

1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
26
27

**Information Technology – Geographic Information
Framework Data Content Standard
Part 7a: Air**

CAUTION NOTICE

This standard document may be revised or withdrawn at any time. The procedures of the American National Standards Institute require that action be taken periodically to reaffirm, revise, or withdraw this standard. Users of American National Standards may receive current information on all standards by contacting the American National Standards institute (ANSI).

34 Secretariat:
35 INFORMATION TECHNOLOGY INDUSTRY COUNCIL
36 Approved:
37 YEAR-MM
38 **American National Standards Institute**

39 **American**
40 **National**
41 **Standard**

66 Approval of an American National Standard requires verification by the
67 American National Standards Institute (ANSI) that the requirements for due
68 process, consensus, and other criteria for approval have been met by the
69 standards developer.
70
71 Consensus is established when, in the judgment of the ANSI Board of
72 Standards review, substantial agreement has been reached by directly and
73 materially affected interests. Substantial agreement means much more than
74 a simple majority, but not necessarily unanimity. Consensus requires that
75 all views and objections be considered, and that a concerted effort be made
76 toward their resolution.
77
78 The use of American National Standards is completely voluntary; their
79 existence does not in any respect preclude anyone, whether he or she has
80 approved the standards or not, from manufacturing, marketing, purchasing,
81 or using products, processes, or procedures not conforming to the standards.
82
83 The American National Standards Institute does not develop standards and
84 will in no circumstances give an interpretation of any American National
85 Standard. Moreover, no person shall have the right or authority to issue an
86 interpretation of an American National Standard in the name of the
87 American National Standards Institute. Request for interpretations should
88 be addressed to the secretariat or sponsor whose name appears on the title
89 page of this standard.
90
91
92
93
94
95
96
97

98
99 Published by:
100 Information Technology Industry Council
101 1250 Eye Street NW, Suite 200
102 Washington, DC 20005
103 Voice: 202.737.8888
104 FAX: 202.638.4922
105 WEB: www.itic.org

106
107 Copyright © by Information Technology Industry Council
108 All rights reserved.
109 No part of this publication may be reproduced in any form, in an electronic retrieval system or otherwise,
110 without the written permission of the publisher.
111 Printed in the United States of America.

112
113
114
115

116 **Contents**

117	Introduction.....	vi
118	1 Scope.....	1
119	1.1 Harmonization with other aviation data content standards.....	2
120	1.2 Coordination with FAA eALP project.....	2
121	1.3 Coordination with DO-272 and DO-276.....	3
122	1.4 Future coordination with ANSI INCITS 353 SDSFIE.....	3
123	1.5 Future coordination with AIXM.....	4
124	1.6 National Airspace System (NAS).....	4
125	2 Conformance.....	4
126	3 Normative references.....	5
127	4 Terms and definitions.....	5
128	5 Symbols, abbreviated terms, and notations.....	16
129	6 Requirements.....	17
130	6.1 Airfield feature.....	20
131	6.2 Helipad feature.....	39
132	6.3 Runway feature.....	45
133	6.4 Taxiway feature.....	65
134	6.5 Seaplane feature.....	70
135	6.6 Navigational Aids feature.....	75
136	6.7 Airspace feature.....	82
137	6.8 Security feature.....	94
138	6.9 Cadastral feature.....	99
139	6.10 Environmental feature.....	110
140	6.11 Geotechnical feature.....	122
141	6.12 Structures feature.....	128
142	6.13 Surface Transportation feature.....	135
143	6.14 Utilities feature.....	150
144	6.15 Other Features feature.....	155
145	6.16 Lighting feature.....	158
146	6.17 Enumerations.....	159
147	Annex A (normative) Normative references.....	181
148	Annex B (informative) Bibliography.....	182
149	Figures	
150	Figure 1 – Air model.....	19
151	Figure 2 – Context diagram for Airfield feature.....	20
152	Figure 3 – Context diagram for Apron.....	21
153	Figure 4 – Context diagram for Marking feature.....	22
154	Figure 5 – Context diagram for Helipad feature.....	39
155	Figure 6 – Context diagram for Runway feature.....	45
156	Figure 7 – Context diagram for Runway End feature.....	46
157	Figure 8 – Context diagram for Shoulder.....	47
158	Figure 9 – Context diagram for Taxiway feature.....	65
159	Figure 10 –Context diagram for Seaplane feature.....	70
160	Figure 11 – Context diagram for Navigational Aids feature.....	75
161	Figure 12 – Context diagram for Airspace feature.....	82

