2024-07-18

PRODUCT DESCRIPTION

Building Download, vector

DOCUMENT VERSION: 1.8

Figure 1 Section from Building Download, vector

Innehållsförteckning

1 General description

1.1 Contents

Building, vector is a product with only buildings and facilities that correspond to the information content in themes such as buildings, facility area and airport in the product Topography 10, vector.

The buildings are provided in four different layers with information about buildings and facilities. The land area for facilities mainly describes industrial activities or activities related to sports, leisure, or culture.

1.2 Geographic coverage

Nationwide.

1.3 Geographic section

The geographical areas in which the product is delivered are Sweden, county, municipality, and optional polygon.

1.4 Coordinate system

Plane: SWEREF 99 TM

Height: RH 2000

For information on what other coordinate systems the product can be delivered in, refer to the document [Avgifter och leveransinformation för Lantmäteriets geodata (pdf, in Swedish)](#) about fees and delivery information for Lantmäteriet geodata on Lantmäteriet's website.

2 Quality description

The quality marking aims to provide information about the quality of stored objects. Based on the method of measurement, an expected positional accuracy has been set for the object types.

The objects in the database are stored with information about, amongst other things, history, and positional accuracy.

For more information about the various quality parameters used in the product description, refer to [HMK Ordlista (pdf, in Swedish)](#) and [HMK Geodatakvalitet (pdf, in Swedish)](#).

2.1 Purpose and utility

In Building, vector, buildings are provided in four different layers with information about buildings and facilities including airports. The land coverage for facilities mainly describes industrial activities or activities related to sports, recreation, or culture.

You can:

- add and link your own information to objects on the map

- integrate map information in your own system

- display information as required using the layer division.

2.2 Data capture

2.2.1 LINEAGE

BUILDINGS

Building has their origin partly from Lantmäteriet's development and maintenance of GGD and partly from collaboration with Sweden's municipalities.

When GGD was constructed, buildings in rural areas and urban areas with fewer than 4000 inhabitants were mapped. For larger urban areas, the building presentation consisted only of built-up areas in the land cover layer, except for larger community functions, which were also separately presented as individual buildings.

With the first collaboration agreements for addresses, buildings and topography, known as ABT-agreements, signed with the municipalities, the built-up areas started to be filled with geometry for the individual buildings. The development, which was completed in 2010, involved the municipalities first providing a basic delivery of buildings. The buildings that were missing from the GGD were added, and the buildings that were already in the GGD were replaced with those delivered by the municipalities After the basic deliveries, the municipalities switched to only sending updates. This is done at least twice a year, according to the agreement.

The responsibility for updating the geometries of buildings is delimited by the established areas of responsibility. The areas of responsibility are listed in an appendix to each municipality´s agreement. Within these areas, the municipalities are responsible for the updating, while Lantmäteriet is responsible for updating outside of these areas. Updates by Lantmäteriet take place at periodic intervals that comply with the image provision program. Municipalities can also make updates outside the areas of their responsibility.

It is most common for the municipality's areas of responsibility to include localities or so-called primary map areas. However, this varies from municipality to municipality. The area of responsibility may include the entire area of the municipality, the municipality's localities or only the largest locality. This depends on the municipality's ability to continuously keep the areas updated. Some municipalities have not made agreements on updating building geometries so, they have no areas of responsibility at all. In such cases Lantmäteriet updates the entire municipality.

In 2011 the geometric representation of the buildings in GGD was merged with the register information that had been compiled and updated by municipalities since the mid-1990s in the building section of the Real Property

Register. Map information and register information for each building are kept together and stored as one object in the database after the merger.

After the merger, more information was added for the buildings, such as information about the buildings' purpose and detailed purposes. Other information that already existed on the buildings could, in some cases, be changed due to changes in the source of the information.

For new buildings outside the municipalities' area of responsibility, Lantmäteriet classifies the buildings' purposes and detailed purposes. For existing buildings, this is only done in exceptional cases during updating. In general, the municipality is responsible for the classification of purpose.

Outside municipalities' area of responsibility, building geometry has mainly been collected through photogrammetric detailed measurement by Lantmäteriet and external actors in the construction phase. Updating has been managed by Lantmäteriet. Inside the municipalities' area of responsibility, building geometries have been collected by the municipality and delivered to Lantmäteriet, which has then processed and stored the information. Data from municipalities may have different origins. Geodetic and photogrammetric detailed measurement are common methods, but other measurement methods also occur.

Buildings may have names designated by the municipality. These names have been quality assured by Lantmäteriet in accordance with a developed framework.

BUILDING FACILITY LINES

Collection and updating is performed by Lantmäteriet through photogrammetric measurements in aerial photographs as well as through collaboration agreements with the municipalities. Previously field controls were performed in case of uncertainties but are no longer conducted.

BUILDING FACILITY POINT AND BUILDING POINT

Collection and updating is performed by Lantmäteriet with photogrammetric measurements in aerial photographs as well as through collaboration agreements with the municipalities. Previously field controls were performed in case of uncertainties but are no longer conducted.

FACILITY AREAS

Collection and updates are performed by Lantmäteriet through photogrammetric measurements in aerial photographs, through collaboration agreements with the municipalities as well as with editorial collection.

Editorial collection means that objects and information text are gathered by an "editorial team" at the office, who verify information with the help of the internet and contacts with other authorities, organisations, and stake holders to get information from a source with good knowledge of the objects in the entire Sweden.

Previously, field checks were also conducted in cases of uncertainty in classification or position, but this is not done at present. A facility area is presented as a polygon object where the outer limit is along the edge of the area, such as in a fence.

FACILITY AREA POINT

Swimming areas are gathered through aerial photograph interpretation and municipality collaboration. Harbour for small boats is gathered through aerial photograph interpretation. Guest harbour is gathered through editorial collection, aerial image interpretation and municipality collaboration. Sea rescue stations are gathered through editorial collection.

AIRPORTS

Collection and updating are done out by Lantmäteriet through photogrammetric measurements from aerial photographs and through editorial collection.

2.3   Maintenance

The update of topographical objects is conducted partly in-house and partly in collaboration with the authorities or organisations responsible for each type of information.

Today, collection and updates at Lantmäteriet are performed with, among other things, through stereo cartography in three dimensional aerial photographs or through screen digitalization with the help of orthophoto.

Nationwide collaboration takes place for buildings, roads, electricity transmission lines, NSL objects (national shoreline), nature conservation areas and military areas. However, photogrammetric updating is required to achieve completeness. Where no collaboration takes place, data is updated by aerial image interpretation.

2.3.1   MAINTENANCE FREQUENCY

Building Download, vector, which is ordered through Lantmäteriet, is either retrieved from pre-produced data or directly from the database. Pre-produced data is updated weekly.

For pre-produced data, delivery of county and Sweden extractions with SWEREF99 TM or municipal extractions with local SWEREF zone is available. Other deliveries are made with extractions directly from the database.

The date is noted when each object is stored or changed in the database.

Topographic information is updated at varying intervals depending on the type of object. Periodic updating takes place in-house at Lantmäteriet and more continuously in collaboration with other government agencies, municipalities, and organisations. The collection in-house is done by interpretation of aerial stereo photographs and orthophotos. Therefore, the timeliness in different areas depends on the image provision program, and the agreements with the collaboration partners.

BUILDINGS

Buildings outside the municipal areas of responsibility for building geometry are updated according to the image provision program. Refer to information on the production plan for Orthophoto.

