFF 8-bit LZW* compressed
Storage Volume per tile	Compressed: approx. 6.7mb
Greyscale	A high-quality alternative to colour raster data is to use a GIS to convert data to a greyscale format.

*If LZW compressed formats are used then registration may be required.

OS VectorMap District is supplied in the following raster formats:

TIFF 8-bit LZW compressed (6.7mb)

Chapter 3 Georeferencing

A definition for registering raster images within a geographic framework is the process of assigning map coordinates to the raster image data and re-sampling the pixels of the image to conform to the map projection grid. This allows tiles of map data to be located in their correct geographic position relative to the map projection and also to themselves.

Great Britain is surveyed and mapped using the Transverse Mercator (or Gauss-Kruger) projection, so all raster tiles will be mapped to this projection as it applies to Ordnance Survey National Grid if using World or TAB files supplied by Ordnance Survey.

Within the MIF record header the following information will be found under COORDSYS:

CoordSys Earth Projection 8, 79, "m", -2, 49, 0.9996012717, 400000, -100000 Bounds (4.17232513428e-011, 7.7486038208e-011) (700000, 1300000)

This information relates to the Transverse Mercator projection, its position relative to the rest of the world and also an individual tile's position relative to the projection. The record header is constructed as (not all fields have to be used):

CoordSys Earth Projection 8	The 8 relates to a MapInfo identifier, in this case the Transverse Mercator projection.
79	a MapInfo identifier, in this case this relates to Ordnance Survey of Great Britain 1936, Airy ellipsoid.
"m"	relates to the unit of measurement, in this case metres.
-2	this is the origin of the projection in respect of longitude.
49	this is the origin of the projection in respect of latitude.
0.9996012717	indicates the distortion of the tile at the central meridian. A value of 1.0 would indicate no distortion at all. However, distortion within this projection is minimal even at the far western or eastern limits.
400000, -100000	these figures indicate the false origin of the British National Grid. They represent the south-west corner of the Transverse Mercator projection, which overlays Great Britain, so all coordinates for any tile, no matter what scale, will always be positive.
Bounds: (4.17232513428e-011, 7.7486038208e-011)	these values represent the minimum bounding X and Y coordinates for the tile.
(700000, 1300000)	these values represent the maximum bounding X and Y coordinates for the tile.

Chapter 4   Legends Backdrop and Full Colour

Both Legends can be found on the website and downloaded here.

Chapter 5 **Data structure and attributes**

Features

This section describes the three features available in the OS VectorMap District product, giving the following information about each attribute and association:

- **Name and Definition**

The name of the attribute and what it is describing

- **Attribute Type**

The nature of the attribute, for example, a numeric value or a logical indicator.

- **Multiplicity**

Describes how many times this element is expected to be populated in the data. An attribute may be optional, mandatory and may have multiple occurrences. For example,

- o '1' there must be a value
- o '2' there must be two values
- o 'n' there may be one or more values
- o '0' population is optional.

These values may be used in combination.

- **Association**
  - o An association identifies the relationship between features. These relationships are by reference only and the value will be the identifier of the referenced feature

The product contains twenty one feature types:

- **Building**
- **ElectricityTransmissionLine**
- **Glasshouse**
- **RailwayStation**
- **RailwayTrack**
- **RailwayTunnel**
- **MotorwayJunction**
- **Road**
- **RoadTunnel**
- **Roundabout**
- **Foreshore**

- **SurfaceWater_Area**
- **SurfaceWater_Line**
- **TidalBoundary**
- **TidalWater**
- **Woodland**
- **FunctionalSite**
- **NamedPlace**
- **SpotHeight**
- **AdministrativeBoundary**
- **Ornament**

Buildings and Structures

MapClass	MapClass	MapClass
«FeatureType» **Building**	«FeatureType» **Glasshouse**	«FeatureType» **ElectricityTransmissionLine**
+ geometry: GM_Surface + featureCode: Integer	+ geometry: GM_Surface + featureCode: Integer	+ geometry: GM_Curve + featureCode: Integer
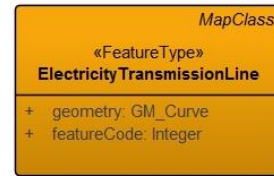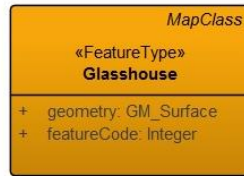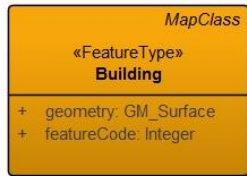
Building

«FeatureType» Building		
Definition: A built entity that includes a roof. This is a generalised building and could be made up of an amalgamation of other buildings and structures.		
Attribute: geometry		
Definition: Polygon representing the generalised building.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

ElectricityTransmissionLine

«FeatureType» ElectricityTransmissionLine		
Definition: Cables used to supply electricity that are suspended between pylons.		
Attribute: geometry		
Definition: Line representing the alignment of the electricity transmission line.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Glasshouse

«FeatureType» Glasshouse		
Definition: A building constructed largely of glass for the purposes of commercial horticulture. This is a generalised glasshouse and could be made up of an amalgamation of individual glasshouses. Only glasshouses larger than 5000m^2 are included.		
Attribute: geometry		
Definition: Polygon representing the generalised glasshouse.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Communications – Rail