162	Figure 13 – Context diagram for Security feature	94
163	Figure 14 – Context diagram for Cadastral feature.....	99
164	Figure 15 – Context diagram for Environmental feature	110
165	Figure 16 – Context diagram for Geotechnical feature.....	122
166	Figure 17 – Context diagram for Structures feature	128
167	Figure 18 – Context diagram for Surface Transportation feature	135
168	Figure 19 – Context diagram for Utilities feature	150
169	Figure 20 – Context diagram for Lighting feature	158
170		
171	Tables	
172	Table 1 – Airfield feature data dictionary	23
173	Table 2 – Helipad feature data dictionary	40
174	Table 3 – Runway feature data dictionary.....	48
175	Table 4 –Taxiway feature data dictionary	66
176	Table 5 – Seaplane feature data dictionary.....	71
177	Table 6 – Navigational Aids data dictionary	76
178	Table 7 – Airspace feature data dictionary	83
179	Table 8 – Security feature data dictionary	95
180	Table 9 – Cadastral feature data dictionary.....	100
181	Table 10 – Environmental feature data dictionary	111
182	Table 11 – Geotechnical feature data dictionary.....	123
183	Table 12 – Structures feature data dictionary	129
184	Table 13 – Surface Transportation feature data dictionary.....	136
185	Table 14 – Utilities feature data dictionary	151
186	Table 15 – Other Features feature data dictionary.....	155
187	Table 16 – airportFacilityType_d enumeration	159
188	Table 17 – approachCat_d enumeration	159
189	Table 18 – approachType_d enumeration.....	159
190	Table 19 – apronType_d enumeration.....	159
191	Table 20 – color_d enumeration.....	160
192	Table 21 – designGroup_d enumeration.....	160
193	Table 22 – designSurfaceType_d enumeration.....	161
194	Table 23 – directionality_d enumeration.....	161
195	Table 24 – faaRegion_d enumeration.....	161
196	Table 25 – gate_stand_type_d enumeration.....	162
197	Table 26 – haz_typ_d enumeration	162
198	Table 27 – landmarkType_d enumeration	162
199	Table 28 – landUse_d enumeration	162
200	Table 29 – lightingType_d enumeration.....	167
201	Table 30 – low_visibility_cat_d enumeration.....	169
202	Table 31 – markingFeatureType_d enumeration.....	169
203	Table 32 – NavaidEquipTypeCode_d enumeration	170
204	Table 33 – NavaidSysTypeCode_d enumeration.....	171
205	Table 34 – obstacle_type_d enumeration	172
206	Table 35 – ObstAreaType_d enumeration.....	173
207	Table 36 – oisSurfaceCondition_d enumeration	173
208	Table 37 – oisSurfaceType_d enumeration	173
209	Table 38 – oisZoneType_d enumeration	173
210	Table 39 – operationsType_d enumeration	173
211	Table 40 – owner_d enumeration.....	173
212	Table 41 – PointType_d enumeration.....	174
213	Table 42 – precisionApproachGuidance_d enumeration.....	175
214	Table 43 – projectStatus_d enumeration	175
215	Table 44 – signTypeCode_d enumeration	175
216	Table 45 – status_d enumeration.....	176