Within the municipalities' area of responsibility, data is delivered to Lantmäteriet at least twice a year according to the ABT agreement. Some municipalities deliver more frequently. Municipalities that have switched to service-based updating of buildings can update continuously via their own business system.

Lantmäteriet conducts periodic regular collection and updating of data, while municipalities' collection and updating are often governed by needs, such as for detailed planning, registration of real property and building permits. Therefore, the timeliness of the different responsibility areas within a municipality may vary. Not all areas need to be updated between each data delivery to Lantmäteriet.

Register information of buildings (not geometry) is continuously updated by municipalities via Lantmäteriet's collection application (LINA) or via service-based updating in the municipalities' own business systems.

BUILDING FACILITY LINES

The timeliness in different areas depends partly on image provision program which indicates when the aerial photographs were taken.

BUILDING FACILITY POINT AND BUILDING POINT

The timeliness in different areas depends partly on image provision program which indicates when the aerial photographs were taken.

FACILITY AREAS

The update intervals follow the image provision program.

FACILITY AREA POINT

The update interval for objects collected through aerial photograph interpretation follows the image provision program

AIRPORTS

Continuous updating.

2.4 Data quality

2.4.1 COMPLETENESS

Completeness is related to the selection of each object type.

BUILDINGS

Within the municipalities' responsibility areas Lantmäteriet performs completeness controls in a few municipalities per year. For some sub-areas, the buildings on the map are compared with new aerial photographs taken from

a low altitude. The result from the controls varies between municipalities and the different sub-areas but generally show a high completeness. The results indicate around 4% deviations in the form of commission or omission on the national level.

The completeness level for buildings outside the municipalities' areas of responsibility is high in areas that have been reviewed recently in the periodic updating. Since mapping is conducted by aerial photographs, it is possible that small buildings are obscured by vegetation or that misjudgements occur in interpretation, but these errors are relatively small. The opportunities of obtaining good completeness also depend on the altitude the photograph is taken from and the resolution the aerial image, refer to the image supply program image provision program. Lantmäteriet does not conduct field checks. See also chapter 5.3.1 Data Capture and 5.3.2 Maintenance Frequency.

BUILDING FACILITY LINES

High completeness.

BUILDING FACILITY POINT AND BUILDING POINT

Building facility point and Building point have high completeness.

FACILITY AREA

High completeness.

FACILITY AREA POINT

Completeness is low to medium.

Currently, no campervan pitches are gathered, and no updates are made of (industrial) harbours.

AIRPORTS

High completeness.

2.4.2 LOGICAL CONSISTENCY

The structure of point objects, line objects, and area objects has such requirements for geometric positions that it should be possible to easily create topology.

When storing objects in the database at Lantmäteriet, it is checked that the objects follow the geometric and topological rules that are in place, and that the information corresponds to OGC's (Open Geospatial Consortium) requirements for geometries. Value ranges and object types are also checked for validity before being stored in the database.

BUILDINGS

Lantmäteriet checks that building geometries and other building information are valid and, in accordance with current geodata specifications, maintain very high quality.

Business rules decide which controls are done. The information is controlled in conjunction with the collection via interfaces and services. This means that the deviations that exist have their origins from previous storage environments and systems.

BUILDING FACILITY LINES

There are no topological rules set up for reindeer fences and line traffic.

BUILDING FACILITY POINT AND BUILDING POINT

The objects are independent point objects and have no requirements for logical consistency.

FACILITY AREAS

The geometry must be coherent. No gaps, overhang, self-intersecting lines, or overlaps are allowed.

FACILITY AREA POINT

The objects are independent point objects and have no requirements for logical consistency.

AIRPORTS

The geometry of airport areas and runways must be coherent. No gaps, overhang, self-intersecting lines, or overlaps are allowed.

A helicopter pad is an independent point object and have no requirement for logical consistency.

2.4.3   THEMATIC ACCURACY

The process for thematic classification of topographic data is reviewed during field studies. This involves discussing classification based on the interpreter's aerial images compared to reality.

BUILDINGS

Deviation may occur mainly regarding the classification of other buildings, agricultural buildings, and accessory buildings.

Deviations can also originate from earlier storage environments and systems as well as the assessments that are done by the municipalities and by Lantmäteriet during aerial photographs interpretation. Lantmäteriet does not conduct field checks.

BUILDING FACILITY LINES

The classification that occurs during measurements of aerial photographs involves a degree of uncertainty, but thematic accuracy is still considered high for these facilities.

Reindeer fences within the Lantmäteriet's coverage area for mountain range information are collected via field controls and contact persons, which provides a very high thematic accuracy.

Objects that are collected via municipality collaborations have high thematic accuracy.

BUILDING FACILITY POINT AND BUILDING POINT

The classification is made during measuring in aerial photographs, which induces a certain uncertainty. The classification is still considered high.

FACILITY AREAS

Measurements and thematic interpretations in aerial photographs cause a certain degree of uncertainty due variations in the ability to distinguish details in the images. Previously collected facilities are considered to have high thematic accuracy since they have been checked in the field when needed. Facilities delivered by municipalities under the ABT agreement are considered to have high thematic accuracy.

FACILITY AREA POINT

High thematic accuracy.

AIRPORTS

High thematic accuracy.

2.4.4 POSITIONAL UNCERTAINTY

Information on positional uncertainty depends on the measurement method, generalization and how distinct the object is.

Positional uncertainty describes how well a given position corresponds to the actual position in the terrain for the object that has been positioned in relation to the principal coordinate system.

Geometrical requirements for positional uncertainty depend on the objects' distinctness within a geographically limited area. Concrete objects have higher requirements than objects with diffuse boundaries in aerial image interpretation.

The mean error is specified with millimetre accuracy.

BUILDINGS

The buildings' planar positional uncertainty is indicated in the attribute *lagesosakerhetplan*. Buildings with a lower mean error (25 millimetres to approximately 500 millimetres) usually originate from municipal measurements where more accurate methods are used such as geodetic measurements. The given mean errors from Lantmäteriet are calculated values based on measurement method, flight altitude and scale.

The attribute *insamlingslage* (collection position) indicates where on the building the measurement has been done. Note that value 4 (illustrative mode) for *insamlingslage* indicates only that the building is schematically presented in both extent and position. No measurement of the building has been made.

BUILDING FACILITY LINES

Depending on the flight altitude and image quality, the measurement accuracy may vary slightly, but generally the planar position has a low positional uncertainty.

Objects delivered by collaboration between municipalities usually have a low positional uncertainty since they are often measured geodetically or with DGPS.

BUILDING FACILITY POINT AND BUILDING POINT

Depending on the flight altitude and image quality, the positional accuracy may vary slightly, but generally the position in plane has high or very high accuracy for built-up area symbols.

FACILITY AREAS

The facility area is presented as a polygon object by creating a boundary line on the edge of the area, such as in a fence. Depending on the flight altitude and the image quality, measurement accuracy may vary slightly, but in generally, positions in plane have a mean accuracy of 5 m.

Facilities provided through municipality collaboration usually have better positional uncertainty since they have been measured geodetically or by using Network RTK.

FACILITY AREA POINT

The point represents an area that may be difficult to determine the exact boundary for, such as a swimming area.

AIRPORTS

The airport area is presented as a polygon object by creating a boundary line on the edge of the area, such as in a fence. Depending on the flight altitude and the image quality, measurement accuracy may vary slightly, but generally positions in plane have a mean accuracy of 5 metres.

3 Contents of the delivery

3.1 Folder structure at delivery

The files delivered are Geopackage files with containing data, and a JSON-file with a description of the contents of the data file.