RailwayStation

«FeatureType» RailwayStation		
Definition: Point feature representing the buildings and platforms by a railway line where a train may stop to pick-up or drop-off goods or passengers.		
Attribute: distinctiveName		
Definition: The name of the station, consistent with the names used by National Rail Enquiries. The suffix 'Station' is not added to the name.		
Type: CharacterString	**Length**: 150	**Multiplicity**: [1]
Attribute: classification		
Definition: The classification of the RailwayStation. The valid values are defined in the RailwayStationClassification code list.		
Type: RailwayStationClassification	**Length**: 65	**Multiplicity**: [1]
Attribute: geometry		
Definition: Point representing the position of the railway station.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

RailwayStationClassification

Code List: RailwayStationClassification	
Code	**Description**
Light Rapid Transit Station	A station on a railway designed for the transport of passengers within areas that are primarily urban. Characterised by high density of stations, large passenger volumes and relatively short journeys. They have many names in local use such as Tram, Underground, Metro, Tramlink and so on.
Railway Station	A station on the main national passenger rail network. Such lines may also carry freight. Also includes stations on railways that have been maintained or restored by an individual, group or society. They may be open for tourist and/or local use and are often called Heritage Lines.
London Underground Station	A subtytpe of Light Rapid Transit Station within the London area managed by Transport for London. Stations, part of the London Underground network are uniquely identified for historic reasons.
Railway Station And London Underground Station	A station that functions both as a Railway Station and a London Underground Station. Also includes rare cases where additionally the station functions as a Light Rapid Transport Station.
Light Rapid Transit Station And Railway Station	A station that functions both as a Light Rapid Transit Station and a Railway Station.
Light Rapid Transit Station And London Underground Station	A station that functions both as a Light Rapid Transit Station and a London Underground Station.

RailwayTrack

«FeatureType» RailwayTrack		
Definition: All railways are represented as lines and are broken where they pass under bridges, buildings or other obstructing detail. Railway sidings and the tracks of travelling structures are not included.		
Attribute: classification		
Definition: The classification of the RailwayTrack. The valid values are defined in the RailwayTrackClassification code list.		
Type: RailwayTrackClassification	**Length**: 45	**Multiplicity**: [1]
Attribute: geometry		
Definition: Line representing the alignment of the railway track.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

RailwayTrackClassification

Code List: RailwayTrackClassification	
Code	**Description**
Multi Track	A representation of two or three parallel or near parallel pairs of rails up to a specified distance apart.
Single Track	A representation of a pair of rails that are not parallel or near parallel to another pair of rails within a specified distance.
Narrow Gauge	A representation of a pair of rails that are more than 0.508m and less than 1.435m apart. Also includes monorails.

RailwayTunnel

«FeatureType» RailwayTunnel		
Definition: Railway tunnels are represented as approximate centrelines of the railway that runs through the tunnel.		
Attribute: geometry		
Definition: Line representing the alignment of the railway tunnel.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Communications – Road

MotorwayJunction

«FeatureType» MotorwayJunction		
Definition: Point feature representing the approximate location of numbered junction on a motorway.		
Attribute: junctionNumber		
Definition: The motorway junction number assigned by the Department for Transport.		
Type: CharacterString	**Length**: 10	**Multiplicity**: [1]
Attribute: geometry		
Definition: Point representing the position of the motorway junction.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Road

«FeatureType» Road
Definition: A road is defined as a metalled way for vehicles. A vehicle is defined as one with wheels on both sides of its body. Metalling is defined as any artificial (man-made) surface including areas of asphalt, concrete and gravel. Roads that form part of the public network and driveways to private properties that are over 100m in length are captured. Dual carriageways are represented by centrelines when the two carriageways are closer than 32.5m, roundabouts are represented by points when smaller than 450m², dead ends are removed when shorter than 36m and roads are simplified with a 4m tolerance.

Attribute: distinctiveName
Definition: The name of the road. When a road is dual named, the Welsh or Gaelic name is presented first, followed by a space, a forward slash, a space and then the English name.

Type: CharacterString	**Length**: 100	**Multiplicity**: [0..1]

Attribute: roadNumber		
Definition: For roads with RoadClassification of Motorway, Primary Road, A Road and B Road, this is the number of the road defined by the Department for Transport.		

Type: CharacterString	**Length**: 10	**Multiplicity**: [0..1]

Attribute: classification		
Definition: The classification of the road. The valid values are defined in the RoadClassification code list.		

Type: RoadClassification	**Length**: 45	**Multiplicity**: [1]

Attribute: drawLevel		
Definition: The drawLevel value of the road, used for cartographic styling. The valid values are defined in the DrawLevelValue code list.		

Type: DrawLevelValue	**Length**: 1	**Multiplicity**: [1]

Attribute: override		
Definition: The override value of the road used for cartographic styling. The valid values are defined in the OverrideValue code list.		

Type: OverrideValue	**Length**: 1	**Multiplicity**: [1]

Attribute: geometry		
Definition: Line representing the alignment of the road.		

