ORDNANCE SURVEY GB

OS MASTERMAP SITES LAYER™ – TECHNICAL SPECIFICATION

Version history

Version	Date	Description
1.3	06/2016	Minor updates.
2.0	04/2022	Documentation updated to reflect the migration from OS MasterMap Integrated Transport Network (ITN) Layer to OS MasterMap Highways Network. Addition of GeoPackage and vector tile formats to the product. Minor formatting updates.
2.1	07/2023	Note was added to Routing Point section, informing users that due to Decision points being added to OS networks data, the Site routing point features are to be removed from the OS MasterMap Sites Layer product.

Purpose of this document

This document provides information about and insight into the OS MasterMap Sites Layer product and its potential applications. For information on the contents and structure of OS MasterMap Sites Layer, please refer to the Overview and Getting Started Guide.

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1. Introduction to OS MasterMap Sites Layer

OS MasterMap Sites Layer provides a nationally consistent polygonised representation of areas or extents of particular function or activity, and which are attributed to best reflect that function. It also contains access points and routing points to navigate in and out of the captured sites. These access points reference the OS MasterMap Highways Network product for easy interoperability between the two products.

All the source data used in the creation of OS MasterMap Topography Layer contains insight about a site's function or purpose, and the Sites Layer is intended to not only make this information available, but to enhance its analytical capabilities. OS MasterMap Sites Layer features are a representation of the boundary of real-world facilities, such as a school, where the site consists of more than an addressable main building.

The features are derived from Ordnance Survey's highly detailed core data, and therefore the classification and grouping of features is dependent upon the source data capture specification. The product contains three feature types:

- Functional site polygons (*FunctionalSite*)

- Functional site access points (*AccessPoint*)

- Functional site routing points (*RoutingPoint*)

These three types are defined in this document in INSPIRE-compatible terms, with reference to the INSPIRE data specifications for facilities. The attribute naming convention also takes into consideration consistency with attribute names in other OS MasterMap layers and products.

It is important to note that the attribute naming has been carried over from the former OS MasterMap Integrated Transport Network (ITN) Layer. This has been done to minimise the impact of the implementation of OS MasterMap Highways Network.

The components that make up these features, and their relationships are shown in the product's logical model diagram below.

Figure 1: UML data model of OS MasterMap Sites Layer

1.1 Integration with other OS MasterMap layers

A main premise of the OS MasterMap product family is that layers of the differing products can be integrated with each other.

Layers are integrated by the sharing of common coordinate systems and contextual identifiers. Except for the Imagery Layer, the TOID feature identification attribute provides a unique feature-level reference that can be used to identify and track a feature between related OS MasterMap layers. For example, in OS MasterMap Sites Layer, there is an explicit link between the access point feature and the OS MasterMap Highways Network Layer road node that is closest to it.

1.2 Coordinate reference systems

The Geography Markup Language (GML) and GeoPackage formats use the British National Grid (BNG) spatial reference system. BNG 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.

Vector tile format is supplied in Web Mercator projection (EPSG:3857). Web Mercator projection uses WGS84 geodetic datum to render the vector tiles.

A guide to coordinate systems in Great Britain is available at:
http://www.ordnancesurvey.co.uk/oswebsite/gps/docs/A_Guide_to_Coordinate_Systems_in_Great_Britain.pdf

A general introductory guide to BNG is provided at:
http://www.ordnancesurvey.co.uk/oswebsite/gi/nationalgrid/nghelp1.html

2.   Data specification overview

2.1   Structure

This data specification works within the existing structure of OS MasterMap as represented in the Unified Modelling Language (UML) class diagram below:
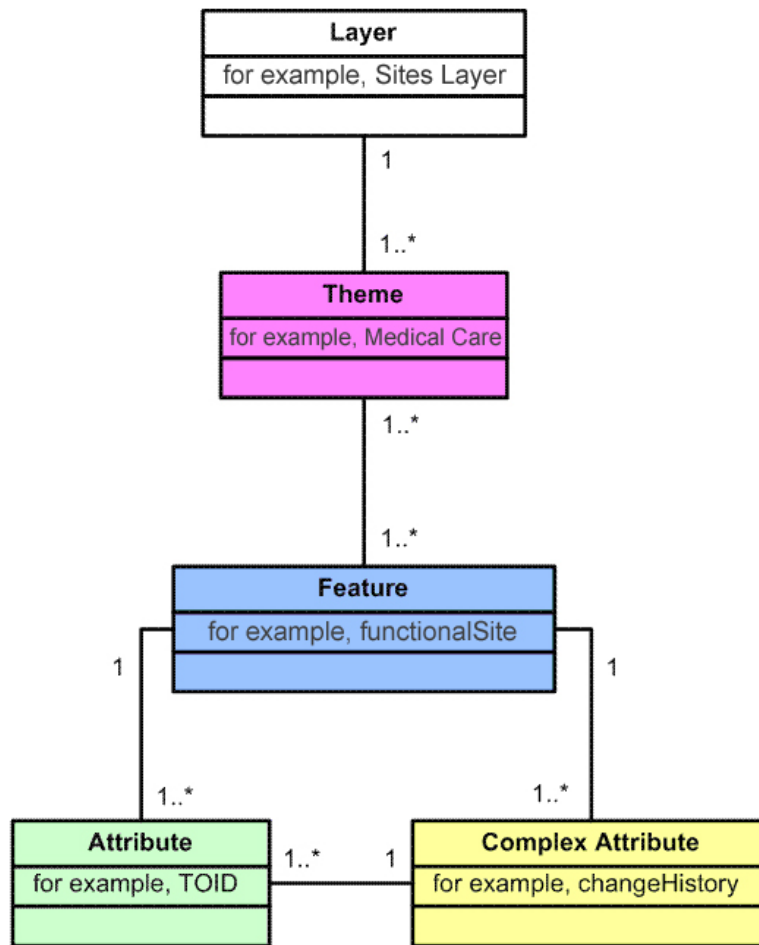
Figure 2: UML class diagram representation of OS MasterMap layer

2.2   Layers

A layer is a set of related geospatial data which is then divided into one or more themes (much like OS MasterMap Topography Layer). These themes can be used together to form an end-user application.

2.3   Themes

Within the Sites Layer, features belong to only one theme. A theme is a logical collection of features that have been grouped according to their classification or relationships. The primary purpose of themes is to enable easier selection and interrogation of features by the user. Themes do not form part of the classification of a feature and do not affect the feature life cycle rules. The Sites Layer is currently composed of seven themes, which are detailed in Section 3.

2.4   Features

Features are digital representations of real-world concepts such as a building, road or barrier. The life cycle of a feature, its creation, modification and deletion are managed to most appropriately reflect the life cycle of the abstracted real-world concept that they depict.

2.5   Attributes

An attribute is any item of information contained within an OS MasterMap feature. The TOID and the geometry of the feature are both attributes.

3.   Theme definitions

A theme is a set of features that have been grouped together for the convenience of customers and to provide a high-level means of dividing the data in the layer logically. Features belong to only one theme.

Below are descriptions of the themes that are currently included in OS MasterMap Sites Layer and examples of functional sites that are represented within these themes. Also provided is an explanation of the features included or excluded during the capture process of an extent.

OS MasterMap Sites Layer provides seven themes:

• Air transport

• Education

• Medical care

• Rail transport

• Road transport

• Water transport

• Utility or industrial

3.1 Air transport

This theme includes sites associated with movement of passengers and goods by air, or where aircraft take off and land.
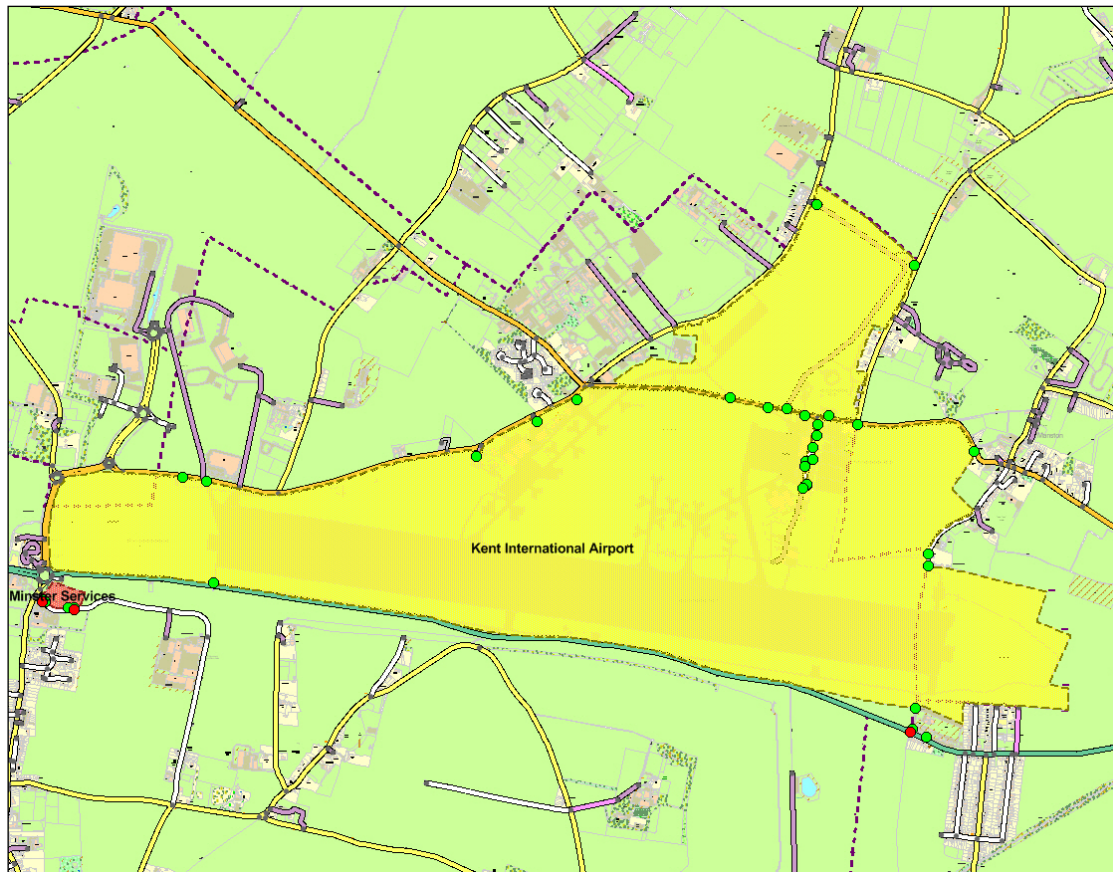
Figure 3: OS MasterMap Sites Layer (yellow polygon) Air transport theme – airport

Functional site	Description
Airfield	An area of ground where aircraft take off and land. It may have some permanent buildings, but it is smaller than an airport and may be for private use only.
Airport	A feature where aircraft land and take off and which provides facilities for handling passengers, air freight and servicing aircraft.
Helicopter station*	A feature from where bodies such as the police or ambulance service operate helicopter operations.
Heliport*	An airport specifically designed for use by helicopters.