The Geopackage files can be ordered from Geotorget.

Other files for styling and symbols are available for download on the [product page](#).

3.2 Delivery format

The information is delivered in the [Geopackage](#) format.

3.3 File sets

The information is delivered in a gpkg file, and a description of the data content is delivered in a json file.

A LYR file is used for styling in ArcGIS/ArcMap. In ArcGIS/ArcMap, data should be saved in a geodatabase to achieve full functionality. A LYRX file is also available for styling in ArcGIS Pro.

For QGIS, a QLR file is used for styling.

Symbols specific to Lantmäteriet's data are provided in a symbol file, LMTopografisymboler.ttf. The styling file and symbol file are available for download on the product page.

3.4 Layering

In the delivery of Building Download, vector, the information is divided into two different themes, containing several layers. The layer names are based on the theme, object, and geometry type.

For example: **byggnadsverk_xxxx byggnad**, where xxxx can be the extent coordinates, municipality code, or county code.

The attribute set varies between the different layers and is described in detail in Chapter 5.

4 Layout and plotting of data

4.1 On-screen presentation

The styling of the product is optimized for scales ranging from 1:5,000-1:50,000.

For styling, a LYR file is provided for ArcGIS/ArcMap, a LYRX file for ArcGIS Pro and a QLR file for QGIS.

The styling files contain a proposed drawing order for the layers.

4.1.1 TEXT

When plotting text, the attribute **detaljtyp** determines the style and colour, while **thojd** determines the size. Other attributes used are **tjust** (insertion-point) and **trikt** (orientation). Text strings are not drawn with spaced characters. This is only indicated in the **tsparr** attribute as a percentage of how much the delivered text represents in relation to the original text. The recommended point size of the text is included as information in the **thojd** attribute.

4.2 Installation of fonts

The text in the styling file uses the Window's standard font, Arial.

4.2.1   SYMBOLS

Regardless of which software is being used, the included font in the file LMTopogradisymboler.ttf must be installed in the Windows font catalogue (c:\\Windows\Fonts), to obtain a correct symbol presentation.

During symbol styling, the attribute rotation has been used to obtain a correct symbol orientation.

5   Layer description and code list

This chapter describes, layer by layer, which objects are included and which attributes these are described with.

Each object has information about the original organisation according to the following list of values:

Table 1 List of values Organisation

Value	Description
Lantmäteriet	Collection conducted by Lantmäteriet.
Samverkan Nationella vägdatabasen	Lantmäteriet retrieves data about roads from Trafikverket (Swedish Transport Administration).
Kommunsamverkan	Lantmäteriet has collected data with help of the municipalities.
Samverkan Nationell strandlinje	Lantmäteriet and Sjöfartsverket (Swedish Maritime Administration) collect data which is stored at Lantmäteriet.
Samverkan Kraftbolag	Lantmäteriet collects data from electric power companies.
Samverkan Naturvårdsverket	Lantmäteriet collects data from Naturvårdsverket (Swedish Environmental Protection Agency).
Samverkan Luftfartsverket	Lantmäteriet collects data from Luftfartsverket (Air Navigation Service of Sweden)
Samverkan Försvarsmakten	Lantmäteriet collects data from Försvarsmakten (Swedish Armed Forces).

Value	Description
Samverkan Nationell järnvägsdata-bas	Lantmäteriet collects data about railways from Trafikverket (Swedish Transport Administration).

5.1 Structures

The layers include buildings and building facilities and smaller buildings such as reindeer fences, chimneys, and rest cabins.

Table 2 Included layers in the Structures theme.

Structures	Layer name
Building (polygon)	byggnad
Building facility line	byggnadsanlaggningslinje
Building facility point	byggnadsanlaggningspunkt
Building point	byggnadspunkt

Table 3 Positional uncertainty for Structures

Object type	Requirement for planar positional uncertainty (m).
Building (polygon)	0.02-50.0
Reindeer fence	5
Cable traffic	5
Chimney	5
Mast	5
Lighthouse	5
Church	5
Lean-to	10
Windmill	5

Object type	Requirement for planar positional uncertainty (m).
Sami cot	10
Tower	5
Rest cabin	10
Bell tower	5
Wind turbine	5
Blast shelter	10

5.1.1 BUILDING (POLYGON)

The layer for building polygons contains object types according to the table below.

Table 4 Contents in building (polygon) (Layer name: byggnad)

Object type	Object type number	Definition	Description	Comment
Residential	2061	building predominantly used for permanent accommodation	A residential can be a permanent home or a vacation house.	Examples: Textile industry, wood products industry, other manufacturing industries. Buildings with a ground area of 15 square metres or larger are mapped. Buildings smaller than 15 square meters may also be included.
Industrial	2062	building predominantly used for all types of production/manufacturing, storage, and other handling and		Examples: Textile industry, wood products industry, other manufacturing industries. Buildings with a ground area of 15

Object type	Object type number	Definition	Description	Comment
		processing of goods		square metres or larger are mapped. Buildings smaller than 15 square meters may also be included.
Public	2063	building predominantly used for various activities and functions essential for the functioning of society		Examples: Public swimming pool, animal hospital, religious community Buildings with a ground area of 15 square metres or larger are mapped. Buildings smaller than 15 square meters may also be included.
Commercial	2064	building predominantly used for commercial activities	Also includes complementary functions to the various activities.	Examples: Accommodation: hotel, conference centre, hostel Commerce: retail, wholesale, gas station, café, pharmacy Other commercial activities: car/vehicle wash Complementary facilities: recycling centre, warehouse, sheltered area, bicycle storage Buildings with a ground area of 15 square metres or larger are mapped. Buildings smaller than 15 square meters

Object type	Object type number	Definition	Description	Comment
				may also be included.
Agricultural	2065	building predominantly used for agriculture, forestry, or comparable activities		Examples: Silo, machinery hall, cistern, greenhouse, animal stable Buildings with a ground area of 15 square metres or larger are mapped. Buildings smaller than 15 square meters may also be included.
Accessory building	2066	building clearly associated with other buildings intended for residential, community, business, or industrial purposes	Also includes buildings without walls.	Examples: Outbuilding, garage, carport, cistern, storage shed, boathouse, garden shed. Buildings with a ground area of 15 square metres or larger are mapped. Buildings smaller than 15 square meters may also be included.
Other building	2067	building whose purpose is not *Residential, Industrial, Public, Commercial, Agricultural* or *Accessory building*		Examples: Allotment cottage, lean-to, Sami cots, tower, windmill, bell tower, lighthouse, detached roof of durable construction. Buildings with a ground area of 15 square metres or larger are mapped.

Object type	Ob- ject type num- ber	Definition	Description	Comment
				Buildings smaller than 15 square meters may also be included.

Table 5 Set of attributes for (Building (polygon).

Attribute	Type	Length	Definition	Description
objektidenti- tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the sys- tem and is not changed thereaf- ter. UUID consists of a character com- bination of 36 characters gener- ated according to standardised pro- cedures and fol- lows an object, such as a prop- erty, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltig- fran	DateTime	23	indicates that a cer- tain version becomes valid and is only used to keep track of ver- sions (does not refer to the validity of in- formation or decision dates)	Date/time of lat- est change. Speci- fied in the format: 2019-04- 26T11:28:03.000
lagesosaker- hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is de- scribed in the unit metre.