Type: GM_Curve	**Length**:	**Multiplicity**: [1]

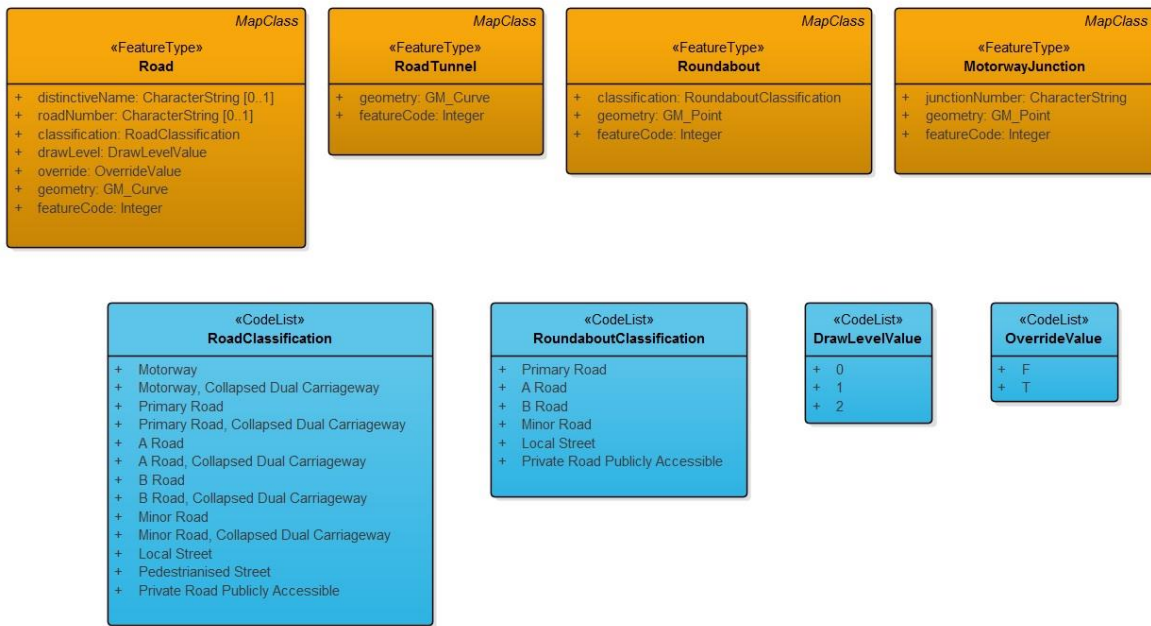| Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		

Type: Integer	**Length**:	**Multiplicity**: [1]

RoadClassification

Code List: RoadClassification	
Code	**Description**
Motorway	A multi-carriageway public road connecting important cities, always numbered with no addresses. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart.
Motorway, Collapsed Dual Carriageway	A multi-carriageway public road connecting important cities, always numbered with no addresses. For dual carriageways, the carriageways in both travel directions are represented by a single line when they are closer than 32.5m apart.
Primary Road	A public road, classified as an A road or B road, that has been additionally classified as a primary route by the Department for Transport, to supplement the motorway network connecting important cities. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart.
Primary Road, Collapsed Dual Carriageway	A public road, classified as an A road or B road, that has been additionally classified as a primary route by the Department for Transport, to supplement the motorway network connecting important cities. For dual carriageways, the carriageways in both travel directions are represented by a single line when they are closer than 32.5m apart.
A Road	A public road, classified as an A road by the Department for Transport, connecting areas of regional importance, always numbered, sometimes named, often with addresses. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart.
A Road, Collapsed Dual Carriageway	A public road, classified as an A road by the Department for Transport, connecting areas of regional importance, always numbered, sometimes named, often with addresses. For dual carriageways, the carriageways in both travel directions are represented by a single line when they are closer than 32.5m apart.
B Road	A public road, classified as a B road by the Department for Transport, connecting places of local significance, always numbered, sometimes named, often with addresses. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart.
B Road, Collapsed Dual Carriageway	A public road, classified as a B road by the Department for Transport, connecting places of local significance, always numbered, sometimes named, often with addresses. For dual carriageways, the carriageways in both travel directions are represented by a single line when they are closer than 32.5m apart.

Minor Road	A public road without a Department for Transport classification of motorway, A or B that connects the roads defined below to B and higher classification roads. In urban areas usually named, often with addresses. In rural areas sometimes named and sometimes with addresses. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart.
Minor Road, Collapsed Dual Carriageway	A public road without a Department for Transport classification of motorway, A or B that connects the roads defined below to B and higher classification roads. In urban areas usually named, often with addresses. In rural areas sometimes named and sometimes with addresses. For dual carriageways, the carriageways in both travel directions are represented by a single line when they are closer than 32.5m apart.
Local Street	A public road that provides access to land and/or houses, usually named with addresses. Generally not intended for through traffic. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart and a single line when they are closer than 32.5m apart.
Pedestrianised Street	Roads that have been altered for use principally by pedestrians but may provide some access for certain types of vehicle.
Private Road Publicly Accessible	A privately-maintained road or a road within a property boundary where access by the public is considered usual for at least some part of the day. For example, a road within a hospital, sports centre or school. They may extend through a site if more than one entrance exists. If only one entrance exists they are normally created to extend to the principal building within a single site or the boundary of the last property served for features accessing more than one addressed or otherwise identifiable property. They may be captured outside this definition if required to provide connectivity to a track or path. For dual carriageways, the carriageways in both travel directions are represented separately when they are more than 32.5m apart and a single line when they are closer than 32.5m apart.