Note: Only clearly defined helicopter stations and heliports outside of airfields and airports are to be captured.

All active air transport features (including military sites) will be captured as indicated below unless they fall out of scope (for example, a private property) or are described as disused sites.

The following features are included in the captured extent:

- buildings for the handling of air passengers and goods
- buildings for the storage and maintenance of aircraft
- aircraft landing and taxiing surfaces (man-made or natural)
- site access roads and paths
- structures associated with the operation of the site
- car parks for air passengers
- areas of man-made and natural surface totally surrounded by included areas
- areas of man-made and natural surface abutting included areas along a non-obstructing edge

The following features are **not** included in the captured extent:

- aircraft-related services outside of perimeter fence (for example, warehouses or catering)
- public through-roads and pavements
- hotels adjacent to site and their car parks

3.2   Education

This theme includes a very broad group of sites with a common high-level primary function of providing education (either state-funded or fee-paying).
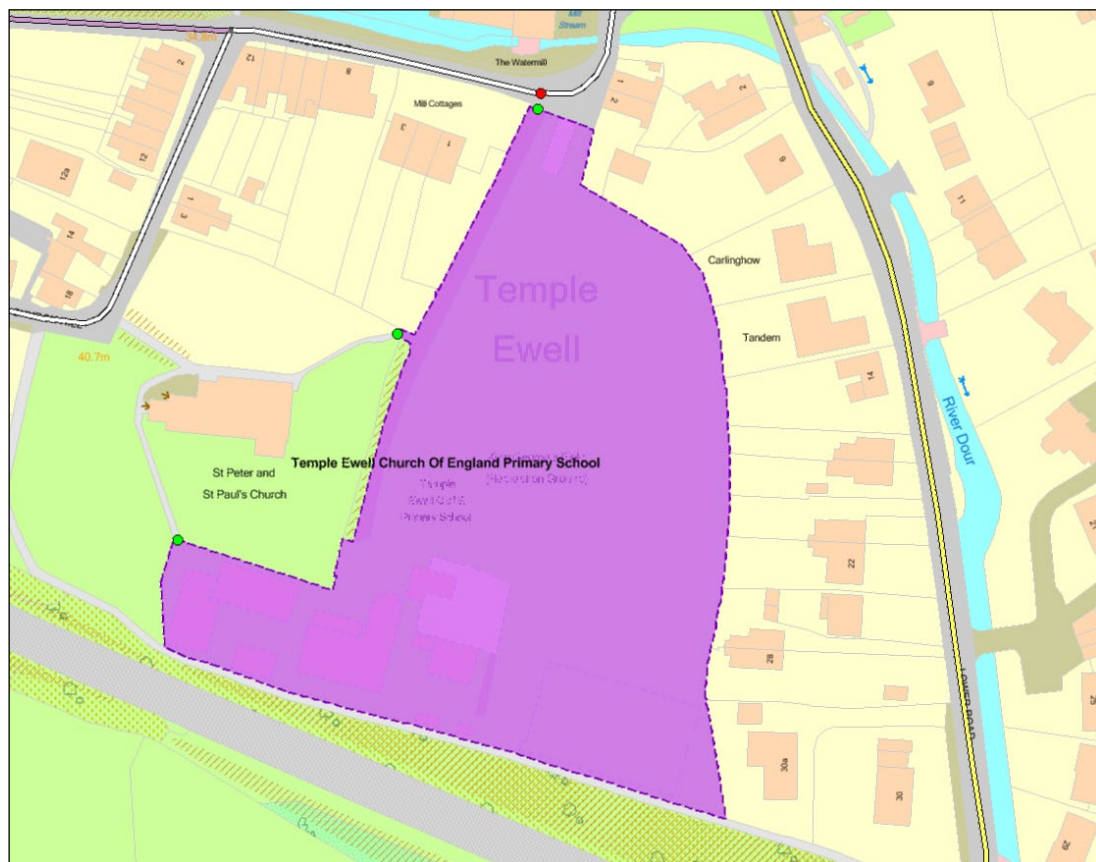

Figure 4: OS MasterMap Sites Layer (purple polygon) Education theme – primary school

Main function	Functional site attribution	Description
Further education	Further education	An educational site for academic and vocational qualifications below degree level.
Higher education	Higher or university education	A feature where students study at National Qualifications Framework level 4 and above.
University	Higher or university education	An institution of higher education.
Non state primary or preparatory school	Non state primary education	An educational establishment for children from the ages of seven to eleven that is not funded by the state.
Non state secondary school	Non state secondary education	An educational establishment for children of eleven years and over that is not funded by the state.
First school	Primary education	An educational establishment for children from the ages of four to eight.
Infant school	Primary education	An educational establishment for children from the ages of five to seven.
Junior school	Primary education	An educational establishment for children from the ages of seven to eleven.
Middle school	Primary education	An educational establishment for children from the ages of eight to twelve or nine to thirteen.
Primary school	Primary education	An educational establishment for children from the ages of seven to eleven that is funded principally by the state.
Secondary school	Secondary education	Educational establishment for children over 11 years old.
Special needs education	Special needs education	A specialist school for the teaching of those with disabilities.

The table above shows how the main function of a site has been mapped across to the equivalent functional site attribution, for example, a first school will be attributed as 'primary education'.

Where a school is described with one or more functions and it is not possible to ascertain which buildings relate to which function, the entire site will be captured once for each function present. There will also be instances where there are several functions associated to a single site.

In some cases, it may be possible to determine which buildings are related to the different functional sites, but not possible to divide the playing fields; as a result, the playing fields will be captured for each function and will overlap.

The following features are included in the captured extent:

- all teaching and assembly buildings supporting education functions
- ancillary buildings and structures directly enabling the site to operate (for example, boiler house, kitchens and waste disposal areas)
- site access roads and paths
- recreational areas associated with the site (for example, playgrounds and playing fields)
- areas of man-made and natural surface totally surrounded by included areas
- for schools: areas of man-made and natural surface abutting included areas along a non-obstructing edge

The following features are **not** included in the captured extent:

- public roads and pavements
- pedestrian through-routes
- separately addressed properties as indicated by house numbers

Universities or higher education sites that have extensive and regionally disparate sites will be associated together using the stakeholder attribute, to specify a relationship between such sites that come under the control of a single stakeholder. This attribute is currently not populated but will be implemented in subsequent releases of the product.

Sites associated with professional bodies or work places will not be captured, for example, 'Dance School' or 'Performing Arts School'.

3.3   Medical care

This theme includes sites that focus on the provision of secondary medical care services.

Figure 5: OS MasterMap Sites Layer (green polygon) Medical care theme – hospital

Functional site	Description
Hospice	A hospital for patients with terminal illnesses.
Hospital	A medical facility that provides secondary level care.
Medical care accommodation	A feature that provides both long term medical accommodation and medical care.

All medical care sites will be captured as indicated below unless they fall out of scope; for example, a private property labelled as 'The Blue Hospital'.

The following features are included in the captured extent:

- main buildings
- site-specific service buildings and structures
- access roads and paths
- site-specific car parks
- areas of man-made and natural surface surrounded by included areas

The following features are **not** included in the captured extent:

- buildings not specifically related to the operation of the site (for example, children's nursery)
- public through-roads and their pavements; and public pedestrian through-routes

