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## **DDPS Technical Ordinance on Official Cadastral Surveying<sup>1</sup>**

### **(TOCS)**

of 10 June 1994 (Status as of 1 July 2008)

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*The Federal Department of Defence, Civil Protection and Sport,<sup>2</sup>*

based on Article 3 paragraph 3, 6a, 26 paragraph 2, 31 paragraph 2, 37 paragraph 3, 51 paragraph 3 and 56 paragraph 4 of the Ordinance of 18 November 1992<sup>3</sup> on Official Cadastral Surveying (OCS),<sup>4</sup>

*ordains:*

## **Title 1 Principles and Responsibilities**

### **Chapter 1 Principles**

#### **Art. 1 Basic principle**

Surveying work must be carried out in accordance with the rules of the profession and with due regard to economy.

#### **Art. 2<sup>5</sup> Cantonal implementation plan**

The cantonal implementation plan details the nature, extent, timetable and costs of the work of official cadastral surveying, including:

- a. initial survey work;
- b. renovation work;
- c. work relating to change of exceptional national interest;
- d. periodic updating;

AS **1994** 1864

<sup>1</sup> Amended in accordance with No I of DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>2</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>3</sup> SR **211.432.2**

<sup>4</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>5</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

- e. the replacement of provisional digitising by initial survey (resurvey) or by renovation of the existing survey;
- f. a general estimate of costs.

### **Art. 3** Division into tolerance levels

For the purposes of official cadastral surveying the territory of the Confederation is divided into a range of tolerance levels (TS) as follows:

- TS1: Urban areas
- TS2: Built-up areas and building zones
- TS3: Areas of intensive agriculture and forestry
- TS4: Areas of extensive agriculture and forestry
- TS5:<sup>6</sup> Summer pastures and unproductive areas

### **Art. 3<sup>bis</sup>**<sup>7</sup> Numbering range

A numbering range is a component of an identification system, with corresponding geometry, defining the range of validity of unique identifiers. Numbering ranges are allocated by the Confederation and by the cantons.

## **Chapter 2 Responsibilities**

### **Art. 4** Federal Directorate of Cadastral Surveying<sup>8</sup>

The Federal Directorate of Cadastral Surveying:<sup>9</sup>

- a.<sup>10</sup> ...
- b. decides in individual cases on exemptions from the obligation to collect cadastral surveying data, in accordance with Article 10;
- c.<sup>11</sup> promotes the dissemination and further development of the data model of official cadastral surveying, especially in terms of the INTERLIS data description language and transfer mechanism and their related documentation (Art. 42);

<sup>6</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>7</sup> Inserted by No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>8</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>9</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>10</sup> Repealed by No I of the DDPS Ordinance of 5 June 2008, with effect from 1 July 2008 (AS **2008** 2759).

<sup>11</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

- d.<sup>12</sup> decides on the documents to be deposited for each task (Art. 111) and for their approval (Art. 109) as well as on the guarantee of compensation and its payment (Art. 111 and 112);
- e. decides on interim payments (Art. 112);
- f.<sup>13</sup> lays down the principles governing unique user keys and assigns intercantonal numbering ranges (Art. 3<sup>bis</sup>);
- g.<sup>14</sup> concludes the programme agreement with the responsible cantonal agency;
- h.<sup>15</sup> may decide on a simplified surveying in accordance with Article 24 paragraph 2.

## **Art. 5**            Canton

The canton is responsible for:<sup>16</sup>

- a. assigning tolerance levels in individual cases (Art. 3 and 26);
- b. laying down the requirements for tolerance level TS 1 (Art. 3 and 25);
- c.<sup>17</sup> describing cantonal additions to the federal data model in the INTERLIS data description language (Art. 43);
- d. guaranteeing the transfer of data via the official cadastral surveying interface (Art. 44 and 45);
- e. approving the design of observing schemes and observation procedures for the «control points» information layer in accordance with Articles 48 and 52;
- f. ruling on the treatment of differences in the areas of properties when they are compared under Article 71 and on provisional digitisation;
- g.<sup>18</sup> guaranteeing the updating and management of official cadastral surveying (Art. 80-88);
- h.<sup>19</sup> replacing provisionally digitised existing cadastral plans with new cadastral plans (Art. 91);

<sup>12</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>13</sup> Inserted by No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>14</sup> Inserted by No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514). Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>15</sup> Inserted by No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>16</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>17</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>18</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

<sup>19</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

- i.<sup>20</sup> defining the objects to be captured in the provisional digitisation (Art. 95);
- j.<sup>21</sup> allocating cantonal numbering ranges for internal use (Art. 3<sup>bis</sup>).