RoadTunnel

«FeatureType» RoadTunnel		
Definition: Road tunnels are represented as approximate centrelines of the road that runs through the tunnel.		
Attribute: geometry		
Definition: Line representing the alignment of the road tunnel.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Roundabout

«FeatureType» Roundabout		
Definition: Roundabouts smaller than 450m^2 are represented as point features, and the roads are extended to meet at the centre point. Mini roundabouts are not included.		
Attribute: classification		
Definition: The classification of the roundabout. The valid values are defined in the RoundaboutClassification code list.		
Type: RoundaboutClassification	**Length**: 45	**Multiplicity**: [1]
Attribute: geometry		
Definition: Point representing the position of the roundabout.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

RoundaboutClassification

| Code List: RoundaboutClassification	
Code	**Description**
Primary Road	A roundabout smaller than 450m^2, where the highest classification through road is a Primary Road, as defined by RoadClassification.
A Road	A roundabout smaller than 450m^2, where the highest classification through road is an A Road, as defined by RoadClassification.
B Road	A roundabout smaller than 450m^2, where the highest classification through road is a B Road, as defined by RoadClassification.
Minor Road	A roundabout smaller than 450m^2, where the highest classification through road is a Minor Road, as defined by RoadClassification.
Local Street	A roundabout smaller than 450m^2, where the highest classification through road is a Local Street, as defined by RoadClassification.
Private Road Publicly Accessible	A roundabout smaller than 450m^2, where the highest classification through road is a Private Road Publicly Accessible, as defined by RoadClassification.

DrawLevelValue

Code List: DrawLevelValue	
Code	**Description**
0	The default draw level. Roads with draw level 0 are to be displayed first, with draw levels 1 and 2 overlaid on top.
1	Used for road bridges and overpasses. Roads with draw level 1 are to be overlaid on top of draw level 0 roads.
2	Used in very rare cases when there are several coincident levels of road bridge or overpass. Roads with draw level 2 are to be overlaid on top of draw levels 0 and 1.

OverrideValue

Code List: OverrideValue	
Code	**Description**
F	The default value; has no impact on the styling of roads.
T	Used when a higher classification road (for example a slip road) terminates at a T-junction with a lower classification road. This scenario can result in the colour of the higher classification road bleeding into the lower classification road. This attribute is used to override the standard road hierarchy, allowing the higher classification road to be pushed down the drawing order.

Hydrology
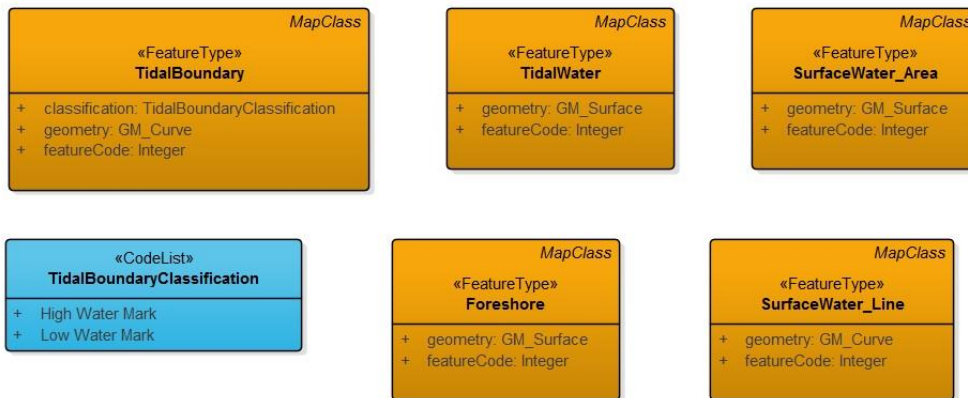
Foreshore

«FeatureType» Foreshore		
Definition: The part of the shore or beach which lies between the Low Water Mark and High Water Mark defined by the TidalBoundaries. The same condition may exist in non-contiguous off-shore areas.		
Attribute: geometry		
Definition: Polygon representing the area of foreshore.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

SurfaceWater_Area

«FeatureType» SurfaceWater_Area		
Definition: An inland waterway body sufficiently wide enough to capture as an area feature. Small lakes and small islands in waterbodies are not included.		
Attribute: geometry		
Definition: Polygon representing the area of surface water.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

SurfaceWater_Line

«FeatureType» SurfaceWater_Line		
Definition: An inland waterway body not sufficiently wide enough to capture as an area feature.		
Attribute: geometry		
Definition: Line representing the alignment of the surface water.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

TidalBoundary

«FeatureType» TidalBoundary		
Definition: In England and Wales these tide lines will be the levels of mean tides, for example, of a tide between a spring and neap tide. In Scotland the tide lines are those of mean spring tides. In places where there is no Foreshore (For example, vertical cliffs), the TidalBoundary is classified as 'High Water Mark'.		
Attribute: classification		
Definition: The classification of the TidalBoundary. The valid values are defined in the TidalBoundaryClassification code list.		
Type: TidalBoundaryClassification	**Length**: 45	**Multiplicity**: [1]
Attribute: geometry		
Definition: Line representing the alignment of the tidal boundary.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

TidalBoundaryClassification

Code List: TidalBoundaryClassification	
Code	**Description**
High Water Mark	In England and Wales this is the mean level of all the high tides, in Scotland this is the mean level of the spring high tides. In places where there is no Foreshore (For example, vertical cliffs), the TidalBoundary is classified as High Water Mark.
Low Water Mark	In England and Wales this is the mean level of all the low tides, in Scotland this is the mean level of the spring low tides. When there is Foreshore, this defines the lower limit of Foreshore.