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

217	Table 46 – surfaceCondition_d enumeration.....	177
218	Table 47 – surfaceMaterial_d enumeration.....	177
219	Table 48 – surfaceType_d enumeration.....	177
220	Table 49 – taxiwayType_d enumeration.....	177
221	Table 50 – thresholdType_d enumeration.....	178
222	Table 51 – utilityType_d enumeration.....	178
223	Table 52 – verticalStructureMaterial_d enumeration.....	179
224	Table 53 – zng_cls_d enumeration.....	179
225	Table 54 – zone_type_d enumeration.....	179
226		
227		

228 **Foreword**

229 Geographic information, also known as geospatial information, both underlies and is the subject
230 of much of the political, economic, environmental, and security activities of the United States. In
231 recognition of this, the United States Office of Management and Budget issued Circular A-16
232 (revised 2002), which established the Federal Geographic Data Committee (FGDC) as a
233 coordinating organization.

234 Work on this standard started under the Geospatial One-Stop e-Government initiative. The
235 standard was developed with the support of the member agencies and organizations of the
236 FGDC and aids in fulfilling a primary objective of the National Spatial Data Infrastructure (NSDI),
237 that is, creation of common geographic base data for seven critical data themes. The seven core
238 data themes are considered framework data of critical importance to the geographic data
239 infrastructure.

240 The increasing need to coordinate collection of new data, identify applicability of existing data,
241 and exchange data at the national level led to the submission of this standard to the ANSI
242 process to become an American National Standard. The national standard contained in this
243 document and its parts was sponsored by Technical Committee L1, Geographic Information
244 Systems, of the InterNational Committee for Information Technology Standards (INCITS), an
245 ANSI-accredited standards development organization.

246 As the Geographic Information Framework Data Content Standard was developed using public
247 funds, the U.S. Government will be free to publish and distribute its contents to the public, as
248 provided through the Freedom of Information Act (FOIA), Part 5 United States Code, Section 552,
249 as amended by Public Law No. 104-231, "Electronic Freedom of Information Act Amendments of
250 1996".

251 **Introduction**

252 The primary purpose of the Geographic Information Framework Data Content Standard, Part 7a:
253 Air is to support the exchange of data related to air transportation. This part of the Framework
254 Data Content Standard also seeks to establish a common baseline for the content of air
255 transportation databases for public agencies and private enterprises. It seeks to decrease the
256 costs of acquiring and exchanging aviation data for Federal, State Tribal, and local users and
257 creators of air transportation data. Benefits of adopting this part also include the long-term
258 improvement of the geospatial data that can be used to support capacity, safety, security,
259 operations and maintenance procedures at airports.

260 This is the first edition of this part of the Framework Data Content Standard. However, this part
261 was preceded by other work that has contributed to its development. These include:

- 262 • The U.S. CADD/GIS Technology Center's Spatial Data Standards for Facilities,
263 Infrastructure and the Environment (Version 2.3)
- 264 • Geospatial Intelligence Standard (GIS) Airport Layout Plan Standards developed by the
265 Atlanta Hartsfield International Airport Department of Aviation (May 29, 2002)
- 266 • User Requirements for Aerodrome Mapping Information (DO-272) developed by a
267 multinational committee of aviation experts under the auspices of RTCA and EUROCAE
- 268 • The Federal Aviation Administration's adaptation of RTCA/EUROCAE's User
269 Requirements for Aerodrome Mapping Information for the Safe Flight 21 Program
- 270 • Eurocontrol's AIXM model for aviation data exchange

271 In addition, the development of this part of the Framework Data Content Standard has benefited
272 from an ongoing FAA project to create a data standard that can support electronic Airport Layout
273 Plans (eALP), approach procedure development, and other FAA requirements. Given the similar
274 objectives and overlapping domains of the FAA eALP project and this effort, the models being
275 created have essentially been merged. The result has been a single model for aviation data
276 exchange that encompasses a more comprehensive set of user requirements. The Air Modeling
277 Advisory Team (MAT) has pursued a strategy that ensures the Air part of the Framework Data
278 Content Standard shall encompass in its entirety all of the elements and attributes of both of the
279 aforementioned standards.