Attribute	Type	Length	Definition	Description
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be sent in a change request. The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	

Attribute	Type	Length	Definition	Description
objekttyp	Text	255	indicates the type of building	Range of values for valid values.
insamlings-lage	Text	255	indicates what building area in plan refers to	If elevation values for building area are specified, these may refer to the roof edge or another elevation level. Examples: Facade, roof edge. See value range *Collection mode*.
byggnads-namn1	Text	255	name of building	Main name established by Lantmäteriet.
byggnads-namn2	Text	255	secondary name established by Lantmäteriet	Used when there are multiple names established by Lantmäteriet.
byggnads-namn3	Text	255	name of building	No values are available.
husnummer	Integer	4	a unique number within the register unit	Building designation consist of the register unit's designation and house numbers. House numbers can be reused. Register unit is a property or a joint property.
huvudbygg-nad	Text	255	refers to a building, in a larger complex of buildings, on a property as the main building	Used on buildings where there is a need to highlight that a main building exists, primarily for presentation purpose. The building is the main building in a larger complex of buildings.

Attribute	Type	Length	Definition	Description
				Value range: Ja/Nej (Yes/No)
andamal1	Text	100	what a building is used for	Main purpose: stated when a building has multiple purposes, but one purpose predominates. See value range *Purpose*.
andamal2	Text	100	what a building is used for	The building can have multiple purposes. Building purposes are divided into several categories. See value range *Purpose*.
andamal3	Text	100	what a building is used for	The building can have multiple purposes. Building purposes are divided into several categories. See value range *Purpose*.
andamal4	Text	100	what a building is used for	The building can have multiple purposes. Building purposes are divided into several categories. See value range *Purpose*.
andamal5	Text	100	what a building is used for	The building can have multiple purposes. Building purposes are divided into several categories.

Attribute	Type	Length	Definition	Description
				See value range *Purpose*.

Table 6 Value range Collection mode (insamlingslage).

Value	Definition	Description
Fasad *(Façade)*	location description representing the façade of the building inside the roof edge	
Takkant *(Roof edge)*	location description that represents the boundary lines of the roof.	
Illustrativt läge *(Illustrative mode)*	Location description that indicates that the building either lacks a measured position (standard geometry) or is located under a road or other facility.	The simplest form of geometry is to describe the building with an illustrative position, a template.
Ospecificerad *(Unspecified)*	unknown location	

Table 7 Value range Purpose (andamal)

Object type	Purpose	Definition	Description
Bostad *(Residential)*	Småhus friliggande *(Detached house)*	Single-family house with a residence that is not connected to another house	
Bostad *(Residential)*	Småhus kedjehus *(Semi-detached house)*	Two or more residencies connected by garage, storage rooms or similar	Each residence is on its own property; even semi-detached houses are classified as linked houses.
Bostad *(Residential)*	Småhus radhus *(Terraced house)*	Small houses located in a row of at least three houses where the residential parts are directly attached to each other, and each residence has its own property	

Object type	Purpose	Definition	Description
Bostad *(Residential)*	Småhus med flera lägenheter *(Detached house with multiple apartments)*	Detached house with multiple residencies located on the same property.	Could be, for example, a duplex or rental or condominium terraced house if there are at least three residences on the same property.
Bostad *(Residential)*	Flerfamiljshus *(Multi-family apartment building)*	Building with at least three residencies and may contain offices, retail, hotels, restaurants and similar. At least 50% must be used for residential purposes.	The term " multi-family apartment building " is used to a lesser extent today, and instead, the term "multi-residential building" is used in the urban planning process, refer to Boverket's Purpose Catalog. A multi-family apartment building may sometimes also include offices, shops, hotels, restaurants, pre-schools, health centres, and similar facilities (usually on the ground floor). When this is the case in a building, the main purpose should be Multi-family apartment building, and the other purposes should be specified as ancillary purposes, typically categorized as Commercial or Public Functions.
Bostad *(Residential)*	Ospecificerad *(Unspecified)*	Residence with unknown residential purpose.	Cannot be used for new registrations. May only be specified by Lantmäteriet in maintenance methods where

Object type	Purpose	Definition	Description
			purposes cannot be determined.
Industri *(Industrial)*	Annan tillverkningsindustri *(Other manufacturing industry)*	Other manufacturing industry: building for industrial activity with manufacturing.	
Industri *(Industrial)*	Industrihotell *(Industry hotel)*	Building containing multiple different industries.	
Industri *(Industrial)*	Metall- eller maskinindustri *(Metal or machinery industry)*	Industry for production and processing of metal and machinery.	Examples: Automobile industry, ironworks, mechanical industry, metal industry, shipyard.
Industri *(Industrial)*	Textilindustri *(Textile industry)*	Industry that manufactures yarn, fabric and similar as well as prepares them	Examples: Textile industry, weaving mill.
Industri *(Industrial)*	Trävaruindustri *(Wood industry)*	Industry for refinement of forest materials	Examples: Wood industry, pulp industry, paper mill, paper industry, furniture industry, sawmill, carpentry.
Industri *(Industrial)*	Övrig industribyggnad *(Other industrial building)*	Building for other industrial activities that are not manufacturing	Examples: Warehouse building (even without walls), repair workshop, car dealership.
Industri *(Industrial)*	Ospecificerad *(Unspecified)*	Industry with unknown purpose.	
Samhälls-funktion *(Public)*	Badhus *(Public baths)*	Building with public swimming facilities	Examples: Bathhouse, swimming pool, water park.
Samhälls-funktion *(Public)*	Brandstation *(Fire station)*	Building for fire and rescue services	

Object type	Purpose	Definition	Description
Samhälls-funktion *(Public)*	Busstation *(Bus station)*	A larger bus stop or bus terminal with multiple lines and a building.	Example: Travel centre
Samhälls-funktion *(Public)*	Djursjukhus *(Animal hospital)*	Building for stationary care of sick animals	Even smaller veterinary clinics (of the type where visits are only accepted during the day) are included.
Samhälls-funktion *(Public)*	Högskola *(Higher education institution)*	Post gymnasium school Post-secondary education for higher education and research at university level.	Classified in *Higher education ordinance.*
Samhälls-funktion *(Public)*	Ishall *(Ice rink)*	Indoor, artificially frozen, ice facility.	Examples: Ice hockey, bandy, skating
Samhälls-funktion *(Public)*	Järnvägsstation *(Railway station)*	Building used for coordinating traffic and services for passenger and freight transport, where individuals stay before, after, and between train journeys.	
Samhälls-funktion *(Public)*	Kommunhus *(Town hall)*	Main building for municipal management.	Examples: Municipal hall, city hall, town hall.
Samhälls-funktion *(Public)*	Kriminalvårdsanstalt *(Prison)*	Institution for serving prison sentences.	Examples: Correctional facility, prison.
Samhälls-funktion *(Public)*	Kulturbyggnad *(Cultural building)*	Building for cultural purposes	Examples: Theatre, concert hall, museum, art gallery, library, cinema, local heritage centre, community centre.
Samhälls-funktion	Multiarena *(Multi-purpose arena)*	Flexible large-scale visitor facility for sports and athletics	The purpose of a multi-arena is to host various types