TidalWater

«FeatureType» TidalWater		
Definition: Polygons defining the extents of tidal water, up to the High Water Mark defined by the TidalBoundaries and the Normal Tidal Limit of rivers. Tidal water is not included under bridges.		
Attribute: geometry		
Definition: Polygon representing the area of tidal water.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Land Cover

Ornament

«FeatureType» Ornament		
Definition: Ornament features are facsimiles of artwork, represented as polygons, originally drawn on paper maps to depict coastal rocks, outcropping rocks, boulders, cartographic slopes and scree.		
Attribute: geometry		
Definition: Polygon representing an individual element of hand-drawn ornament.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Woodland

«FeatureType» Woodland		
Definition: Areas of trees; coniferous, non-coniferous and mixed are represented as polygons. Small areas of woodland are omitted and small clearings in woodland are filled.		
Attribute: geometry		
Definition: Polygon representing the area of woodland.		
Type: GM_Surface	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Land Use

FunctionalSite

«FeatureType» FunctionalSite		
Definition: A point feature that represents the location of certain types of function or activity with appropriate attribution.		
Attribute: distinctiveName		
Definition: The name of the site (for example, 'Brighton College'). Note this may be null if the captured value is a house number.		
Type: CharacterString	**Length**: 150	**Multiplicity**: [0..1]
Attribute: classification		
Definition: A description of the actual function of a site (that is, airfield, junior school, hospital and so on.) The valid values are defined in the FunctionalSiteClassification code list.		
Type: FunctionalSiteClassification	**Length**: 65	**Multiplicity**: [1]
Attribute: geometry		
Definition: A representative point giving the general location of the functional site, for the purposes of text placement.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

FunctionalSiteClassification

Code List: FunctionalSiteClassification	
Code	**Description**
Air Transport	This theme includes all sites associated with movement of passengers and goods by air, or where aircraft take off and land.
Education Facility - Higher	This theme includes a very broad group of sites with a common high level primary function of providing education (either state funded or by fees).
Education Facility - School	Includes a very broad group of sites with a common high level primary function of providing education (either state funded or by fees) up to the legal school leaving age. Includes First School, Infant School, Junior School, Middle School, Non State Primary Or Preparatory School, Non State Secondary School, Primary School, School, School For Special Needs and Secondary School sites.
Leisure Or Sports Centre	A staffed recreational establishment that is publicly available (which may require membership) and mainly, but not exclusively sports based (both indoors and/or outdoors). This site may include swimming pools and gymnasiums, facilities for exercise classes, bars and health spas.
Medical Care	This theme includes sites which focus on the provision of secondary medical care services.
Place Of Worship	An establishment where people can worship according to their particular Faith.
Police Station	The local office of a police force in a particular area.
Road Services	Includes two types of site: Filling Station and Road User Services.
Road Transport	This theme includes three types of sites: Bus Stations, Coach Stations and Road user services.
Water Transport	Includes sites involved in the transfer of passengers and or goods onto vessels for transport across water. Includes Passenger Ferry Terminal and Vehicular Ferry Terminal sites.

Named Places
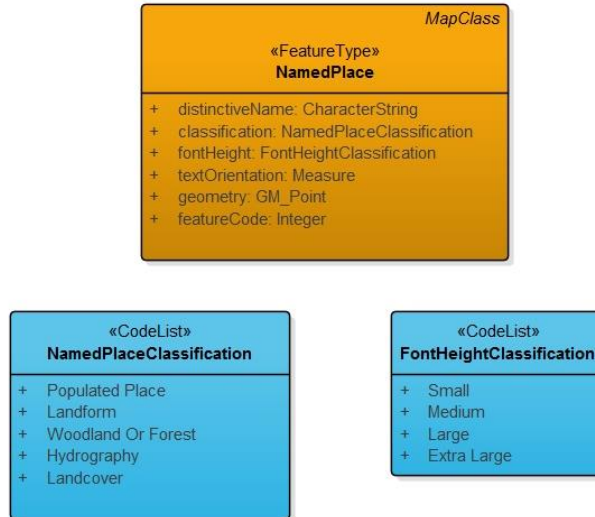
NamedPlace

«FeatureType» NamedPlace		
Definition: A representative point feature giving the general location of a settlement name or geographic place name, for the purposes of text placement.		
Attribute: distinctiveName		
Definition: The settlement name or geographic place name. When a place is dual named, the Welsh or Gaelic name is presented first, followed by a space, a forward slash, a space and then the English name.		
Type: CharacterString	**Length**: 100	**Multiplicity**: [1]
Attribute: classification		
Definition: The classification of the NamedPlace. The valid values are defined in the NamedPlaceClassification code list.		
Type: NamedPlaceClassification	**Length**: 40	**Multiplicity**: [1]
Attribute: fontHeight		
Definition: A suggested text size to use for placing the distinctiveName as cartographic text. For most names the text size is proportional to the size of the area to which the name applies. For valleys the text size is based on the valley length and for hills/mountains, the text size is based on the height of the summit. The valid values are defined in the FontHeightClassification code list.		
Type: FontHeightClassification	**Length**: 11	**Multiplicity**: [1]
Attribute: textOrientation		
Definition: Suggested text orientation (in degrees) to use for cartographic text placement of valley names, names of stretches of water and estuaries.		
Type: Measure	**Length**:	**Multiplicity**: [1]

Attribute: geometry		
Definition: Point representing the cartographic position of the named place.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

NamedPlaceClassification

Code List: NamedPlaceClassification	
Code	**Description**
Populated Place	Name of a city, town, village, hamlet or other populated place.
Landform	Name of a landform, such as a hill, mountain, island, coastal rocks and so on.
Woodland Or Forest	Name of an area of woodland or forest.
Hydrography	Name of an area of surface or tidal water, such as a lake, reservoir, bay, estuary, sea channel or sea area.
Landcover	Name of an area of open landcover, such as a moor, heath, down or fen.