280 This part of the Framework Data Content Standard has been developed to fulfill one of the
281 objectives of the National Spatial Data Infrastructure (NSDI), that is to say, to create common
282 geographic base data for seven critical data themes. These core themes are considered
283 framework data, reflecting their critical importance as geographic infrastructure.

284 This part of the Framework Data Content Standard was processed and approved for submittal to
285 ANSI by the Accredited Standards Committee – INCITS/L1. Committee approval of this part
286 does not necessarily imply that all committee members voted for its approval.

287

288 **Framework Data Content Standard – Air**

289 **1 Scope**

290 The primary purpose of the Geographic Information Framework Data Content Standard, Part 7a:
291 Air is to support the exchange of transportation data related to aviation, one of five modes that
292 compose the Transportation theme of the geospatial data framework. More specifically, the Air
293 part encompasses spatial data, as well as related attributes and metadata, which can be used to
294 depict the most broadly used elements of the U.S. National Airspace System (NAS). The NAS is
295 a national system of aviation infrastructure that includes several thousand commercial, military,
296 and general aviation airports and heliports in the United States, as well as thousands of FAA
297 facilities that support air navigation over U.S. skies. While the ultimate purpose is to address all
298 elements of the NAS to their fullest extent, this edition focuses on elements at or related to
299 airports at a specific point in time. Although this part is intended to support airport map data
300 collection and airport map data exchange, the part should not be used to support data that is
301 required for the navigation of aircraft on the surface or in the air, nor should it be used for data
302 that are required for operation of the NAS.

303 While the impetus for this part of the Framework Data Content Standard is from the U.S.
304 government, it is recognized that a standard for the exchange of aviation data shall be global in
305 perspective. For this reason, efforts have been made to make this part compatible with similar
306 international standards. It is the ultimate intent of the part to allow the widest utility of aviation
307 data by enhancing data sharing and reducing redundant data production.

308 This part is made up of numerous types of manmade (for example, runways and taxiways) and
309 natural (for example, terrain) features that have been determined to be relevant to air
310 transportation. Each of these features can have geographic locations and characteristics. These
311 features can also be interconnected in various ways to represent a complete operating
312 environment such as an airport or sub-sets of an airport such as the equipment that supports air
313 navigation to a specific runway. Eventually, in future versions of this part, airspace features and
314 off-airport navigational aides will be included to support the exchange of information about
315 airspace and air networks. It is anticipated that such future versions of this part will support the
316 data sharing needs of the entire air transportation community.

317 This part of the Framework Data Content Standard can be implemented using a variety of
318 software packages and is designed to accommodate data with or without geometry. It is
319 designed to be able to depict airports of all levels of service and all functional classes that may be
320 defined by a data-providing agency. It accommodates assets associated with aviation that are
321 typically used for navigation, safety, security, operations, and maintenance.

322 The Air part will initially apply to National Spatial Data Infrastructure (NSDI) framework
323 transportation data produced or disseminated by or for the Federal Government. This part is not
324 intended to supersede the airport data collection needs and requirements of the Federal Aviation
325 Administration. It is recognized that the Federal Aviation Administration has data quality
326 requirements (spatial, temporal, data integrity) related to air safety that this part does not support.
327 According to Executive Order 12906, Coordinating Geographic Data Acquisition and Access: the
328 National Spatial Data Infrastructure, Federal agencies collecting or producing geospatial data,
329 either directly or indirectly (for example, through grants, partnerships, or contracts with other
330 entities), shall ensure, prior to obligating funds for such activities, that data will be collected in a
331 manner that meets all relevant standards adopted through the Federal Geographic Data
332 Committee (FGDC) process.

333 It is critical to note, however, that this standard only incorporates core geospatial features related
334 to airports. More specifically, the following areas have been identified as critical aviation data
335 elements that should be considered in future versions.