3.4   Rail transport

This theme includes sites associated with movement of passengers and goods by rail.
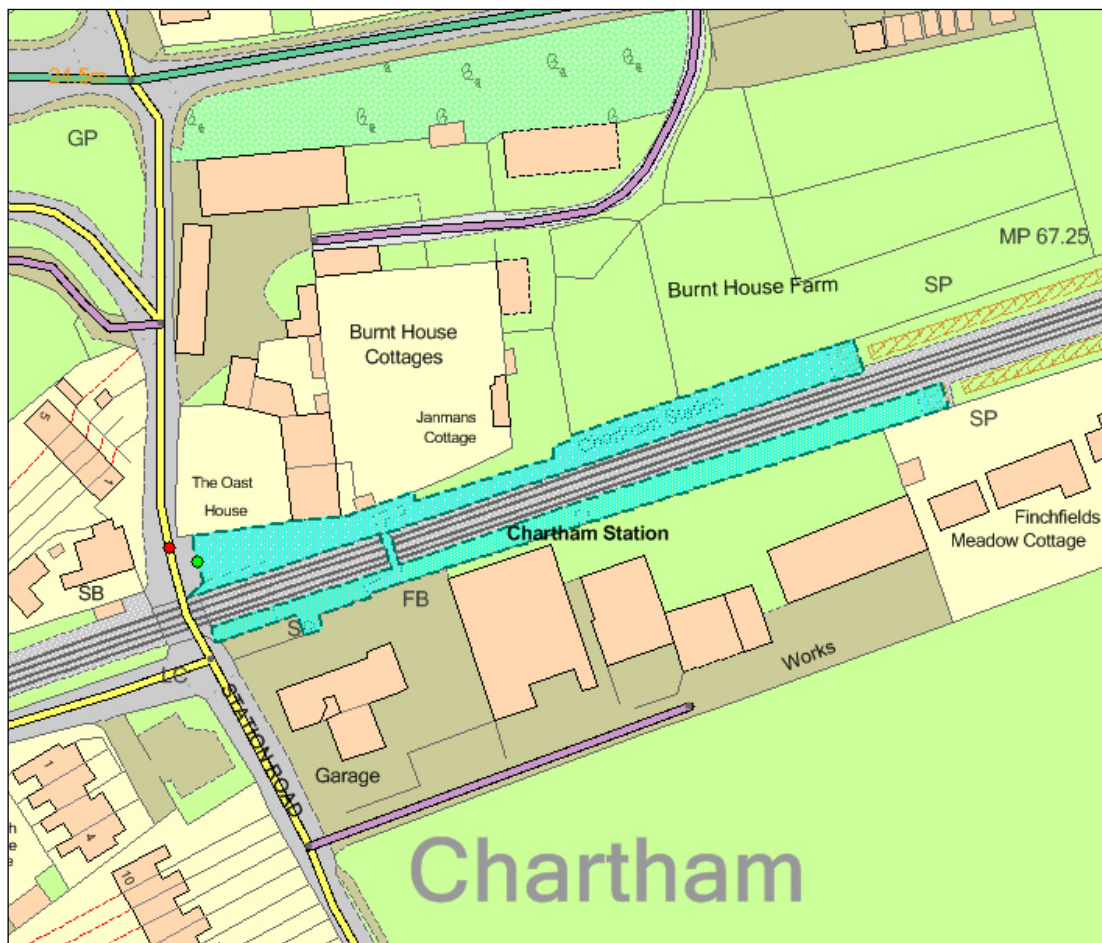
Figure 6: OS MasterMap Sites Layer (blue polygon) Rail transport theme – railway station

Functional site	Description
Railway station	A feature by a light railway network or railway network where a light rail vehicle or train may stop to pick up goods or passengers.
Vehicular rail terminal	A facility where freight vehicles may be transferred to or from the rail network.
Tram station	A stop/station for trams. Tram systems are defined as light rail systems with some shared running over roads.

All rail transport sites will be captured as indicated below unless they fall out of scope; for example, a private property labelled as 'Railway Station Bungalow'.

The following features are included in the captured extent:

- station buildings
- station shelters
- platform areas
- access roads and paths
- station footbridges and associated structures
- station car parks
- areas of man-made and natural surface surrounded by included areas
- areas of man-made and natural surface abutting included areas along a non-obstructing edge

The following features are **not** included in the captured extent:

- railway buildings (for example, signal boxes and maintenance huts)
- railway track areas (made-way)
- man-made and natural areas alongside tracks
- public roads and footpaths

It is important to note that functional sites in the rail transport theme are often not contiguous and may be constrained of the structure of polygons in the Topography Layer.

3.5   Road transport

This theme includes sites associated with the movement of passengers and goods by road.
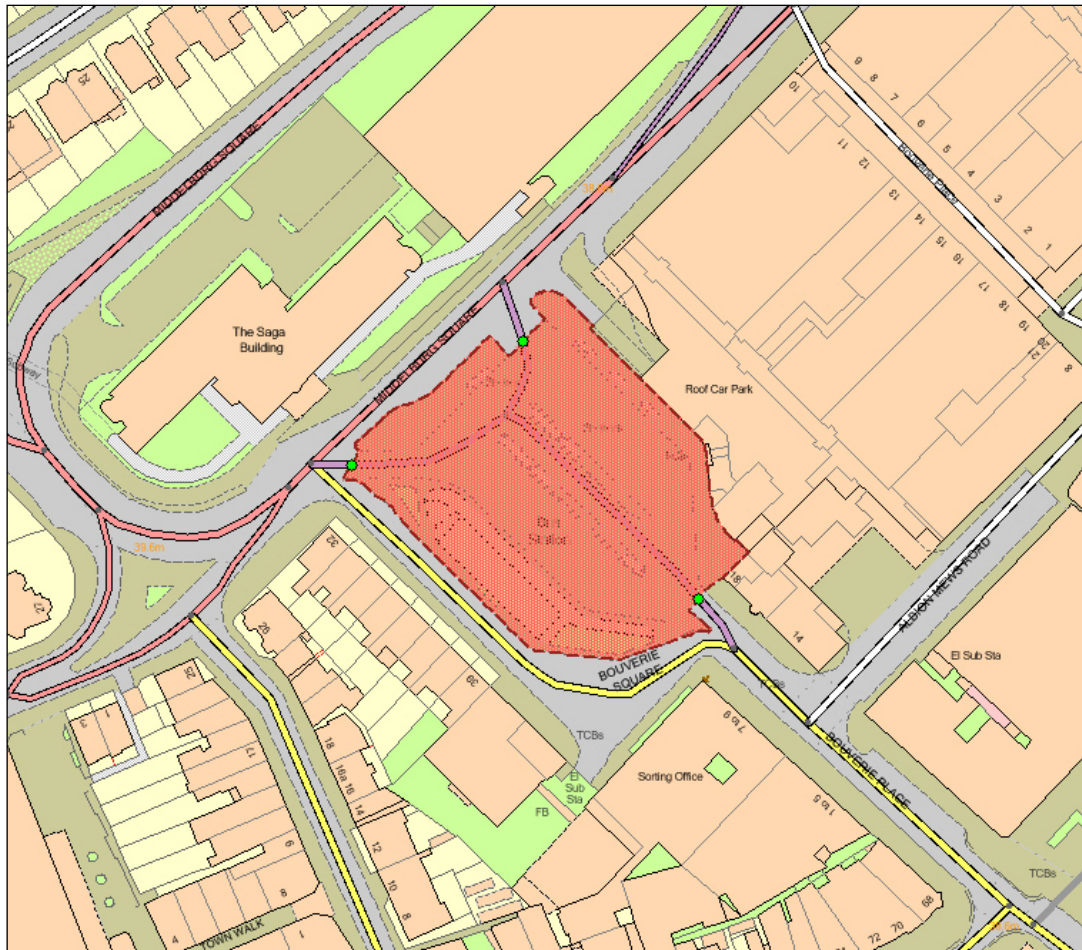
Figure 7: OS MasterMap Sites Layer (red polygon) Road transport theme – bus station

Functional site	Description
Coach station	A place where coaches begin, break or end a journey and at which passengers may embark or disembark. A coach station may consist of buildings or may simply be an area specifically set aside with shelters and signage.
Bus station	A place where buses begin, break or end their journey and at which passengers may embark or disembark. A bus station may consist of buildings or may simply be an area specifically set aside with shelters and signage.
Road user services	An area for the supply of fuel, refreshments and so on near a road or motorway.

All road transport sites will be captured as indicated below unless they fall out of scope (for example, a private property).

The following features are included in the captured extent:

- bus/coach station buildings (for example, ticket office, waiting room)
- bus/coach station shelters
- car/bus/coach parking areas
- buildings for bus/coach storage, maintenance and cleaning
- access roads and paths
- areas of man-made and natural surface surrounded by included areas

The following features are **not** included in the captured extent:

- public roads and pavements
- pedestrian through-routes

3.6 Water transport

This theme includes sites involved in the transfer of passengers or goods onto vessels for transport across water.
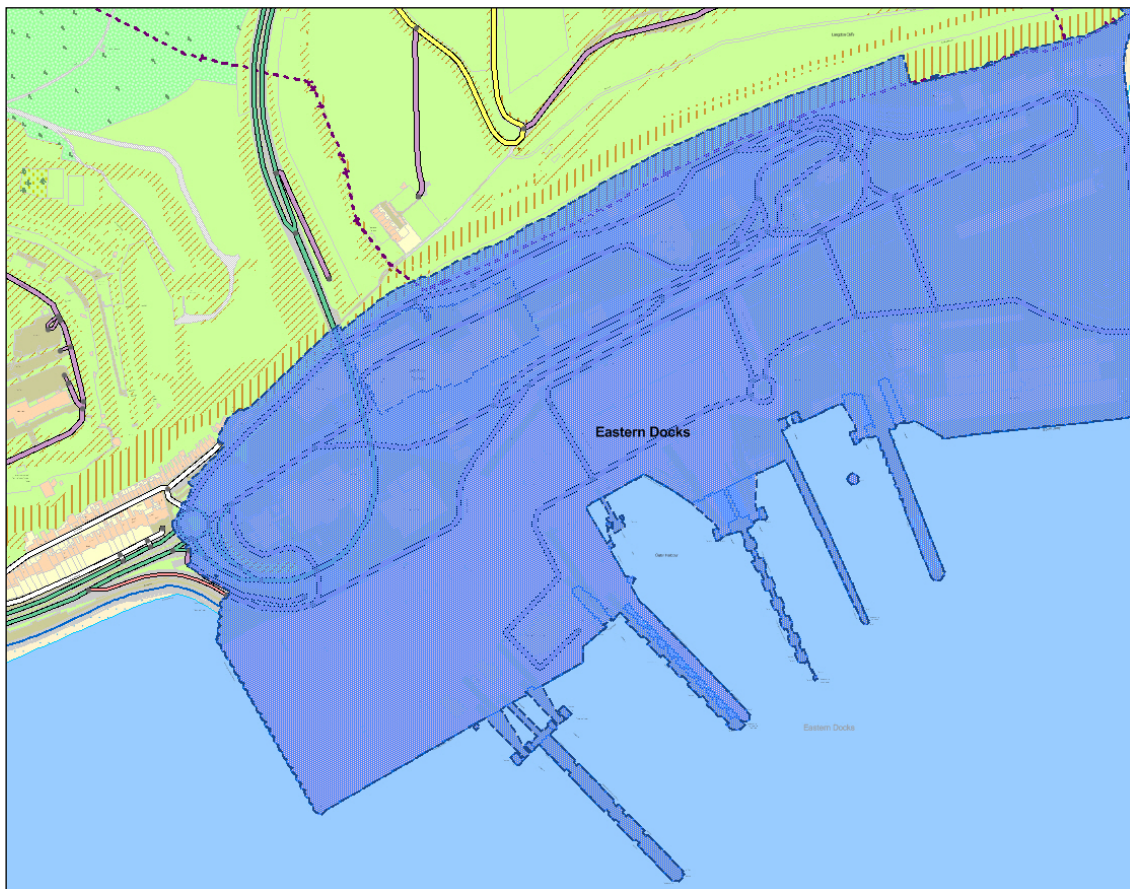
Figure 8: OS MasterMap Sites Layer (blue polygon) Water transport theme – port consisting of docks and nautical berthing

Functional site	Description
Vehicular ferry terminal	A site facilitating the embarkation and disembarkation of ferry passengers and their vehicles.
Passenger Ferry Terminal	A site facilitating the embarkation and disembarkation of pedestrian ferry passengers
Port Consisting of Docks and Nautical Berthing	A site on a waterway with facilities for loading and unloading ships.