FontHeightClassification

Code List: FontHeightClassification	
Code	**Description**
Small	Small text size.
Medium	Medium text size.
Large	Large text size.
Extra Large	Extra large text size.

Height

SpotHeight

«FeatureType» SpotHeight		
Definition: Point feature which in most cases represents the location of a summit of a hill or mountain, together with an elevation measurement.		
Attribute: height		
Definition: The elevation of the point above datum, rounded to the nearest metre.		
Type: Measure	**Length**:	**Multiplicity**: [1]
Attribute: geometry		
Definition: In most cases the location of a summit of a hill or mountain, rounded to the nearest metre.		
Type: GM_Point	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling.		
Type: Integer	**Length**:	**Multiplicity**: [1]

Administrative Boundaries

AdministrativeBoundary

«FeatureType» AdministrativeBoundary		
Definition: A line feature representing the limit of a government administrative area. In the event that a boundary represents the limit of more than one administrative area, classifications are applied in hierarchical order, with priority given to the largest containing area. An exception is made for National boundaries, which will be coincident with the underlying local government boundary.		
Attribute: classification		
Definition: The classification of the AdministrativeBoundary. The valid values are defined in the AdministrativeBoundaryClassification code list.		
Type: AdministrativeBoundaryClassification	**Length**: 45	**Multiplicity**: [1]
Attribute: geometry		
Definition: Represents the limit of a government administrative area.		
Type: GM_Curve	**Length**:	**Multiplicity**: [1]
Attribute: featureCode		
Definition: A unique feature code to facilitate styling. Each classification value has a unique feature code.		
Type: Integer	**Length**:	**Multiplicity**: [1]

AdministrativeBoundaryClassification

Code List: AdministrativeBoundaryClassification	
Code	**Description**
National	The alignment of the national boundaries, between England/Wales and between England/Scotland.
County Or Region Or Island	The alignment of the limits of an area of local government responsibility administered by county councils.
District Or London Borough	The alignment of the limits of an area of local government responsibility administered by district councils.
Parish Or Community	The alignment of the limits of an area of local government responsibility administered by parish councils.

Attributes

Attribute	Description	Example	Data Type	Valid values
CLASSIFICA (GML: classification)	Used to identify different types of feature within a particular class	RoadClassification	String	*See Code lists in blue in chapter 4*
FONTHEIGHT (GML: fontHeight)	Indicative of the height of the text in comparison to other features	Small	String	Small, Medium, Large or Extra Large
HEIGHT (GML: height)	Ground height of heighted point in metres	123	Integer	0-1344
DISTNAME (GML: distinctiveName)	Name of the road, airport, cartographic text, station, heritage site, ground height value	Romsey Road; Liverpool John Lennon Airport; Croydon	String	
ROADNUMBER (GML: roadNumber)	DFT road number	A32	String	
JUNCTNUM (GML: junctionNumber)	Motorway junction number	6a	String	
ORIENTATIO (GML: textOrientation)	Orientation of the text feature in degrees	24	Integer	-90 to 90
HTMLNAME (GML: *not present*)	This attribute contains all names, including all accents. Those accented letters that do not have an ASCII value have HTML control characters	Coed Ty'n-llŵyn will be recorded as Coed Ty'n-ll<f>ŵ</f>yn Pont Rhŷd-Dwrial will be recorded as and Pont Rh<f>ŷ</f>d-Dwrial	String	
FEATCODE (GML:featureCode)	Feature code which provides an alternative to using classification for styling	15014	Integer	*See table on page 55*
ID (GML: gml_id)	Unique identifier, which can be used for de-duplicating across tile boundaries. Identifiers will be regenerated for each product release	2CA116D4-CB9F-474B-A627-2606ECC522AE	String	

Chapter 6   **Feature Codes**

Feature Codes represented in the vector product

FeatureType	classification	featureCode
Building		25014
Glasshouse		25016
Road	Motorway	25710
	Primary Road	25723
	A Road	25729
	B Road	25743
	Minor Road	25750
	Local Street	25760
	Private Road Publicly Accessible	25780
	Pedestrianised Street	25790
	Motorway, Collapsed Dual Carriageway	25719
	Primary Road, Collapsed Dual Carriageway	25735
	A Road, Collapsed Dual Carriageway	25739
	B Road, Collapsed Dual Carriageway	25749
	Minor Road, Collapsed Dual Carriageway	25759
RoadTunnel		25792
MotorwayJunction		25796
Roundabout	Primary Road	25703
	A Road	25704
	B Road	25705
	Minor Road	25706
	Local Street	25707
	Private Road Publicly Accessible	25708
SurfaceWater_Line		25600
SurfaceWater_Area		25609
TidalWater	High Water Mark	25608
TidalBoundary	High Water Mark Low Water Mark	25604
	Low Water Mark	25605
Foreshore		25612
AdministrativeBoundary	National	25204
	Parish Or Community	25200
	District Or London Borough	25201
	County Or Region Or Island	25202
RailwayTrack	Multi Track	25300
	Single Track	25301
	Narrow Gauge	25302
RailwayTunnel		25303
RailwayStation	Light Rapid Transit Station	25420
	Railway Station	25422
	London Underground Station	25423
	Railway Station And London Underground Station	25424