336 The Air MAT recognizes the importance of airspace. However, the complexity of adding airspace
337 features to the model precluded its inclusion in this version of the Air part. The Evaluation

338 Surface feature has, however, been included in this version to accommodate airport specific
339 airspace features such as FAR Part 77 and TERPS surfaces.

340 The utilities that support airport infrastructure were also deemed too complex to adequately
341 address in this version of the Air part. However, the Air MAT recognizes that utilities are an
342 important feature that should be included in future models.

343 Temporal data, or data indicating specific periods or ranges of time, have not been incorporated
344 into this version of the model. Lack of this type of information limits the ability of the model, in its
345 current form, to fully address the needs of such a dynamic environment as an airport or the entire
346 NAS. While temporal data is not addressed to the extent that will ultimately be required, the
347 metadata elements of the model do allow the date(s) of applicability of information currently in the
348 model to be tracked.

349 The areas listed above and others will be critical additions to future versions of this part of the
350 Framework Data Content Standard. The data elements currently captured in the part are not in
351 and of themselves sufficient for air navigation or the operation of airports or the NAS. The model
352 can be used to exchange information to users and for uses that do not require more detailed
353 airspace, utilities, and temporal data. Users who do require these details can build upon the
354 current structures of the Air part to accommodate their needs until future revisions of this part
355 address these needs. The advantage of this approach is the ability to begin the exchange of
356 some data elements and the use of their additions to support future model enhancements.
357 Ultimately, it is the responsibility of the user and developer of any system, whether it is based on
358 this part or not, to ensure that the data meet their specific requirements.

359 **1.1 Harmonization with other aviation data content standards**

360 The Framework Data Content Standard, Air part committee members recognize that much, if not
361 all, aviation data elements are modeled in one or more existing aviation data standards. A more
362 valuable accomplishment is to review existing models and adapt what they collectively provide to
363 meet the committee requirements. Care and compromise are used to ensure adherence to the
364 requirements of the originating standard. This supports compatibility between the standards and
365 a broader exchange of information. This process, called harmonization is carried out in this
366 version of the Air part and will continue to be carried out in future versions.

367 **1.2 Coordination with FAA eALP project**

368 The FAA requires all airports that receive Federal funding to submit and update an Airport Layout
369 Plan (ALP). These ALPs serve as a general airport basemap intended for planning purposes.
370 Over time, ALPs have become popular for a variety of other purposes including airport
371 engineering, operations, and maintenance. The data standards and procedures currently used to
372 create ALPs were not designed with modern spatial technology in mind. As a result, most
373 airports submit ALPs in paper format, which the FAA stores in file rooms throughout the country.

374 The FAA sees benefit in moving ALPs from a paper based to an electronic format. Such a
375 strategy has the potential to create a rich, national dataset of airport features that can be used by
376 several divisions of the FAA, as well as airports and other key stakeholders. To accomplish this
377 goal, the FAA initiated in November 2002 an eALP project which will design, build, and implement
378 a national repository for airport GIS data, as well as the procedures and tools by which airports
379 will submit data and extract useful information. The early phases of this project have focused on
380 identifying relevant data elements, requirements for these elements, and relationships between
381 them.

382 Considerable effort has been expended to coordinate the FAA eALP effort with the efforts of the
383 Air MAT. The result is a combined model that satisfies a broader set of user interests. The FAA's
384 documentation of this model can be found in FAA AC 150/53XX-XX Geographic Information
385 System Data Standard – Volume D. Some of the most critical benefits of coordinating the FAA
386 eALP model with the Air part of the Framework Data Content Standard are listed below.