Object type	Purpose	Definition	Description
(Public)		activities, cultural events, and similar.	of events with large audiences. The arena is a venue that can be easily adapted for different events such as ice hockey, handball, equestrian sports, concerts, or trade shows. Often a standalone building, but can also be integrated with other structures.
Samhälls-funktion *(Public)*	Polisstation *(Police station)*	Building for police operations	
Samhälls-funktion *(Public)*	Ridhus *(Riding stables)*	Building with an indoor riding arena.	An indoor riding arena can be used for teaching, training, and competitions. Private riding arenas for hobby activities are also included. Often located adjacent to animal stables and typically a standalone building. Examples: Indoor riding arena, riding school.
Samhälls-funktion *(Public)*	Samfund *(Religious community)*	Building for organised religious community	Examples: Church, free church, mosque, synagogue, temple, monastery, parish hall, crematorium, chapel, mortuary chapel.
Samhälls-funktion *(Public)*	Sjukhus *(Hospital)*	Institution for inpatient care and specialised outpatient care	Examples: Hospital, county hospital, regional hospital

Object type	Purpose	Definition	Description
Samhälls-funktion *(Public)*	Skola *(School)*	Building for education	Examples: Preschool, primary school, secondary school, vocational school, adult education (komvux), public, commercial, hunting, agricultural, household, nature and culture, agricultural sciences, nomadic, rescue, forestry, workshop, healthcare, Sami school.
Samhälls-funktion *(Public)*	Sporthall *(Sports hall)*	Indoor facility for sports and athletics.	Examples: Sports hall, badminton hall, curling rink, tennis hall, paddle tennis hall.
Samhälls-funktion *(Public)*	Universitet *(University)*	Post-secondary education for higher education and research at university level.	Research institutes, research stations affiliated with universities are included. Classified in Higher education ordinance.
Samhälls-funktion *(Public)*	Vårdcentral *(Health centre)*	Unit for open healthcare.	Examples: Health centre, medical centre, doctor's office, healthcare centre. Excludes private medical practices.
Samhälls-funktion *(Public)*	Ospecificerad *(Unspecified)*	Community function with unknown purpose	Should only be specified where a more detailed purpose cannot be determined.
Verksamhet *(Commercial)*	-	Function with unknown purpose	

Object type	Purpose	Definition	Description
Ekonomi-byggnad *(Agricul-tural)*	-	Agricultural building with unknown purpose.	
Komplement-byggnad (Accessory building)	-	Accessory building with unknown purpose.	
Övrig bygg-nad *(Other build-ing)*	-	Other building with un-known purpose.	

5.1.2 BUILDING FACILITY LINES

The layer for building facility lines contains object types according to the table below.

Table 8 Contents in Building facility line (Layer name: byggnadsanlaggningslinje).

Object type	Object type no.	Definition	Description	Comment
Reindeer fence	1980	fence intended to lead reindeer between differ-ent pastures and to collec-tion points		Presented com-pletely apart from capture fences shorter than 200 metres at *reindeer enclosures*.
Cable traffic	1978	wire-borne transportation system with carriages, bas-kets, loops, sticks or har-ness that run above ground level	Cable cars and ski lifts.	Mapped if it is operating and at least 200 m long. Also used for fu-nicular aerial tramways, gondo-las chair lift, drag lift or zipline.

Table 9 Set of attributes for Building facility line.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter. UUID consists of a character combination of 36 characters generated according to standardised procedures and follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltig-fran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created

Attribute	Type	Length	Definition	Description
				in the system where the object is created.
				The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be sent in a change request.
				The modified object must never have a version number that is less or equal to the version number in the receiving system.
				When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	indicates the type of building facility line.	Range of values for valid values.

5.1.3 BUILDING FACILITY POINT

The layer for building facility points contains object types according to the table below.

Table 10 Contents in Building facility point (Layer name: byggnadsanlaggningspunkt).

Object type	Ob-ject type	Definition	Description	Comment
Chimney	2022	vertical pipe-shaped con-struction to di-vert smoke.		Free standing or as a part of a building. All prominent chim-neys in the land-scape that are at least approxi-mately 25 meters tall are to be mapped. Free standing chim-neys with an area of at least 15 square metres are also mapped as *building*. The point is placed at the bot-tom of the point object.
Mast	2019	tall and vertical construction erected on a small area, of-ten anchored with cables	Not intended to contain or hold a notable space (in comparison to a tower).	Mapped for tele, radio and TV masts that are at least 25 metres high. Exceptions for masts on alpine tundra which are mapped even if they are lower than 25 m.

Table 11 Set of attributes for Building facility point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the sys-tem and is not changed thereaf-ter. UUID consists of a character com-bination of 36 characters gener-ated according to

Attribute	Type	Length	Definition	Description
				standardised procedures and follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltig-fran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be

Attribute	Type	Length	Definition	Description
				sent in a change request. The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	indicates the type of building facility point	Range of values for valid values.
hojd	Floating point	3.0	height above ground	
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.1.4 BUILDING POINT

The layer for building points contains object types according to the table below.

Table 12 Contents in Building point (Layer name: byggnadspunkt).

Object type	Object type number	Definition	Description	Comment
Lighthouse	1051	device for sea traffic that, through light or other signals, provides positional controls or warnings		Historical lighthouses and coastal lighthouses are mapped. Lighthouses with a surface of at least approximately 15 square metres are also mapped as *Building*.
Church	1042	a building permanently used for religious worship outside the Church of Sweden	A distinctive building in the landscape with a pronounced religious character.	Processed material with support from information found on Google. Examples: Mosque, synagogue, temple, free church.
Lean-to	1046	basic building for outdoor activities with the purpose to provide hikers protection from wind and rain	The building has three walls and a roof, such as a gap shelter or lean-to	Mapped along hiking trails. Within the coverage area of Lantmäteriet's mountain range information (see appendix 1) lean-tos are also mapped even if they are not located near a trail. Lean-tos with a surface of at least approximately 15 square metres are also mapped as *Building*.
Windmill	1047	building erected to mill grains using wind power		Mapped for all windmills with a characteristic building form. Sails may be missing. Windmills with a

Object type	Object type number	Definition	Description	Comment
				surface of at least approximately 15 square metres are also mapped as *Building*.
Sami cot	1044	basic conical or dome shaped building in mountain regions intended for stays.		Updated only within the coverage area for Lantmäteriet's mountain range information (see appendix 1). *Cot* (Lavvu) with a surface of at least approximately 15 square metres are also mapped as *Building*.
Tower	1045	tall and vertical structure built on a relatively small area or on another building	intended to contain or hold a notable space (in comparison to a mast)	All towers that are prominent in the landscape are included. Towers with a surface of at least approximately 15 square metres are also mapped as *Building*. The point is placed at the bottom of the point object.
Rest cabin	1050	cabin that can be used for protection or for rest and is always unlocked	Rest cabin according to the government's trail network, often have emergency phones.	Information is obtained from county administration boards, municipalities, STF (Swedish Tourist Association), the tourism industry, designated contact persons or through field controls and by image interpretation.

Object type	Object type number	Definition	Description	Comment
Bell tower	2016	tower-like, free standing construction built for church bells often adjacent to a church		Fully mapped. Bell tower with a surface of at least approximately 15 square metres are also mapped as *Building*.
Wind turbine	2025	tower or mast with a device that converts wind energy to electricity		Mapped for all wind turbines that are at least 25 metres high, including the maximum heights of the rotor blades above the ground. Wind turbines with a surface of at least approximately 15 square metres are also mapped as *Building*. The point is placed at the bottom of the point object.
Blast shelter	1052	space under ground for protection during rocket launches or other types of shooting		Presented within Esrange space centre.