		Light Rapid Transit Station And Railway Station	25425
		Light Rapid Transit Station And London Underground Station	25426
FunctionalSite		Education Facility - School	25250
		Police Station	25251
		Medical Care	25252
		Place Of Worship	25253
		Leisure Or Sports Centre	25254
		Air Transport	25255
		Education Facility - Higher	25256
		Water Transport	25257
		Road Transport	25258
		Road Services	25259
Woodland			25999
Ornament			25550
ElectricityTransmissionLine			25102
NamedPlace		Populated Place	25801
		Landform	25802
		Woodland Or Forest	25803
		Hydrography	25804
		Landcover	25805
SpotHeight			25810

Chapter 7 Styling of Land and Sea in Ordnance Survey Mapping Products

This section details an alternative approach for applying a background colour to areas of the map that are not covered by Tidal Water. The solution requires an ESRI shape file defining the spatial extents of each product to be provided as a download on the Ordnance Survey website as found here:

http://www.os.uk/business-and-government/help-and-support/products/geo-referencing.html

These polygons are then styled in a GIS with the required colour for land:

OS VectorMap District polygons for TidalWater can then be overlaid on top. This ensures that the background land colour is only visible for areas of land:


Most GIS allow a background colour to be applied to the entire display window. In ArcMap this is achieved by right-clicking in the data frame, selecting Data Frame Properties, selecting the Frame tab and setting a background colour. The background colour should be set to be the same colour as TidalWater:
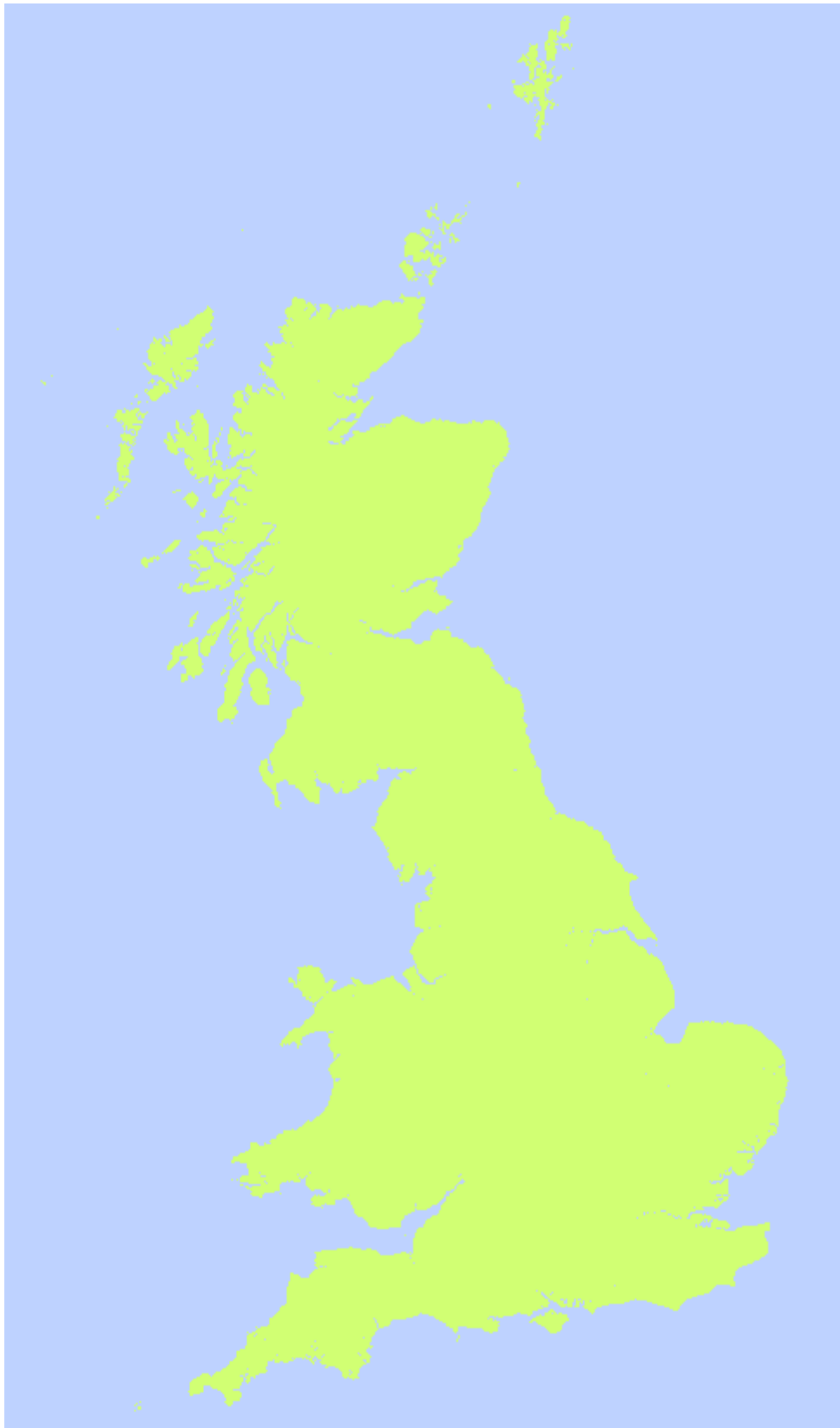
Polygons defining areas of land for the whole world can be downloaded from here:

http://www.naturalearthdata.com/downloads/10m-physical-vectors/ (click on 'Download land')