Information Technology – Geographic Information Framework Data Content Standard Part 7a: Air

- 387 • The individuals and agencies that create spatial data for aviation, namely, FAA,
388 NOAA/NGS, airports, consultants, and private sector data providers will be better able to
389 supply data to the FAA and the aviation community via the Geospatial One-Stop if the
390 data is organized based on a common standard.
- 391 • Consistency is a major component of spatial data quality. By bringing these efforts
392 together, redundancy in airport data and airport data collection efforts will be minimized
393 and data consistency will be maximized.
- 394 • Private industry is more apt to develop solutions that make use of, and build upon the
395 eALP and the Air part of the Framework Data Content Standard if they are consistent.
- 396 • Should the FAA require data from airports throughout the nation based on a consistent
397 standard, a broad, rich set of airport data will very quickly become available to other
398 potential users via the Geospatial One-Stop.
- 399 • The FAA eALP project can benefit from the funding, resources, and development being
400 dedicated to the Geospatial One-Stop. Conversely, the Geospatial One-Stop can benefit
401 from the support and expertise of the FAA, the agency responsible for regulating and
402 operating our national airspace system.
- 403 • The Air MAT committee includes members from the FAA, airports, the National
404 Geospatial-Intelligence Agency (NGA), the U.S. Army Corps of Engineers CADD/GIS
405 Technology Center, AAAE GIS Standards Subcommittee, and private industry. The
406 eALP project team includes members from several divisions of the FAA, NOAA/NGS, and
407 contractors with private industry and airport experience. Together, these groups of
408 professionals offer broader expertise than any group alone.
- 409 • The Air MAT recognizes that airport terminal facility features and security features have
410 grown to become as critical as airfield features. These include AOA access doors and
411 gates, fences, security checkpoints, and passenger and baggage scanning.

412 **1.3 Coordination with DO-272 and DO-276**

413 In 2000, an international committee of aviation experts was formed under RTCA, Inc. and the
414 European Organization for Civil Aviation Equipment (EUROCAE) to assess and document “User
415 Requirements for Aerodrome Mapping Information” and “User Requirements for Obstacle and
416 Terrain Data.” This resulted in two documents, RTCA DO-272 and DO-276, respectively.
417 Together, these documents are a major accomplishment in the worldwide standardization of data
418 depicting airside infrastructure of an airport, as well as obstacle and terrain data. Since being
419 published, they have gained broad support and developed a wide international user base.

420 Because of these achievements, the Air MAT considered each element of DO-272 and DO-276
421 and determined that they adequately met the exchange objectives of the Geospatial One-Stop.
422 Based on this determination, all features contained in DO-272 and DO-276 have been
423 incorporated into the Air part of the Framework Data Content Standard. In a few cases, features
424 have been grouped differently to best accommodate the specific aircraft surface movement
425 requirements of DO-272 and the broader mapping requirements expressed by the Air MAT.
426 These features have also been defined the same in both standards, with a few exceptions which
427 are necessary to make the Air part definitions compatible with existing FAA definitions. Note that
428 the initial version of the Air part does not include all attributes in DO-272 and DO-276, but future
429 versions will review these as well. In the meantime, users that require this attribute information
430 can incorporate them as necessary.

431 **1.4 Future coordination with ANSI INCITS 353 SDSFIE**

432 For over a decade, the U.S. CADD/GIS Technology Center (formerly the Tri-Services CADD/GIS
433 Technology Center) has produced the Spatial Data Standard for Facilities, Infrastructure, and
434 Environment (SDSFIE). Many military and a growing number of civilian airports as well as the
435 American Association of Airport Executives GIS Standards Sub-Committee have endorsed this
436 standard for structuring geospatial data for airports. It is widely recognized, however, that the

437 SDSFIE standard does not fully address the needs of a commercial airport. To remedy this,
438 members of the Air MAT committee have proposed an effort to harmonize the Air part of the
439 Framework Data Content Standard and the eALP and DO-272/276 data structures with aviation
440 data elements contained within the SDSFIE.

441 **1.5 Future coordination with AIXM**

442 The Aviation Information eXchange Model (AIXM) was developed by European aviation experts.
443 It includes airport, navigational aid and airspace features, their relationships to one another, and
444 relevant attributes. It has been in existence for several years and has undergone three major and
445 several minor version enhancements.