Table 13 Set of attributes for Building point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter. UUID consists of a character

Attribute	Type	Length	Definition	Description
				combination of 36 characters generated according to standardised procedures and follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltig-fran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the

Attribute	Type	Length	Definition	Description
				sending party when the exchange object is ready to be sent in a change request.
				The modified object must never have a version number that is less or equal to the version number in the receiving system.
				When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	Indicates the type of Building point.	The value range describes valid values.
hojd	Floating point	3.0	height above ground	Given in the unit metres.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

5.2 Facility area

The layers include several types of facility areas, for example industrial areas and sports fields, as well as information about airports.

Table 14 Included layers in the Facility area theme.

Facility area	Layer name
Facility area (polygon)	anlaggningsomrade
Facility area point	anlaggningsomradespunkt
Runway (polygon)	start_landningsbana
Airport area (polygon)	flygplatsomrade
Airport point	flygplatspunkt

Table 15 Positional uncertainty of facility area.

Object type	Requirement or planar positional uncertainty (m).
Facility area, polygon	5
Facility area point	10
Runway	2
Airport area	5
Helicopter pad	5–20

5.2.1 FACILITY AREA (POLYGON)

The layer for facility areas contains object types according to the table below.

Table 16 Layer description for Facility area (polygon) (Layer name: anlaggningsomrade).

Object type	Object type number	Definition	Description	Comment
Industrial area	2831	a facility area primarily used for industrial activities.		Energy production, mining areas, test track, quarries and reindeer enclosures are mapped

Object type	Object type number	Definition	Description	Comment
				regardless of their size. *Industrial area, unspecified* is used for larger facilities to keep the area together and where it is not adjacent to a locality. Unspecified areas larger than 100,000 square meters (10 hectares) are mapped. Areas of 30,000-100,000 square meters (3-10 hectares) are mapped if they are mostly undeveloped. *Industrial area, unspecified* is not included when the area coincides with an industrial- and retail area in the layer *Ground*.
Community function	2832	facility area used for socially beneficial activities		
Recreation	2833	facility area primarily used for activities related to sport, leisure, or culture		<u>Motorsport facility</u> Within a motorsport facility the facility area with the sports purpose *Car racing track* can be mapped. <u>Sports facility</u> Facility area intended only for

Object type	Object type number	Definition	Description	Comment
				track and field is presented as *Track and field facility.* Within a sports facility can facility areas with the sports purpose *Ball field, Soccer field, Running track, Tennis court* be mapped.
Civil firing range	2834	a restricted area where civilian dangerous, such as firing with live ammunition, detonations, or rocket launching are regularly conducted		
Sports field	2835	a defined and prepared field or court on which sport activities are performed.	It often has standardized measurements.	Fields or courts located within a larger facility are also included.

Table 17 Set of attributes for Facility area (polygon)

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter. UUID consists of a character combination of 36 characters generated according to standardised procedures and

Attribute	Type	Length	Definition	Description
				follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongil-tigfran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektvers-ion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be sent in a change request.

Attribute	Type	Length	Definition	Description
				The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	states type of facility area.	Value range for valid values.
andamal	Text	255	States activity	See value range for industrial area purpose, community function purpose, recreation purpose and sports field purpose below.
skjutfaltstyp	Text	255	type of firing range	Value range for valid firing range types. Valid only for the object type *Civil firing range*. Is mandatory for the object type *Military firing range*. See value range *Firing range type*.

Attribute	Type	Length	Definition	Description
skjutfaltstext	Text	100	informative text for firing range	Valid only for the object type *Civil firing range.*

Table 18 Value range for Industrial area purpose

Value	Definition	Description	Comment
Energiprodukt-ion *(Energy produc-tion)*	transformation of energy source to electricity or heat-ing	Biogas plant, oil power plant, power heating plant, natural gas, solar cell park, wave power plant, nuclear power plant.	
Gruvområde *(Mining area)*	area where mining activities take place	Also includes sludge reservoirs and land with facilities for the mining operations.	Mapped if the min-ing facility is in use.
Rengärde *(Reindeer enclo-sure)*	enclosure intended to be used during separation and slaughter or calf marking of rein-deers		Mapped if the rein-deer enclosure is in use. Abandoned reindeer enclosures are mapped if there is a stone wall around it. Reindeer enclosure is pre-sented within the coverage area for Lantmäteriet's mountain range in-formation (see ap-pendix 1).
Testbana *(Test track)*	testing facility for motor vehicles		
Täkt *(Quarry)*	facility area where stone, gravel, or peat is extracted	Example: Mountain quarry, gravel pit or peatery.	
Ospecificerad *(Unspecified)*	unspecified indus-trial activity		

Table 19 Value range for Community function area purpose

Value	Definition	Description	Comment
Avfallsanlägg-ning *(Waste facility)*	area for reception of waste		Car dismantling, landfill and recycling central are mapped. Recycling station is not included.
Begravningsplats *(Cemetery)*	area used for the storage of the remains or ashes of the deceased	Cemetery, funeral place, or memorial grove.	
Civilt övnings-fält *(Civil practice field)*	area used for training and education in the field of rescue, safety, and emergency preparedness	Used for e.g., rescue services, police, and ambulance care.	The Rescue Services practice field are mapped.
Kriminalvårds-anstalt *(Prison)*	fenced area for the enforcement of prison sentences		
Sjukhusområde *(Hospital area)*	area with a hospital or other healthcare institution	In the area, there is at least one workplace with 350 employees within healthcare sectors, and typically a larger hospital building.	According to Statistics Sweden's definition, a workplace refers to each address, property, or group of properties where the company conducts its operations. This includes the 99 largest hospital areas in Sweden in 2023. This may change depending on factors such as maintenance and updates.
Skolområde *(School area)*	school buildings with attached grounds	Example: Schoolyard or campus.	No data has been collected yet.
Trafikövnings-plats *(Traffic training area)*	specially prepared road course for training in manoeuvring and slippery driving, e.g., as part of a driver's licence training	Also called slippery course.	

Value	Definition	Description	Comment
Ospecificerad (*Unspecified*)	unspecified community activities.		

Table 20 Value range for Recreation purpose

Value	Definition	Description	Comment
Aktivitetspark (*Activity Park*)	prepared outside area with several types of activities for training, playing and sports	Example: Skatepark, frisbee-golf, playground, and outdoor gym.	
Badanläggning (*Swimming facility*)	fenced in swimming pool or nature swimming with prepared services	facilities provided such as a bathing jetty, lifebuoy, and toilet	
Besökspark (*Visitor Park*)	usually fenced in park with entry fees visited for leisure and experiences	For example: Astrid Lindgrens World, Gröna Lund or Kolmården zoo.	
Campingplats (*Camp site*)	prepared area for overnight stays in a cabin, camper van, motor home or tent with attached services		All camp sites listed in the following designations should be included: - The Swedish Camping Association www.scr.se - Independent campsites in Sweden www.husvagnochcamping.se - Caravan Club www.caravanclub.se In addition, camp sites collected with municipalities are also included.
Fri-idrottsanläggning (*Track and field facility*)	prepared area where the main activity is track and field		In track and field facility, facility area with sports field purpose is presented with *Running track.*
Golfbana (*Golf course*)	prepared area for golf		A nine-hole course and larger.