This data is defined in the WGS84 coordinate system. Some GIS will transform this on-the-fly to British National Grid, for others it may be necessary to apply a coordinate transformation first. This data can be added to the map below the two existing layers (ProductExtents and TidalWater). This ensures that only the additional land masses beyond the areas maintained by Ordnance Survey are visible:
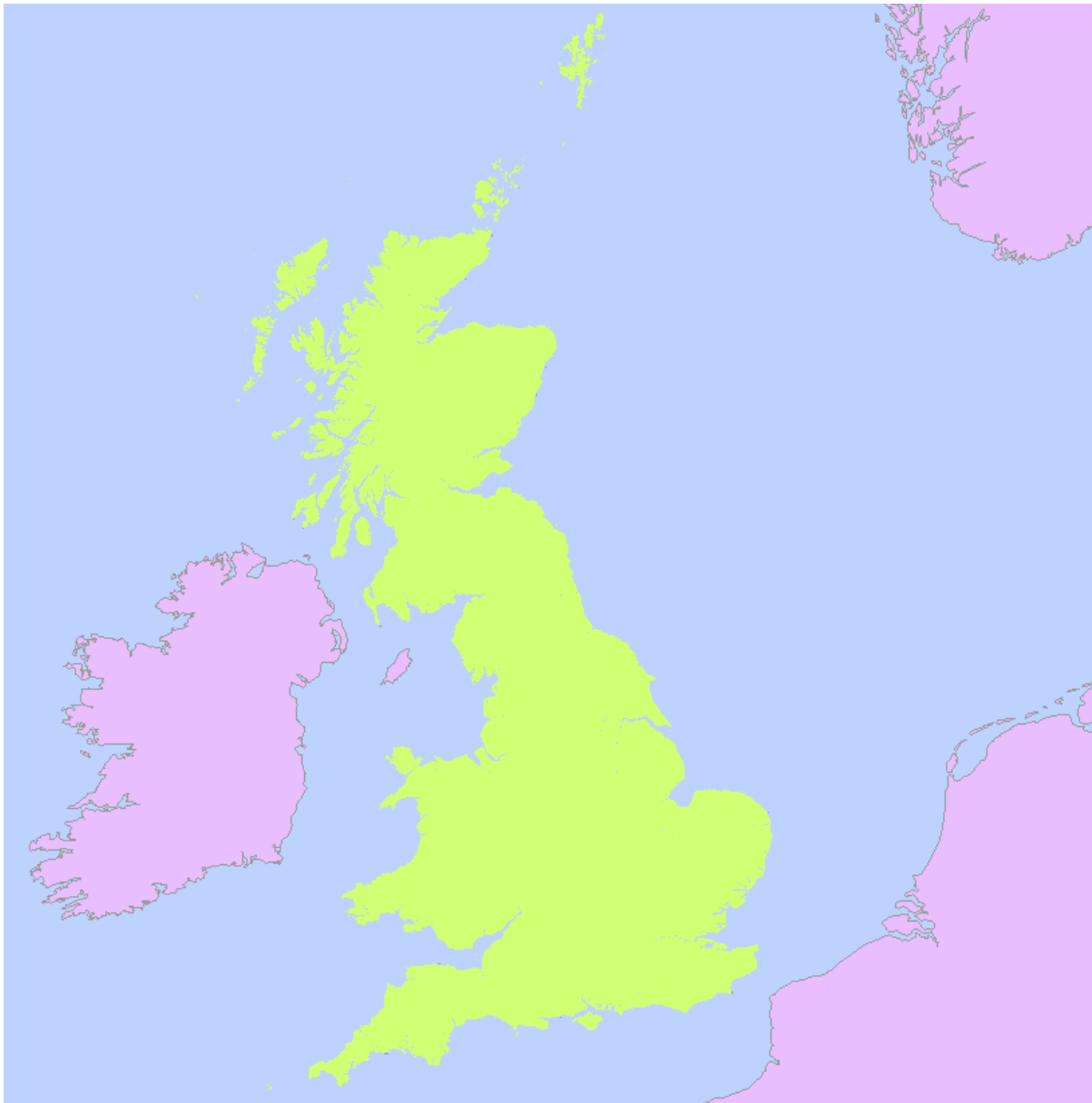
**Customer Service Centre, Ordnance Survey,
Adanac Drive, Southampton, United Kingdom, SO16 0AS**

**+44 (0)3456 050505 (General enquiries)
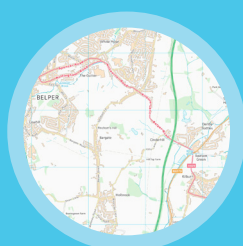+44 (0)3456 050504 (Welsh helpline)
+44 (0)2380 056146 (Textphone)**

**customerservices@os.uk
www.os.uk**

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CONTEXTUAL
PRODUCTS

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