446 In its current form, AIXM in many ways represents what the Air part of the Framework Data
447 Content Standard model may resemble in the future. One noticeable difference is that AIXM
448 does not currently include the spatial content which the Air MAT was established to address.
449 This is not a major difference, however, since both models capture critical components of aviation
450 infrastructure and their relationships to one another. The broader coverage of features and rich
451 attribute information in AIXM and the spatial content of the Air part model, in fact, are compatible
452 and valuable compliments to one-another.

453 Recognizing this, members of the Air MAT reviewed AIXM and determined that it covers most if
454 not all of the data elements contained in the Air part of the Framework Data Content Standard
455 and much more. Because of its broader coverage and therefore, complexity, and due to
456 differences between European and U.S. terminology, it was determined that AIXM could not be
457 accepted wholesale. Instead, a feature-by-feature comparison and harmonization effort is
458 recommended. Such an effort fell outside of the scope of the Air MAT's activities although AIXM
459 is used as a reference.

460 Based on the similarities between the Air part of the Framework Data Content Standard and
461 AIXM objectives and their mutually complimentary content, a more thorough harmonization
462 process is recommended. Such an effort will not only benefit future versions of both, but more
463 importantly lead to easier international exchange of aviation data.

464 **1.6 National Airspace System (NAS)**

465 The National Airspace System (NAS) is comprised of commercial, military, and general aviation
466 airports and heliports, thousands of aviation facilities such as navigational aids and
467 communications centers, and the airspace constructs through which aircraft fly. This version of
468 the aviation data exchange model focuses on airports and heliports, although some navigational
469 aids and airspace features are included which are particularly relevant to the depiction of an
470 airport or heliport. These features are included as temporary placeholders to complete the model
471 of an airport. As airspace and NAVAID features are further detailed in subsequent versions,
472 these features will be properly brought out from under the airport class and be referenced to the
473 NAS super class.

474 Also, while this part focuses on airports and heliports, for representation of building interiors, it
475 adopts the normative guidelines set forth in the Spatial Data Standards for Facilities,
476 Infrastructure, and Environment (SDSFIE).

477 **2 Conformance**

478 This thematic part includes a data dictionary/model based on the conceptual schema presented
479 below. To conform to this part, the user shall satisfy the requirements of the data
480 dictionary/model. The user's conforming dataset shall include a value for each mandatory
481 element, and a value for each conditional element for which the condition is true. It may contain
482 values for any optional element. The data type of each value shall be that specified for the
483 element in the data dictionary/model and the value shall lie within the specified domain. This part
484 only specifies the special requirements of conformance for a dataset containing information on
485 the airports. Conformance to the Air part requires additional actions specified in the Base

486 Document (Part 0) and the Transportation Base (Part 7) of the Framework Data Content
487 Standard.

488 **3 Normative references**

489 Annex A lists normative references to standards that are applicable to this part of the Framework
490 Data Content Standard. Informative references are listed in Annex C. Annex A of the base
491 Document (part 0) lists normative references applicable to two or more parts of the standard.
492 Annex D of the Base Document lists informative references applicable to all of the parts.

493 **4 Terms and definitions**

494 Definitions applicable to the Air part are listed here. Other, more general transportation terms are
495 defined in the Transportation Base (Part 7). Users are advised to consult that part for a complete
496 set of transportation definitions.

497 Definitions listed below are defined and accepted by the Air Modeling Advisory Team (Air MAT).
498 In most cases, a definition has been adopted from another source such as FAA Advisory
499 Circulars, NGS, or ICAO Annexes. In these cases, the source of the definition is indicated in
500 brackets. Other definitions, where no source is indicated, have been developed by the Air MAT.