Value	Definition	Description	Comment
Hundsportan-läggning *(Dog sport facility)*	area where dog sport is practiced	Example: grey-hound racing track	
Hästsportanlägg-ning *(Equestrian facility)*	area where equestrian sports are practiced		Larger facilities with stables and courses for several types of equestrian sports, such as trotting, galloping, dressage, jumping, field competition and driving. In the equestrian facility, an area with sports field purpose *Gallop racecourse* or *Trotting racecourse* can be included.
Idrottsanläggning *(Sports facility)*	Constructed environment for various forms of organized sports activities	One larger or several smaller sports-related facilities with surrounding areas (e.g., parking, clubhouse, stands, green space).	Equestrian facility, dog sports facility, winter sports facility, motor-sports facility, golf course, and swimming facility are reported separately.
Koloniområde *(Allotment area)*	area for gardening and cultivation activities in the form of allotment garden and/or cultivation plots.	An allotment garden can be built with an allotment cottage and a basic greenhouse. A cultivation plot is primarily intended for the cultivation of vegetables, fruit, berries, and flowers. There may also be a small shed on the cultivation plot.	
Kulturanläggning *(Culture facility)*	area to show various cultural interpretations	Examples: Open-air Museum, local heritage museum, or cultural village.	
Motorsportan-läggning *(Motorsport facility)*	prepared area for motor sports	Example: Moto-cross track.	

Value	Definition	Description	Comment
Parkområde *(Park area)*	larger garden area where grass, flowers, bushes, and tree plantations are crossed with a system of walking paths	Channels and ponds together with sculptures, fountains, pavilions as well as other smaller buildings are often included.	
Skjutbaneområde *(Shooting range area)*	prepared area for training or competition in shooting	Examples: Hunting, pistol, larger archery, and clay pigeon ranges of a permanent nature.	Within the shooting range area, the facility area point is mapped with sports field purpose *Shooting range* or *Shooting range, smaller*.
Vintersportan-läggning *(Winter sports facility)*	prepared area for winter sports	Examples: Ski jumping slope, alpine skiing facility, ski stadium, bobsleigh- and luge course.	
Ospecificerad *(Unspecified)*	unspecified recreation purpose		

Table 21 Value range for Firing range type.

Value	Definition	Description	Comment
Skjutfält (Firing range)	Firing range on land		
Skjutområde (Firing area)	Firing range on water		

Table 22 Value range for Sports field purpose

Value	Definition	Description	Comment
Bollplan *(Ball field)*	field for ball games	Examples: American football, baseball, soft ball, cricket, lacrosse, field hockey, rugby, basketball, beach volleyball, beach handball, multi-purpose field, padel.	

Value	Definition	Description	Comment
Fotbollsplan (*Football field*)	field prepared for football		All fields where organized football activities take place. Boundary lines should be clearly visible.
Galoppbana (*Gallop racecourse*)	racecourse prepared for gallop competitions.	Examples: Göteborg, Jägersro, Bro Park	Main courses according to Svensk galopp.
Isbana (*Ice rink*)	field with ice prepared for sports	Examples: Ice hockey rink, bandy field.	
Löparbana (*Running track*)	track and field course for running.	Generally, an oval-shaped track.	
Motorsportbana (*Motorsport course*)	course prepared for motorsport		The racetracks within the motorsport facilities are only presented for the larger facilities like Anderstorp Raceway, Falkenbergs motorbana, Gotland Ring, Karlskoga motorstadion, Kinnekulle Ring, Linköpings motorstadion, Mantorp Park, Mittsverigebanan, Ring Knutstorp, Sturup Raceway and Tierp Arena.
Tennisbana (*Tennis court*)	court prepared for tennis		Private tennis court on an independent property are not included.
Travbana (*Trotting racecourse*)	racecourse prepared for trotting competitions		Selection according to www.travsport.se
Ospecificerad (*Unspecified*)	unspecified purpose for sports field		

5.2.2 FACILITY AREA POINT

The layer for facility area points contains object types according to the table below.

Table 23 Content in Facility area point (Layer name: anlaggningsomradespunkt)

Object type	Object type number	Definition	Description	Comment
Industrial area, point	2841	a facility area represented by a point primarily used for industrial activities		
Community function, point	2842	facility area, represented by a point, used for public contexts		
Recreation, point	2843	facility area represented by a point, primarily used for activities related to sport, leisure, or culture		
Sports field, point	2844	delimited and prepared field or course, represented with a point, where sports or athletic activities take place	Often has standardized measurements. Examples: American football, baseball, soft ball, cricket, lacrosse, field hockey, rugby, basketball, beach volleyball, beach handball, multi-purpose field, padel.	A field or course inside a larger facility is also included.

Table 24 Set of attributes for Facility area point.

Attribute	Type	Length	Definition	Description
objektidenti-tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter. UUID consists of a character combination of 36 characters

Attribute	Type	Length	Definition	Description
				generated according to standardised procedures and follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongil-tigfran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektvers-ion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange

Attribute	Type	Length	Definition	Description
				object is ready to be sent in a change request. The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	states type of facility point	Value range for valid values.
andamal	Text	255	States activity	See value range for industrial area purpose, community function purpose, recreation purpose and sports field purpose below.
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

Table 25 Value range for Industrial purpose.

Value	Definition	Description	Comment
Hamn *(Harbour)*	area, where ships can anchor and moor, meant for protection, loading, unloading and storage	Examples: Fishing harbour, industrial harbour.	Editorial collection takes information from the Swedish Maritime Administration's port register. Guest harbour is not included but is instead presented as *Guest harbour.*

Table 26 Value range for Community function purpose.

Value	Definition	Description	Comment
Sjöräddningsstation *(Sea rescue station)*	rescue station with a stationed sea rescue unit	The stations are operated by the Swedish Sea Rescue Society.	

Table 27 Value range for Recreation purpose.

Value	Definition	Description	Comment
Badplats *(Swimming area)*	swimming pool or nature swimming with prepared services	facilities provided such as a bathing jetty, lifebuoy, and toilet	
Gästhamn *(Guest harbour)*	harbour (marina) prepared with boat berths, available for temporary visiting recreational boats for a fee	Editorial collection from: - The Guest Harbour guide (Gästhamnsguiden) - Swedish Guest Harbours (Svenska Gästhamnar) In addition to these, guest harbours collected in collaboration with the municipalities are also mapped.	
Småbåtshamn *(Small boat harbour)*	harbour (marina) prepared for mooring of leisure boats		

Value	Definition	Description	Comment
Ställplats *(Motorhome pitch)*	a parking space designated for temporary parking and overnight stay of motorhomes		

Table 28 Value range for Sports field purpose

Value	Definition	Description	Comment
Skjutbana (Shooting range)	prepared range for training or competition in shooting	Examples: Shooting range for rifle, field shooting or automatic weapon as well as longer hunting shooting range.	A permanent range which is at least 300 m long.
Skjutbana, mindre (Shooting range, smaller)	smaller prepared range for training or competition in shooting	Examples: Hunting shooting, pistol, larger bow shooting and clay pigeon course.	A permanent range.

5.2.3   RUNWAY

The layer for runways contains object types according to the table below.

Table 29 Content in Runway (Layer name: start_landningsbana)

Object type	Object type no.	Definition	Description	Comment
Runway	2853	prepared surface for take-off and landing of airplanes	Runway within an airport.	Runways within mapped airport areas. Also mapped for former airports. Taxiways are not included.

Table 30 Set of attributes for Runway.

Attribute	Type	Length	Definition	Comment
objektidenti-tet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter.

Attribute	Type	Length	Definition	Comment
				UUID consists of a character combination of 36 characters generated according to standardised procedures and follows an object, such as a property, throughout its lifetime. It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltigfran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosakerhetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosakerhethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprunglig_organisation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest

Attribute	Type	Length	Definition	Comment
				integer of the sending party when the exchange object is ready to be sent in a change request. The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	states that the type is runway	A text value that should always be runway.
flygplatssta-tus	Text	255	states if the airport is operational or closed	See value range for Airport status.