**Art. 6<sup>22</sup>****Art. 6<sup>bis</sup> 23****Title 2      Object Catalogue<sup>24</sup>****Chapter 1      Object Catalogue and Cantonal Additions<sup>25</sup>****Art. 7<sup>26</sup>**      Data model of official cadastral surveying

<sup>1</sup> An information layer of the object catalogue (OCS Art. 6 para. 2) comprises one or more themes; a theme comprises one or more objects. The themes and objects of each layer are defined as follows:

- a. «Control points» layer:
  1. Planimetric and altimetric control points of category 1 (LFP1 (Lagefixpunkte), HFP1 (Höhenfixpunkte));
  2. Planimetric and altimetric control points of category 2 (LFP2, HFP2);
  3. Planimetric and altimetric control points of category 3 (LFP3, HFP3).
- b. «Land cover» layer:
  1. Buildings;
  2. Hard-surfaced areas, subdivided into roads and tracks, pavements, traffic islands, railways, airfields, artificial ponds, pools and basins, and other hard-surfaced areas;
  3. Vegetated areas, subdivided into arable/meadow/pasture, intensive cultivation (further subdivided into vineyards and other intensive cultivation), garden, bog/swamp and other vegetated areas with the exception of woodland;

<sup>20</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>21</sup> Inserted by No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>22</sup> Repealed by No I of the DDPS Ordinance of 5 June 2008, with effect from 1 July 2008 (AS **2008** 2759).

<sup>23</sup> Inserted by No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514). Repealed by No I of the DDPS Ordinance of 5 June 2008, with effect from 1 July 2008 (AS **2008** 2759).

<sup>24</sup> Amended in accordance with nb. I of Ord. of the DDPS of 11 March 2003 (AS **2003** 514).

<sup>25</sup> Amended in accordance with No I of the DDPS Ordinance of 11 March 2003 (AS **2003** 514).

<sup>26</sup> Amended in accordance with No I of the DDPS Ordinance of 5 June 2008, in force since 1 July 2008 (AS **2008** 2759).

4. Waters, subdivided into standing water, flowing water (watercourses) and reed belts;
  5. Woodland, subdivided into dense forest, wooded pasture (further subdivided into dense wooded pasture and open wooded pasture) and other wooded areas;
  6. Unvegetated areas, subdivided into rock, glacier/firn (névé), boulders/scree/sand, quarries/landfill and other unvegetated areas.
- c. «Single objects» layer:  
Wall, underground structure, other portion of building, subsurface drainage channel, important steps, tunnel/underpass/gallery, bridge/footbridge, station platform, fountain/well, reservoir (without building), pillar, shelter, silo/tower/gasometer (if not a building), chimney, monument, mast/antenna, observation tower, bank protection works, ramp/sill, avalanche shelter, plinth, archaeological object/ruin, landing stage, isolated rock, small stand of trees, rivulet/minor stream, track/path, overhead power line, above-ground hydro-power pipe, railway, aerial ropeway, cable car/chairlift; industrial cableway, ski-lift, ferry, cave/pothole entrance, alignment, important tree, shrine/crucifix, spring, public authority reference point, and other miscellaneous objects.
- d. «Heights» layer: digital terrain model (DTM) covering the whole territory.
- e. «Local names» layer: local geographical name, place name, name of locality.
- f. «Landownership» layer:
1. Land ownership;
  2. Distinct and permanent rights (easements);
  3. mineral rights;
  4. boundary markers.
- g. «Pipelines» layer:
1. Oil pipelines, gas pipelines and other pipelines governed by the Pipelines Act of 4 October 1963<sup>27</sup>.
  2. Markers indicating the position of pipelines.
- h. «Territorial boundaries» layer:
1. Municipal boundaries, including territorial boundary points,
  2. District boundaries,
  3. Cantonal boundaries,
  4. The national boundary;
- i. «Permanent landslide areas» layer: areas prone to landslide in accordance with Art. 660a of the Swiss Civil Code<sup>28</sup>;

<sup>27</sup> SR 746.1

<sup>28</sup> SR 210