The following features are included in the captured extent:

- port buildings (for example, customs office, ticket office, waiting room)
- vehicle parking/waiting areas
- structures for loading people, vehicles or goods onto vessels
- access roads and paths
- areas of man-made and natural surface surrounded by included areas

The following features are **not** included in the captured extent:

- public roads and pavements

3.7 Utility or industrial

This theme includes sites where the following activities take place:

- The principles of chemistry are applied to materials to create different materials on a large scale.

- Energy (that is, electricity, gas or oil) is produced, refined, distributed or stored.

Figure 9: OS MasterMap Sites Layer (orange polygon) Utility or industrial theme – electricity production

Functional site	Description
Chemical works	A site where the principles of chemistry are applied to materials to create different materials.
Electricity distribution	A site used to handle electricity as part of the process of distributing electricity nationally. If the site is for domestic electricity supply then it is considered to be an electricity sub-station site and not captured as part of the initial release.
Electricity production	A site where electricity is generated on a large scale.
Gas distribution or storage	A site associated with the storing or supply of gas to users.
Oil distribution or storage	A depot where oil is stored.
Oil refining	A site where crude oil is refined.
Oil terminal	A storage point and distribution centre at the head of an oil pipeline

The following features are included in the captured extent:

- internal site access roads and paths
- buildings and structures associated with the operation of the site
- areas of man-made and natural surface totally surrounded by included areas
- areas of man-made and natural surface abutting included areas along a non-obstructing edge
- for marine oil terminals, include related berthing structures physically connected to the site

The following features are **not** included in the captured extent:

- site-related areas outside of perimeter fence (for example, car parking)
- isolated mooring structures

4.   Functional site extent

4.1   Overview

A functional site is a geolocated polygon representing the extent encompassing features with a collective type of function or activity. The functional site is thematically attributed and accompanied by access points. All the source data used in the creation of the OS MasterMap Topography Layer contains information about a feature's function or purpose. Much of this data has been exposed in the Functional Sites Layer as a means of enhancing its analytical functionality. Functional sites are a representation of an assembly of cartographic features that share a common function (such as a school). It could also be a contiguous collection of features; for example, 'General Hospital'.

Functional sites are created using the base form and function attributes of topographic areas. Information, such as ownership is not included within those attributes and cannot be used to ascertain extent. Because of this, functional site extents should not be confused with, or applied as legal extents.

A functional site can have multiple functions, or they can share some topographical features with another functional site. Shared topographic features, such as a sports field shared by two schools, will have the field captured to both school functional sites. Should there be a sports club on the grounds, such as a football club, then the field will be captured to this as well.

Rules have been developed for defining the differing types of functional site based on their function and the Topographic features that are visible from aerial photography. These rules specify what area features will be included within a functional site and how the boundary extent of the site can be delineated.

For example, Figure 10 below demonstrates the extent of a simple functional site using OS MasterMap Topography Layer area features to identify and capture its extent. This is done by assessing a group of features that appear within a recognisable obstructing boundary and assigning them to the same functional site. This is also ratified using stereo aerial imagery and investigation through Change Intelligence. In the example shown below, this methodology has been used to assign all the features within the fence to a common function, in this case, a gas hub.
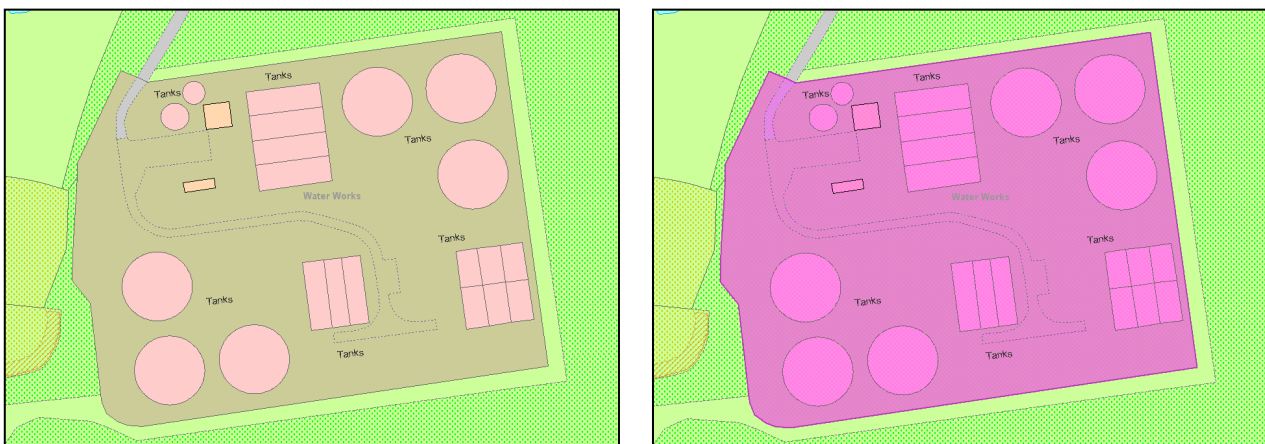

Figure 10: Topographic representation of a site prior to functional site capture (left) and its equivalent with the functional site extent captured (right)

Each functional site has its own unique TOID and will be maintained throughout its lifecycle including versioning, changes and updates to its component features and alterations to its extent should they be

warranted (for instance if the site increases in size due to land purchase). In addition, private roads that are wholly contained within a functional site and support the function are included in the extent.

It is important to note that obscured and underground features are not captured. This is because the OS MasterMap Topography Layer is captured at ground level from what is visible by aerial photography. However, all above ground features will be captured as normal.

While typically a functional site will usually be a connecting collection of polygons from OS MasterMap Topography layer, it is also possible for the functional site to consist of one or more disparate extents. Some sites, such as university campuses, will be a collection of several functional site extents belonging to a single stakeholder. These will be captured as one or more functional sites depending on the distance between the captured extents.

The stakeholder name will be captured if it is clear and unambiguous and is obtained through investigation where possible. The primary use of the stakeholder attribute is to define extensive and widely dispersed sites that come under the control of a single stakeholder; for example, universities.

In instances where multiple stakeholders exist for a given site, they will be listed in alphabetical order in the Stakeholder 1 attribute. Each new stakeholder will be separated with '+'. The Stakeholder 1 attribute will continue to hold only one role. The Stakeholder 2 attribute and role should not be populated.

The attributes currently not populated have been greyed out in the attribute definitions table in the following section.

4.2   Attributes

This section defines the attributes associated with the FunctionalSite feature. It is important to note that UML notation has been used to show the multiplicity for an attribute. These indicate whether an attribute is optional (0), has a single value (1), or can have either/or (0..1) where 'or' is represented by double dots (..).

<<FeatureType>> FunctionalSite		
Subtype of: ActivityComplex Feature		
Definition: A spatial area object that describes the geometry, extent and function of a real-world feature.		
Attribute: geometry		
Definition: The coordinate geometry defining the area of the functionalSite. This relates to multi-part geometry. The geometry is projected in two dimensions (2D).		
Value type: GM_Object	Size: Minimum of 3 vertices	Multiplicity: 1
Attribute: toid		
Definition: A unique identifier for a functionalSite that is maintained along with the version number and version date to reflect the life cycle of the feature. *NOTE: equivalent to INSPIRE identifier.*		
Value type: Text	Size: 20	Multiplicity: 1

<<FeatureType>> FunctionalSite		
Attribute: version		
Definition: The version number of the data representation of the persisting functionalSite feature.		
Value type: Integer	Size: 3	Multiplicity: 1
Attribute: versionDate		
Definition: The date on which the current version of the functionalSite was created.		
Value type: Date	Size: NA	Multiplicity: 1
Attribute: reasonForChange		
Definition: Reason for the current version of the functionalSite to be created. The valid reasons for change are defined in the ReasonForChangeValue code list.		
Value type: ReasonForChangeValue	Size: NA	Multiplicity: 1
Attribute: functionStatus		
Definition: This refers to the INSPIRE Activity Complex Status. This refers to a description of the state of a functionalSite. The valid states are defined in the FunctionStatusValue code list.		
Value type: FunctionStatusValue	Size: NA	Multiplicity: 1
Attribute: functionTheme		
Definition: A description of the theme that a particular site falls under (that is, air transport, education, medical care and so on). The valid themes are defined in the FunctionThemeValue code list.		
Value type: FunctionThemeValue	Size: NA	Multiplicity: 1
Attribute: function		
Definition: A description of the actual function of a site (that is, airfield, junior school, hospital and so on). The valid themes are defined in the FunctionValue code list. For sites with multiple functions, the values will be provided together and separated by a ','. Valid multiple functions are described in the Function combination table.		
Value type: FunctionValue	Size: NA	Multiplicity: 1
Attribute: perimeter		
Definition: The perimeter (m) of the site or sum of the sites for a non-contiguous feature. The perimeter is projected in two dimensions (2D).		
Value type: Length	Size: 10.2	Multiplicity: 1

<<FeatureType>> FunctionalSite

Attribute: area

Definition: The area (m²) of the site or sum of the sites for a non-contiguous feature. The area is projected in two dimensions (2D).