Table 31 Value range for Airport status.

Value	Definition	Description	Comment
I drift *(Operational)*	the airport is operational		
Nedlagd *(Closed)*	the airport is closed		

5.2.4 AIRPORT AREA

The layer for airport areas contains object types according to the table below.

Table 32 Content in Airport area (Layer name: flygplatsomrade)

Object type	Object type number	Definition	Description	Comment
Airport area	2854	facility area for departure and arrival by aviation	The facility area includes runways as well as buildings, parking spaces and other facilities related to the airport.	Aviation activities conducted according to the list AIP, published by Air Navigation Services of Sweden, is mapped. The Air Force's flotilla and training airfields are part of AIP. Aviation without any official statues (e.g., flight clubs) can also occur, but not model airplanes or seaplanes.

Table 33 Set of attributes for Building facility line.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter. UUID consists of a character combination of 36 characters generated according to standardised procedures and follows an object, such as a property, throughout its lifetime.

Attribute	Type	Length	Definition	Description
				It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain.
versiongiltig-fran	DateTime	23	indicates that a certain version becomes valid and is only used to keep track of versions (does not refer to the validity of information or decision dates)	Date/time of latest change. Specified in the format: 2019-04-26T11:28:03.000
lagesosaker-hetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosaker-hethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprung-lig_organi-sation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be sent in a change request. The modified object must never have a version number that is less or equal to

Attribute	Type	Length	Definition	Description
				the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	states that the type is airport area	The object type is Airport area.
iata	Text	3	three-digit identification code for airports	IATA-codes are only available for airports with regular flights, for example, ARN – Stockholm Arlanda Airport.
icao	Text	4	four-lettered code of the geographic position of airports, only used by pilots and air traffic control	ICAO-codes are available both for airports with regular flights as well as small airports with only private aviation, for example, ESSB (Europe Sweden Stockholm Bromma).

5.2.5 AIRPORT POINT

The layer for airport points contains object types according to the table below.

Table 34 Content in Airport point (Layer name: flygplatspunkt)

Object type	Object type no.	Definition	Description	Comment
Helicopter pad	2852	designated spot from which air traffic or helicopter traffic originates	Helicopter pads normally have one or more helicopter landing pads and may have limited infrastructure such as fuel stations, hangars, and workshops.	They are mapped if they are licensed by the Air Navigation Service of Sweden (Luftfartsverket) according to AIP, except for within the coverage area of the Lantmäteriet´s mountain range information where all helicopter landing sites are mapped.

Table 35 Set of attributes for Airport point.

Attribute	Type	Length	Definition	Description
objektidentitet	Text	36	a globally unique identity for exchange objects	UUID is set when a new object is created in the system and is not changed thereafter.

UUID consists of a character combination of 36 characters generated according to standardised procedures and follows an object, such as a property, throughout its lifetime.

It is ensured that a UUID is unique within the object type, i.e., it is checked within the domain. |
| versiongiltigfran | DateTime | 23 | indicates that a certain version becomes valid and is only used to keep track of | Date/time of latest change. Specified in the format: |

Attribute	Type	Length	Definition	Description
			versions (does not refer to the validity of information or decision dates)	2019-04-26T11:28:03.000
lagesosakerhetplan	Floating point	6.3	average deviation from the "true" value in plane	The value is described in the unit metre.
lagesosakerhethojd	Floating point	6.3	average deviation from the "true" value in height	The value is described in the unit metre.
ursprunglig_organisation	Text	255	indicates which process or collaboration form that is responsible for the change	Refer to table in chapter 5.
objektversion	Integer	10	indicates the version of the object	When registering a new object, a first version must always be created in the system where the object is created. The first version is version 1, subsequent versions are incremented by the nearest integer of the sending party when the exchange object is ready to be sent in a change request. The modified object must never have a version number that is less or equal to the version number in the receiving system. When deleting, the version number in the change request must be the same as the version number in the receiving system. If the

Attribute	Type	Length	Definition	Description
				version number do not match the above description, the request will not be stored.
objekttypnr	Integer	4	unique integer for the object type	
objekttyp	Text	255	states that the type is airport are	The object type is Airport area.
iata	Text	3	three-digit identification code for airports	IATA-codes are only available for airports with regular flights, for example, ARN – Stockholm Arlanda Airport.
icao	Text	4	four-lettered code of the geographic position of airports, only used by pilots and air traffic control	ICAO-codes are available both for airports with regular flights as well as small airports with only private aviation, for example, ESSB (Europe Sweden Stockholm Bromma).
rotation	Floating point	6.2	indicates orientation for a symbol	Orientation based on horizontal position with anti-clockwise rotation. Orientation is given in degrees (360 degrees in a circle).

6 List of changes

Table 1. Table for list of changes.

Version	Date	Reason and change from previous version
1.9	2024-07-18	Chapter 5.1.1 *Residential* – Definition, description and comment changed. *Industrial* – Definition and comment changed. *Public* - Definition and comment changed. *Commercial* - Definition, description and comment changed. *Agricultural* - Comment changed. *Accessory building* - Definition, description and comment changed. *Other building* – Description moved to comment, and comment changed. Attribute *insamlingsläge*- Description changed. Attribute *byggnadsnamn*- Description changed. Attribute *byggnadsnamn2*- Definition and comment changed. Attribute *husnummer*- Description changed. Attribute *huvudbyggnad*- Description changed. Attribute *andamal1* – Definition and description changed. Attribute *andamal2* - Definition and description changed. Attribute *andamal3* - Definition and description changed. Attribute *andamal4* - Definition and description changed. Attribute *andamal5* - Definition and description changed. Value range Collection mode – Value *illustrative mode*– Description added. Value range Collection mode – Value *unspecified* – Definition added. Purpose *Semi-detached house* - Description added. Purpose *Detached house with multiple apartments* - Description added. Purpose *Multi-family apartment building* – Definition changed. Description added.

Version	Date	Reason and change from previous version
		Purpose *Unspecified* – Definition changed. Description added.
		Purpose *Metal or machinery industry* - Description added.
		Purpose *Textile industry* - Description added.
		Purpose *Wood industry* - Description added.
		Purpose *Other industrial building* - Description added.
		Purpose *Public baths* - Description added.
		Purpose *Bus station* - Description added.
		Purpose *Animal hospital* - Description added.
		Purpose *Higher education institution* – Definition changed. Description added.
		Purpose *Ice rink* - Description added.
		Purpose *Railway station*– *Definition changed.*
		Purpose Town hall - Description added.
		Purpose *Prison* - Description added.
		Purpose *Cultural building* - Description added.
		Purpose *Multi-purpose arena* – Definition changed. Description added.
		Purpose *Riding stables* - Description added.
		Purpose *Religious community* - Description added.
		Purpose *Hospital* - Description added.
		Purpose *School* - Description added.
		Purpose *Sports hall* - Description added.
		Purpose *University* – Definition changed. Description added.
		Purpose *Health centre* - Description added.
		Purpose *Unspecified* - Description added.
		Chapter 5.2.1 Definition changed, description and comment added for *sport facility.*
1.8	2024-02-28	Chapter 2 Reference to the "Termdatabasen Ekvator" has been removed as it has ceased to exist.
		Chapter 5.1.4 Church has received a new definition, description, and comment.
		List of change added.

Version	Date	Reason and change from previous version
1.7	2023-10-23	First version in English.