Value type: Real	Size: 16.6	Multiplicity: 1

Attribute: distinctiveName1

Definition: The name of the site (for example, 'Brighton College'). Note this may be null if the captured value is a house number.

Value type: Text	Size: 99	Multiplicity: 0..1

Attribute: distinctiveName2

Definition: A second name of the site, if applicable. Note this may be null if the captured value is a house number.

Value type: Text	Size: 99	Multiplicity: 0..1

Attribute: distinctiveName3

Definition: A third name of the site, if applicable. Note this may be null if the captured value is a house number.

Value type: Text	Size: 99	Multiplicity: 0..1

Attribute: distinctiveName4

Definition: A fourth name of the site, if applicable. Note this may be null if the captured value is a house number.

Value type: Text	Size: 99	Multiplicity: 0..1

Attribute: primaryAddressBaseUPRN

Definition: Unique Property Reference Number (UPRN) assigned by the local custodian or Ordnance Survey to the primary building within a functional site (for example, main building in a school).

Value type: Integer	Size: 12	Multiplicity: 0..1

Attribute: stakeholder1

Definition: Information on parties related to the functionalSite. It is open to many different roles, such as owners, operators or competent authorities. Where more than one stakeholder exists, this field contains multiple stakeholders separated by ' + '.

<<FeatureType>> FunctionalSite		
Value type: Text	Size: 99	Multiplicity: 0..1
Attribute: stakeholder2		
Definition: Information on parties related to the functionalSite. It is open to many different roles, such as owners, operators or competent authorities. Currently not populated.		
Value type: Text	Size: 99	Multiplicity: 0..1
Attribute: stakeholder1Role		
Definition: Information on the different roles of stakeholders for a particular functionalSite, such as users, owners, operators or competent authorities. The valid roles are defined in the StakeholderRoleValue code list.		
Value type: StakeholderRoleValue	Size: NA	Multiplicity: 0..1
Attribute: stakeholder2Role		
Definition: Information on the different roles of stakeholders for a particular functionalSite, such as users, owners, operators or competent authorities. The valid roles are defined in the StakeholderRoleValue code list. Currently not populated.		
Value type: StakeholderRoleValue	Size: NA	Multiplicity: 0..1
Attribute: extentDefinition		
Definition: This describes the nature of the defined extent of the functionalSite at the time of capture. The valid roles are defined in the ExtentDefinitionValue code list.		
Value type: ExtentDefinitionValue	Size: 20	Multiplicity: 1

Note: The 'stakeholder2' and 'stakeholder2Role' attribute values are currently not populated in OS MasterMap Sites Layer.

5. Access point

5.1   Overview

An access point refers to a functionally designed and maintained location where pedestrians and/or vehicles can enter or leave a site. Access points are initially captured from a visual inspection of OS MasterMap Topography and Imagery Layers. Further access points can also be captured and maintained through customer feedback and field survey.

Access points are point features which have been positioned on the boundary of the functional site extent to which they belong (see Figure 11, below). There are circumstances where access points do not lie on the site boundary; for example, underground or obscured access into a site, and these will be captured in their true position or within five metres of the functional site extent boundary.

Where there are several access types that are located next to each other; for example, a road with a pavement on one or more sides, a single 'combined access' point will be created to indicate that it is possible to access the site by foot and by vehicle at that location.

Access points are linked to functional site extents during their capture. They can also retain additional access information such as height and time or vehicular restrictions. The access point also references the nearest OS Highways Network Layer link TOID. This allows the user to easily integrate the data with other OS Datasets such as the OS MasterMap Highways Network Layer.

Each access point will have its own unique TOID and will be subject to a managed life cycle process, controlled by changes to attributes as well as changes to its associated Functional Site's attributes.

Some of the access points have restrictions which cannot be ascertained from aerial imagery. As such, they are not currently available in OS MasterMap Sites Layer. The attributes currently not populated have been greyed out in the attribute definitions table in the following section.
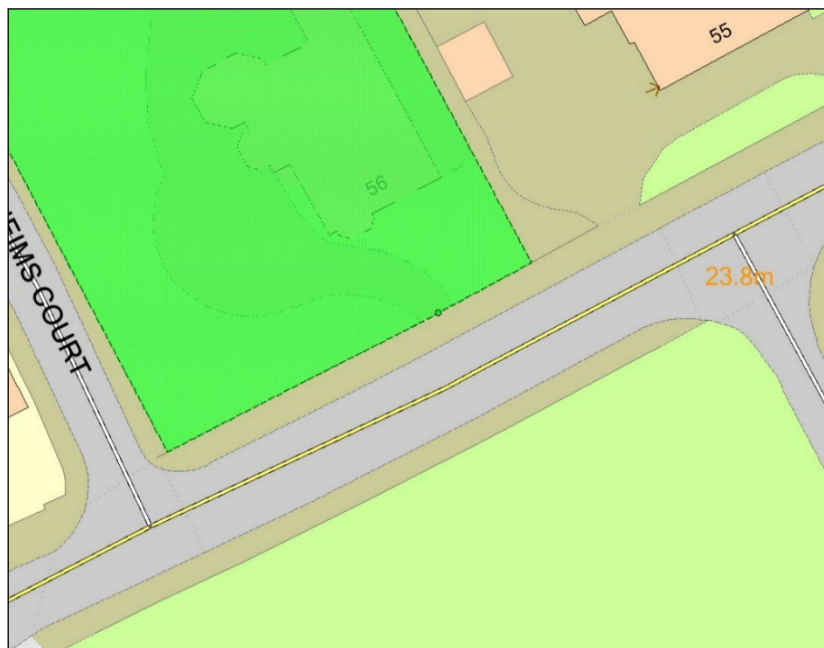

Figure 11: Example of an access point (green point)

5.2   Attributes

This section defines the attributes associated with the AccessPoint feature. It is important to note that UML notation has been used to show the multiplicity for an attribute. These indicate whether an attribute is optional (0), has a single value (1), or can have either/or (0..1) where 'or' is represented by double dots (..).

<<FeatureType>> AccessPoint		
Subtype of: Node, TransportNode,		
Definition: The spatial object type defining a point where there is access into and/or out of a site.		
Attribute: geometry		
Definition: The coordinate geometry defining the position of the accessPoint. The geometry is projected in two dimensions (2D).		
Value type: GM_Point	Size: One coordinate set	Multiplicity: 1
Attribute: toid		
Definition: A unique identifier for an accessPoint, which is maintained along with the version number and version date to reflect the life cycle of the feature. NOTE: equivalent to *INSPIRE* identifier.		
Value type: Text	Size: 20	Multiplicity: 1
Attribute: version		
Definition: The version number of the data representation of the persisting accessPoint feature.		
Value type: Integer	Size: 3	Multiplicity: 1
Attribute: versionDate		
Definition: The date on which the current version of the accessPoint was created.		
Value type: Date	Size: NA	Multiplicity: 1
Attribute: reasonForChange		
Definition: Reason for the current version of the accessPoint to be created. The valid reasons for change are defined in the ReasonForChangeValue code list.		
Value type: ReasonForChangeValue	Size: NA	Multiplicity: 1
Attribute: refToFunctionalSite		
Definition: The unique identifier (TOID) of the functional site to which the accessPoint relates.		
Value type: Text	Size: 20	Multiplicity: 1
Attribute: accessType		
Definition: This describes the nature of the access permitted at the accessPoint. The valid access types are defined in the AccessTypeValue code list. Where there is more than one type of access, the values will be provided together and separated by a ','. Currently only *Pedestrian* and *Motor Vehicles* access types are populated.		
Value type: AccessTypeValue	Size: 30	Multiplicity: 1

<<FeatureType>> AccessPoint		
Attribute: accessMechanism		
Definition: This describes the mechanism used to access the functional site through the accessPoint. The valid *AccessMechanismValue* are defined in the AccessMechanismValue code list. Where there is more than one type of access mechanism, the values will be provided together and separated by a ','. Currently not populated.		
Value type: AccessMechanismValue	Size: NA	Multiplicity: 0..1
Attribute: accessDirection		
Definition: This refers to the direction of travel that is permitted through the accessPoint. The valid access direction values are defined in the AccessDirectionValue code list. Currently not populated.		
Value type: AccessDirectionValue	Size: NA	Multiplicity: 0..1
Attribute: accessUseRestriction		
Definition: This refers to the nature of any access restriction. The valid restrictions are defined in the AccessUseRestrictionValue code list. Where there is more than one type of restriction, the values will be provided together and separated by a ','. Currently not populated.		
Value type: AccessUseRestrictionValue	Size: NA	Multiplicity: 0..1
Attribute: refToRoutingPoint		
Definition: The unique identifier (TOID) of the related routingPoint feature, if there is one.		
Value type: Text	Size: 20	Multiplicity: 0..1
Attribute: refToITNRoadNode		
Definition: The unique identifier (TOID) of the related OS MasterMap Network Layer road node feature; if this is used rather than a routing point. The Network layers road node is used in an identical manner to that of the previous OSMM ITN version.		
Value type: Text	Size: 20	Multiplicity: 0..1
Attribute: itnRoadNodeVersionDate		
Definition: The date on which the current version of the OS MasterMap Highways Network Layer road node was created. A default value of '1900-01-01' will be used to indicate where the date of this feature has not been captured. The Network layers road node is used in an identical manner to that of the previous OSMM ITN version.		
Value type: Date	Size: NA	Multiplicity: 0..1
Attribute: dateTimeQualifier		
Definition: This refers to the dates or times that access is permitted through the accessPoint.		
Value type: Text	Size: 20	Multiplicity: 0..1
Attribute: heightQualifier		
Definition: This refers to the maximum vehicle height that is permitted through the accessPoint.		
Value type: Distance	Size: 4.2	Multiplicity: 0..1

<<FeatureType>> AccessPoint		
Attribute: widthQualifier		
Definition: This refers to the maximum vehicle width that is permitted through the accessPoint.		
Value type: Distance	Size: 4.2	Multiplicity: 0..1
Attribute: weightQualifier		
Definition: This refers to the maximum vehicle weight that is permitted through the accessPoint.		
Value type: Real	Size: 4.2	Multiplicity: 0..1
Attribute: lengthQualifier		
Definition: This refers to the maximum vehicle length that is permitted through the accessPoint.		
Value type: Distance	Size: 4.2	Multiplicity: 0..1
Attribute: natureOfAccess		
Definition: This describes the physical form of enforcement to expect at the accessPoint. The valid nature of access values is defined in the NatureOfAccessValue code list. Where there is more than one nature of access, the values will be provided together and separated by a ','. Currently populated as Unknown.		
Value type: NatureOfAccessValue	Size: NA	Multiplicity: 1

Note: The 'accessMechanism', 'accessDirection', 'accessUseRestriction', 'dateTimeQualifier', 'heightQualifier', 'widthQualifier', 'weightQualifier', 'lengthQualifier' and 'natureOfAccess' attribute values are currently not populated in OS MasterMap Sites Layer.

6. Routing point

Note: To meet customer needs a fully routable modal network is being created. A key element of this is to provide more usable data about the access to destinations. As a result, we are now directly splitting our road, track and path data where Access Links connect to the network. This will allow users to more easily route into sites using OS network data.

As nodes have now been created within the networks data, where Access Link features connect, there is now no requirement for Decision Node features and they are being removed from the Sites products.

6.1 Overview

The OS MasterMap Sites Layer data model is designed to integrate with OS MasterMap Highways Network. Routing points are intended to provide users with a reference to the position that is close to an access point, which can be used to aid navigation to the access point via the Highways road network. The routing points are provided where there is no viable Highways Network road node feature to refer to directly from an access point.

Routing points are currently being created by an automated process that performs a spatial query to identify the nearest position on the closest Highways Network road link feature. The process also ensures that there is no viable road node on the selected road link using a 5-metre tolerance before generating a routing point.

Routing points supplied in the initial release of OS MasterMap Sites Layer are created from the OS MasterMap Highways Network – Roads product but still reference the ITN road network. In addition to the OS MasterMap Highways Network – Roads data, we have applied OS MasterMap Highways Network – Paths data.

The process will be subject to continuous revision between releases to improve its results.

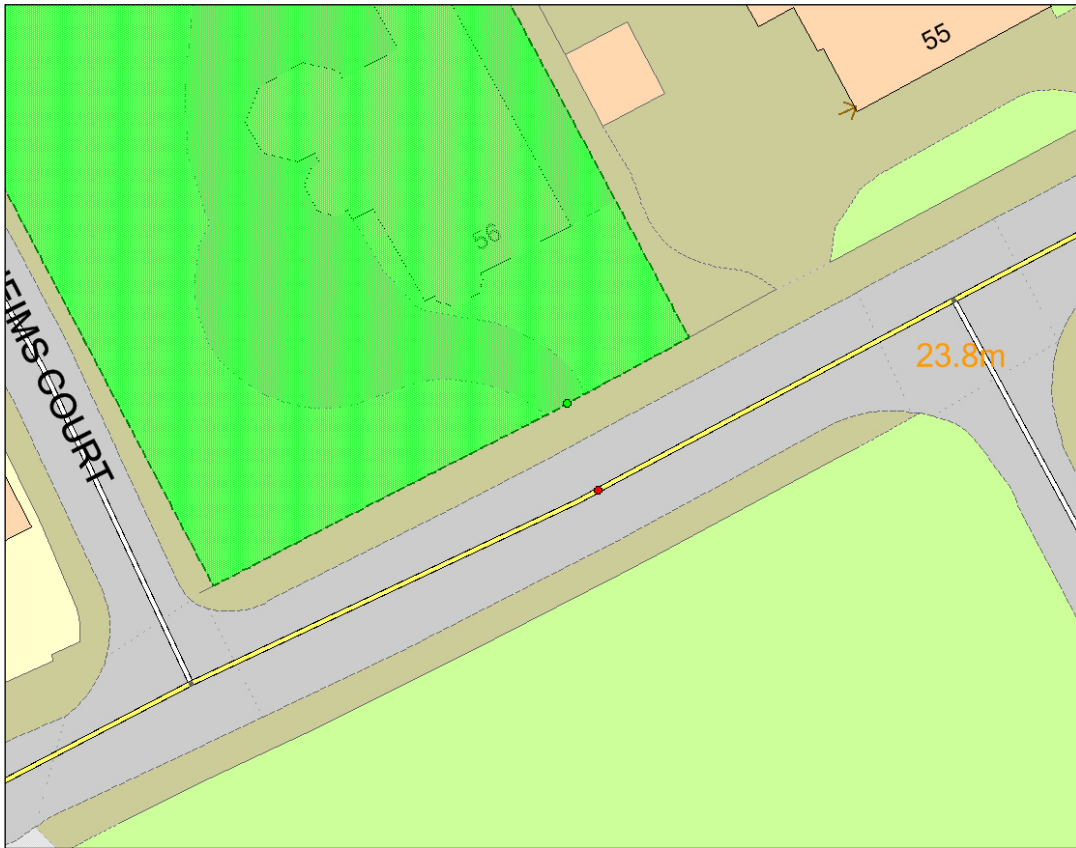Figure 12: Example of a routing point (red)

6.2   Attributes

This section defines the attributes associated with the RoutingPoint feature. It is important to note that UML notation has been used to show the multiplicity for an attribute. These indicate whether an attribute is optional (0), has a single value (1), or can have either / or (0..1) where 'or' is represented by double dots (..).

<<FeatureType>> RoutingPoint		
Subtype of: Node, TransportNode		
Definition: The spatial object type defining point/node feature, which would normally lie on a Highways RoadLink and would be referenced by a particular access point.		
Attribute: geometry		
Definition: The coordinate geometry defining the position of the routingPoint. The geometry is projected in two-dimensions (2D).		
Value type: GM_Point	Size: One coordinate set	Multiplicity: 1
Attribute: toid		
Definition: A unique identifier for a routingPoint, which is maintained along with the version number and version date to reflect the life cycle of the feature. *NOTE: equivalent to INSPIRE identifier.*		
Value type: Text	Size: 20	Multiplicity: 1
Attribute: version		
Definition: The version number of the data representation of the persisting routingPoint feature.		
Value type: Integer	Size: 3	Multiplicity: 1
Attribute: versionDate		
Definition: The date on which the current version of the routingPoint was created.		
Value type: Date	Size: NA	Multiplicity: 1
Attribute: reasonForChange		
Definition: Reason for the current version of the routingPoint to be created. The valid reasons for change are defined in the ReasonForChangeValue code list.		
Value type: ReasonForChangeValue	Size: 20	Multiplicity: 1
Attribute: refToITNRoadLink		
Definition: The unique identifier (TOID) of the Highways road link feature that the routingPoint is related to.		
Value type: Text	Size: 20	Multiplicity: 1
Attribute: itnRoadLinkVersionDate		
Definition: The date on which the current version of the Highways Road Link was created. A default value of '1900-01-01' will be used to indicate where the date of this feature has not been captured.		
Value type: Date	Size: NA	Multiplicity: 1
Attribute: startDistance		
Definition: The distance (m) from the start of the referenced Network RoadLink feature to the vertex where the RoutingPoint is positioned. The startDistance is calculated in two-dimensions (2D).		
Value type: Length	Size: 7.2	Multiplicity: 1

7.   Enumerations

This section defines and describes the values that are used by the product attributes to describe the functional site, access point, and routing point features. There are some attribute values currently not populated in OS MasterMap Sites Layer. These values have been greyed out in the tables below.

7.1   FunctionalSite feature

7.1.1   FunctionStatusValue

Enumeration: FunctionStatusValue	
Defines the values for the different states that a functional site may have. This generally refers to the condition of the functional site.	
Code	**Description**
Operational	Site is in operational use.
Out of Service	Site is out of service or not in operational use.

7.1.2   StakeholderRoleValue

Enumeration: StakeholderRoleValue	
Defines the values for the different roles that stakeholders for a particular site may have. This will evolve with changes to the capture specification.	
Value	**Description**
Administered By	Site is administered by stakeholder.
Owner Of	Site is owned by stakeholder.
Principal User Of	Site is principally used by stakeholder.
Religious Interest In	Site is of religious interest to stakeholder.

Note: The 'Owner Of' and 'Principal User Of' values are not currently populated in OS MasterMap Sites Layer.

7.1.3 ExtentDefinitionValue

Enumeration: ExtentDefinitionValue	
Defines the values for the nature of extent that a particular site may have.	
Value	**Description**
Fully Defined	The supplied extent is, as far as can be ascertained, fully defined in this release.
Partially Defined	The extent is known to be incomplete due to a known issue with the extent or because of restrictions to capture.
Undefined	The extent is unknown or has not been defined in this release. This will also apply to sites where their full definition is underground or wholly obscured.

Note: The 'Undefined' value is not currently populated in OS MasterMap Sites Layer.

7.2 AccessPoint feature

7.2.1 AccessTypeValue

Enumeration: AccessTypeValue	
Defines the values of the possible nature of the access permitted at the access point.	
Value	**Description**
Cycles	Access point permits access to cycles.
Horse Drawn Vehicles	Access point permits access to horse-drawn vehicles.
Mopeds	Access point permits access to mopeds.
Motor Vehicles	Access point permits access to motor vehicles.
Motorcycles	Access point permits access to motorcycles.
Pedestrian	Access point permits access to pedestrians.
Ridden or Accompanied Horses	Access point permits access to ridden or accompanied horses.
Undefined	Access point type is undefined.

Note: The only values currently populated in OS MasterMap Sites Layer are 'Motor Vehicles' and 'Pedestrian'; all other values in the table are not currently populated in the product.

7.2.2 NatureOfAccessValue

Enumeration: NatureOfAccessValue	
Defines the values of the form of enforcement to expect at the access point.	
Value	**Description**
Door	Access is via a door.
Gate	Access is via a gate.
Manned Barrier	Access is via a manned barrier.
Monitored Rising Barriers	Access is via a monitored rising barrier.
Monitored Rising Bollards	Access is via monitored rising bollard(s).
Moveable Barrier	Access is via a moveable barrier.
Opening	Access is through a non-restricted opening.
Revolving Door	Access is via a revolving door.
Rising Barrier	Access is via a rising barrier.
Rising Bollards	Access is via rising bollard(s).
Shutter	Access is via a shutter.
Steps	Access is via a flight of steps.
Turnstile	Access is via a turnstile.
Unknown	Access enforcement is unknown.

Note: The only value currently populated in OS MasterMap Sites Layer is 'Unknown'; all other values in the table are not currently populated in the product.

7.2.3 AccessUseRestrictionValue

Enumeration: AccessUseRestrictionValue	
Defines the values of the nature of any access restriction.	
Value	**Description**
Disabled	Access is restricted except for disabled access.
Emergency Access	Access is restricted except for emergencies at this point.
Guests	Access is restricted except for guests at this point.
Official Business	Access is restricted except for official business at this point.
Patrons	Access is restricted except for patrons at this point.
Residents	Access is restricted except for residents at this point.
Through Traffic	Access to through traffic is permitted at this point.

Note: All values in the preceding table are not currently populated in OS MasterMap Sites Layer.

7.2.4 AccessMechanismValue

Enumeration: AccessMechanismValue	
Defines the values for the possible mechanism of the access permitted at the access point.	
Value	**Description**
Appointment	Access is only available by a pre-arranged appointment.
Official Pass	Access is only available by production of an official pass.
Pay and Display	Access is only available by pay and display mechanism.
Pay on Foot	Access is only available by pay on foot mechanism.
Payment	Access is only available by a payment.
Valid Ticket	Access is only available by production of a valid ticket.

Note: All values in the preceding table are not currently populated in OS MasterMap Sites Layer.

7.2.5 AccessDirectionValue

Enumeration: AccessDirectionValue	
Describes the direction of travel that is permitted at the access point.	
Value	**Description**
In	Inbound access is permitted at this point.
Out	Outbound access is permitted at this point.
In and Out	Inbound and outbound access is permitted at this point.

Note: All values in the preceding table are not currently populated in OS MasterMap Sites Layer.

7.3 RoutingPoint feature

Apart from the ReasonForChangeValue below, no other enumerations or code lists are used by the RoutingPoint feature since none of its other attributes has a predefined list of possible values.

7.4 ReasonForChangeValue

The 'reasonForChange' attribute is used across all features found within the OS MasterMap Sites Layer.

Enumeration: ReasonForChangeValue	
Defines the reason for a change made to a feature.	
Value	**Description**
New	This is a new feature in the database.
Modified	The feature has been edited by an operator. Used in the following cases: 1. The geometry of a topographic feature is changed following real-world change (applicable to point, line and text features only and not polygons). 2. The geometry of a non-topographic feature, for example, inferred link or BoundaryLine feature is changed. 3. A cartographic symbol feature is repositioned. 4. A CartographicText feature is repositioned.
Reclassified	The descriptive attributes of a feature have changed. The feature code may have changed.
Attributes	Applied to features that have had only attributes changed, except those covered by TextChange and Reclassified values.
Position	Feature has changed geometry and/or position due to an improvement in its absolute accuracy; that is, its relationship to the National Grid (relevant for the positional accuracy improvement programme which is now complete). This type of feature change is not associated with real-world change.
Software	Feature has been adjusted by an automatic software process. Includes geometric adjustment, cleaning, squaring, paralleling (text and lines) and reversing direction of digitising.

8. Code lists

This section defines and describes the values that are used by the product attributes to describe the functional site, access point, and routing point features. There are some attribute values currently not populated in OS MasterMap Sites Layer. These values have been greyed out in the tables below.

8.1 FunctionalSite feature

8.1.1 FunctionValue

Code List: FunctionValue	
Defines the values of the possible functions of a site.	
Theme	**Feature Value list**
Air Transport	Airfield Airport Helicopter station Heliport
Education	Non-state primary education • Non-state primary or preparatory school Non-state secondary education • Non-state secondary school Special needs education Primary education • First school • Infant school • Junior school • Primary school • Middle school Secondary education • Secondary school Further education • Further education Higher or university education • Higher education • University
Medical Care	Hospice Hospital Medical care accommodation
Rail Transport	Railway station Vehicular rail terminal Tram station
Road Transport	Bus station

Code List: FunctionValue	
Defines the values of the possible functions of a site.	
Theme	**Feature Value list**
	Coach station
	Road user services
Water Transport	Vehicular ferry terminal
	Passenger ferry terminal
	Port consisting of docks and nautical berthing
Utility or Industrial	Chemical works
	Electricity distribution
	Electricity production
	Gas distribution or storage
	Oil distribution or storage
	Oil refining
	Oil terminal

Valid _function (attribute)_ combinations

Bus station, coach station

Further education, higher or university education

Further education, non-state primary education, non-state secondary education

Further education, non-state primary education, secondary education

Further education, non-state secondary education

Further education, primary education

Further education, primary education, secondary education

Further education, primary education, secondary education, special needs education

Further education, secondary education

Further education, special needs education

Hospital, medical care accommodation

Non-state primary education, non-state secondary education

Non-state primary education, non-state secondary education, special needs education

Non-state primary education, secondary education

Non-state secondary education, primary education

Non-state secondary education, special needs education

Passenger ferry terminal, vehicular ferry terminal

Primary education, secondary education

Primary education, secondary education, special needs education

Primary education, special needs education

Secondary education, special needs education

8.1.2   FunctionThemeValue

Code List: FunctionThemeValue	
Defines the values for the different functional site themes captured in the data. This will evolve with changes to the capture specification.	
Code	**Description**
Air Transport	Sites used for air transport (see Section 3 for details).
Education	Sites used for education (see Section 3 for details).
Medical Care	Sites used for medical care (see Section 3 for details).
Rail Transport	Sites used for rail transport (see Section 3 for details).
Road Transport	Sites used for road transport (see Section 3 for details).
Water Transport	Sites used for water transport (see Section 3 for details).
Utility or Industrial	Sites used for utility or industrial purposes (see Section 3 for details).

9.   Geometry

This section defines the geometric data types used by features of the OS MasterMap Sites Layer. A UML diagram (see Figure 1) is used to support the data type descriptions.

9.1   Features and spatial data types

The following table details the data type of the geometric attributes of OS MasterMap Site Layer features. Each feature type has a spatial attribute called 'geometry'. The data type of this attribute is given in the third column of the table.

Feature type	Spatial attribute	Data type of geometry attribute	For details, see:
functionalSite	geometry	Polygon	Section 4
accessPoint	geometry	Point	Section 5
routingPoint	geometry	Point	Section 6

9.2   Geometric data types

9.2.1   Point

A point is used to specify a single horizontal location by a coordinate pair in a given spatial reference system.

Example
A point defined in the BNG reference system has easting and northing coordinates in units of metres, where the easting is in the range 0 to 700000 and the northing is in the range 0 to 1300000.

(BNG: 176554.565, 987654.545)

Example class model

Point
(from BNG)
- easting : float64
- northing : float64

9.2.2 Polygon

A polygon is a single closed region on the spatial reference system projection plane, defined by a set of geometric rings that represent the boundaries. A polygon has one outer boundary and zero or more inner boundaries (holes in the polygon). The inner boundaries must not cross each other or contain other inner boundaries. Coordinates in outer boundaries are oriented in an anticlockwise direction; coordinates in inner boundaries are oriented in a clockwise direction. In the Geography Markup Language (GML) data, these are implemented as a Surface containing a single Polygon Patch, with the exterior and any interior boundaries represented as a LinearRing.

Example
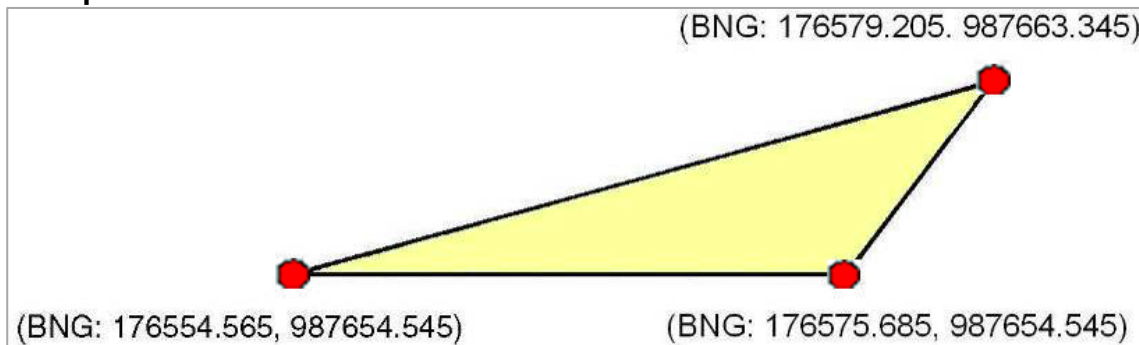
Example class model
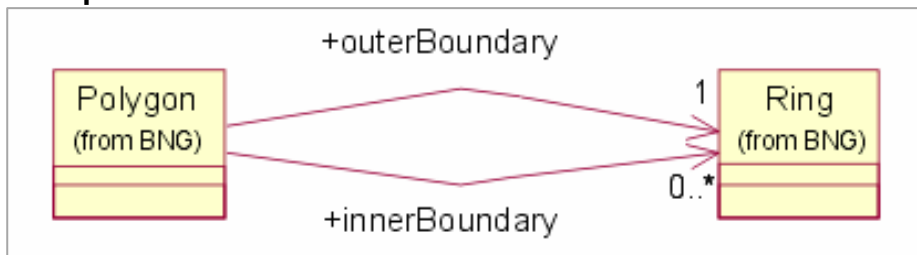
9.2.3 Multi-polygon

A multi-polygon is used where a single functional site consists of separate areas, such as a school on both sides of a road. Each polygon is as described above. In GML, this is represented with a gml:MultiSurface having a number of 'surface members' each of which is a single gml:Surface.

10.   Supply format

The OS MasterMap Sites Layer product is supplied in three different formats:

*   Geography Markup Language (GML) version 3.2.1

*   GeoPackage

*   Vector tiles (MBTiles)

10.1   GML

GML is an XML (Extensible Mark-up Language) grammar for expressing geographic features. GML serves as a modelling language for geographic systems as well as an open interchange format for geographic transactions on the Internet.

*   More information can be found on the Open Geospatial Consortium (OGC): http://www.opengeospatial.org/standards/gml.

*   The XML specifications that GML is based on are available from the World Wide Web Consortium (W3C): 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.

10.1.1   XML schema

XML schemas are used to validate the format and content of the GML. The GML 3.2.1 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 that are referenced by the data are available from our website at: http://www.ordnancesurvey.co.uk/xml/schema.

These schemas make use of XML Schema Definitions (XSDs) and Document Type Definitions (DTDs) produced by the W3C that are available from the W3C website at: http://www.w3.org/XML/1998/namespace.html.

10.1.2   Namespaces

xlink – http://www.w3.org/1999/xlink

gml – http://www.opengis.net/gml

osgb – http://www.ordnancesurvey.co.uk/xml/namespaces/osgb

xml – http://www.w3.org/XML/1998/namespace

10.2   GeoPackage

GeoPackage (*.gpkg) is an open, non-proprietary, platform-independent, standards-based data format for geographic information systems (GIS), as defined by the Open Geospatial Consortium (OGC). It is designed to be a lightweight format that can contain large amounts of varied and complex data in a single, easy to distribute and ready to use file. GeoPackage is natively supported by numerous software applications. GeoPackage offers users the following benefits:

• The single file is easy to transfer and offers the end-user a rich experience.

• Attribute names are not limited in length, making the format user-friendly.

• The file size limit is very large at 140 TB.

• It supports raster, vector and database formats, making it a highly versatile solution.

• It is an OGC standard.

• In most cases, it is a plug-and-play format.

For information on how to open, use and understand a GeoPackage dataset, please refer to our ['Getting Started with GeoPackage' guide](https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf) (https://www.ordnancesurvey.co.uk/documents/getting-started-with-geopackage.pdf), which is available on the OS website. Further detailed information on GeoPackage can be taken from the [GeoPackage website](https://www.geopackage.org/) (https://www.geopackage.org/).

10.2.1   Attribute naming differences between GML and GeoPackage

The naming of attributes between GeoPackage and the Geography Markup Language (GML) file is very similar as GeoPackage files are not limited in the number of characters for an attribute name.

Therefore, the following tables map the GML attribute name to the attribute name in the GeoPackage files. The GML contains an attribute which describes the geometry of the feature; this is not applicable for a GeoPackage file as they are separated by their geometry.

Please note that the use of an asterisk symbol (*) in the following tables indicates that a particular attribute is not mapped to GML.

Functional Site

GML Attribute	GeoPackage Attribute
*	fid
gml_id	toid
multipolygongeometry	geometry
version	version
versionDate	version_date
reasonForChange	reason_for_change
functionStatus	function_status

GML Attribute	GeoPackage Attribute
functionTheme	function_theme
function	function
perimeter	perimeter
area	area
distinctiveName1	distinctive_name_1
distinctiveName2	distinctive_name_2
distinctiveName3	distinctive_name_3
distinctiveName4	distinctive_name_4
primaryAddressBaseUPRN	primary_addressbase_uprn
stakeholder1	stakeholder_1
stakeholder2	stakeholder_2
stakeholder1Role	stakeholder_1_role
stakeholder2Role	stakeholder_2_role
extentDefinition	extent_definition

Access Point

GML Attribute	GeoPackage Attribute
*	fid
gml_id	toid
pointgeometry	geometry
version	version
versionDate	version_date
reasonForChange	reason_for_change
refToFunctionalSite	ref_to_functional_site
accessType	access_type
accessMechanism	access_mechanism
accessDirection	access_direction
accessUseRestriction	access_use_restriction
refToRoutingPoint	ref_to_routing_point
refToITNRoadNode	ref_to_itn_road_node
itnRoadNodeVersionDate	itn_road_node_version_date

GML Attribute	GeoPackage Attribute
dateTimeQualifier	date_time_qualifier
heightQualifier	height_qualifier
widthQualifier	width_qualifier
weightQualifier	weight_qualifier
lengthQualifier	length_qualifier
natureOfAccess	nature_of_access

Routing Point

GML Attribute	GeoPackage Attribute
*	fid
gml_id	toid
pointgeometry	geometry
version	version
versionDate	version_date
reasonForChange	reason_for_change
refToITNRoadLink	ref_to_itn_road_link
itnRoadLinkVersionDate	itn_road_link_version_date
startDistance	start_distance

10.3   Vector tiles

OS MasterMap Sites Layer is supplied as a national vector tiles set in a single MBTiles file. This is a lightweight set of tiles that are efficient and fast to render in your software, and which provide high resolution data and give a seamless experience when zooming in and out. The data is supplied in Web Mercator projection (ESPG:3857).

10.3.1   Vector tiles schema

The vector tiles schema is detailed in the following table. In the zoom levels columns within the table, the letter *N* indicates that the specified layer and attribute are not mapped within that zoom level, whereas the letter *Y* indicates that the specified later and attribute are mapped within that zoom level.

Layer	Attribute	Zoom levels				
		0 to 11	12	13	14	15
functional_site	toid	N	Y	Y	Y	Y
	polygon	N	Y	Y	Y	Y
	function_status	N	Y	Y	Y	Y
	function_theme	N	Y	Y	Y	Y
	function	N	Y	Y	Y	Y
	perimeter	N	Y	Y	Y	Y
	Area	N	Y	Y	Y	Y
	distinctive_name_1	N	Y	Y	Y	Y
	distinctive_name_2	N	Y	Y	Y	Y
	primary_addressbase_uprn	N	Y	Y	Y	Y
	stakeholder_1	N	Y	Y	Y	Y
	stakeholder_1_role	N	Y	Y	Y	Y
access_point	Toid	N	Y	Y	Y	Y
	Point	N	Y	Y	Y	Y
	ref_to_functional_site	N	Y	Y	Y	Y
	access_type	N	Y	Y	Y	Y
	access_mechanism	N	Y	Y	Y	Y
	access_direction	N	Y	Y	Y	Y
	access_use_restriction	N	Y	Y	Y	Y
	ref_to_routing_point	N	Y	Y	Y	Y
	ref_to_itn_road_node	N	Y	Y	Y	Y

Layer	Attribute	Zoom levels				
		0 to 11	12	13	14	15
	height_qualifier	N	Y	Y	Y	Y
	width_qualifier	N	Y	Y	Y	Y
	weight_qualifier	N	Y	Y	Y	Y
	length_qualifier	N	Y	Y	Y	Y
	nature_of_access	N	Y	Y	Y	Y
routing_point	Toid	N	Y	Y	Y	Y
	Point	N	Y	Y	Y	Y
	ref_to_itn_road_link	N	Y	Y	Y	Y
	start_distance	N	Y	Y	Y	Y

Annex A: Glossary

Glossary term	Definition
address, addressed premises	A permanent or non-permanent location with an address being a potential delivery point for Royal Mail®.
Attribute	Any item of information packaged in an OS MasterMap feature.
Customer	An organisation or individual that makes use of Ordnance Survey's data supply facilities.
Dataset	An identifiable set of data that share common characteristics and that are managed as a subset of the data within a database.
Digital National Framework (DNF)	A nationally consistent geographic referencing framework for Great Britain, comprising the National Grid and the National Geographic Database, that defines each geographic feature as it exists in the real world with a maintained, unique reference allocated to each feature. The DNF is not a product; it is the framework on which our future products will be based.
Feature	An abstraction of a real-world object. It is not the real-world object itself.
GML	Geography Markup Language. An XML encoding for the transport and storage of geographic information, including both the geometry and attributes of geographic features.
INSPIRE	The INSPIRE directive aims to create a European Union (EU) spatial data infrastructure.
layer	A layer is a group of related OS MasterMap themes. A layer may consist of one or more themes.
life cycle	The series of events that occur in the life of a real-world object or the OS MasterMap feature(s) that represents it.
National Grid	A unique referencing system that can be applied to all Ordnance Survey maps of Great Britain at all scales.
obscured level	Where more than one level of detail exists, all detail that meets the specification for capture positioned below cartographic surface level and either at or above ground surface level is captured as obscured detail.

Glossary term	Definition
order	A request from a customer for the supply of data. The scope of an order may be constrained by an agreement for a period licence service.
point	A geospatially positioned pair of coordinates.
point feature	A feature representing a real-world object. The geometry of a point feature is a single point (a pair of coordinates) with optional size and orientation.
polygon	Polygons are representations of areas. A polygon is defined as a closed line or perimeter that completely encloses a contiguous space and is made up of one or more lines.
polygon feature	A polygonised representation of a real-world object. A polygon feature may be used to represent a building, field, lake, functional site extent and so on.
positional accuracy	The accuracy of the feature geometry relative to the coordinate spatial reference system.
real-world object	The real thing represented by a feature.
administrative boundary.	Administrative Boundaries are legally documented and attributed jurisdictional boundaries
spatial reference system	The term used in GML (and hence in OS MasterMap specifications) for the definition that allows each spatial position to be stated as a tuple.
supply format	The file format in which the data is supplied to the customer.
theme	A collection of features that form some logical set, for example, buildings, water, land.
TOID	An identifier that uniquely identifies every feature.
version date	The date the version of the feature was created by Ordnance Survey within its master database of OS MasterMap.
Version number	A version number will identify that a feature has been altered. Version numbers will be allocated sequentially, with version 1 representing the creation of the feature.
XML	eXtensible Markup Language.