501 **4.1**

502 **AircraftDeicingArea**

503 facility where: (1) frost, ice, or snow is removed (deicing) from the aircraft in order to provide
504 clean surfaces, and/or, (2) clean surfaces of the aircraft receive protection (anti-icing) against the
505 formation of frost or ice and accumulation of snow or slush for a limited period of time [FAA AC
506 150/5300-13]

507 **4.2**

508 **AircraftGateStand**

509 operational area of gate (parking) stand

510 NOTE If no gate stand area painting is available, a virtual parking stand area should be provided.
511 [RTCA DO-272]

512 **4.3**

513 **AircraftNonMovementArea**

514 area where aircraft cannot be seen by a control tower and therefore are restricted to move

515 **4.4**

516 **AirfieldLight**

517 lighting located within or near an airport boundary that provides guidance for airborne and ground
518 maneuvering of aircraft [FAR/AIM, FAA AC 150/5340-24]

519 **4.5**

520 **AirfieldLinearFeatureSafetyLine**

521 line indicating location of the arresting gear cable across the runway [RTCA DO-272]

522 **4.6**

523 **AirOperationsArea**

524 portion of an airport, specified in the airport security program, in which security measures are
525 carried out [49 CFR Part 1542, Airport Security]

526 EXAMPLES This area includes aircraft movement areas, aircraft parking areas, loading ramps, and
527 safety areas and any adjacent areas (such as general aviation areas) that are not separated by adequate
528 security systems, measures, or procedures.

- 529 **4.7**
530 **AirportBoundary**
- 531 polygon, or a set of polygons, that encompasses all property owned or controlled by the airport
532 for aviation purposes [FAA AC 150/5300-13, Appendix 7, Order 5190.6A, Section 5]
- 533 **4.8**
534 **AirportControlPoint**
- 535 control station established in the vicinity of, and usually on, an airport and tied to the National
536 Spatial Reference System (NSRS) [NGS]
- 537 **4.9**
538 **AirportParcel**
- 539 tract of land within the airport boundary that was acquired from surplus property, Federal funds,
540 local funds, and so on [FAA AC 150/5300-13, Appendix 7, Order 5190.6A, Section 5]
- 541 NOTE Easement interests in areas outside the fee property line should also be included as an
542 AirportParcel.
- 543 **4.10**
544 **AirportSign**
- 545 signs at an airport other than surface painted signs [FAA AC 150/5340-18]
- 546 **4.11**
547 **AirwayLine**
- 548 Line indicating the location of airways between origins and destinations [U.S. CADD]
- 549 **4.12**
550 **Apron**
- 551 defined area on an airport or heliport, paved or unpaved, intended to accommodate aircraft for
552 purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance [FAA]
- 553 **4.13**
554 **Bridge**
- 555 structure used by vehicles that allows passage over or under an obstacle such as a river, chasm,
556 mountain, road or railroad [U.S. CADD]
- 557 **4.14**
558 **Building**
- 559 three-dimensional permanent structure modeled with a bounding polygon [FAA]
- 560 NOTE This feature includes all on-airport buildings within an AirportParcel and any building in the
561 vicinity of the airport that affects air navigation or airport design requirements.
- 562 **4.15**
563 **ConstructionArea**
- 564 defined area that is under construction, not intended for active use until authorized by the
565 concerned authority [FAA]
- 566 NOTE The area defines a boundary for personnel, material, and equipment engaged in the
567 construction activity.
- 568 **4.16**
569 **CoordinateGridArea**

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

570 regular pattern of horizontal and vertical lines used to represent regular coordinate intervals along
571 the x and y axis [U.S. CADD]

572 NOTE These grid lines can be used to generate an arbitrary grid system which is common on locator
573 maps.

574 **4.17**
575 **County**

576 boundary line of the land and water under the right, power, or authority of the county government
577 [U.S. CADD]

578 **4.18**
579 **DisplacedThreshold**

580 beginning of that portion of the runway available for landing when it is located at a point other
581 than the physical end of the runway [FAA AC 150/5300-13]

582 **4.19**
583 **DrivewayArea**

584 access to a residence or other vehicle parking lot or storage area [U.S. CADD]

585 **4.20**
586 **DrivewayCenterline**

587 center of the driveway as measured from the edge of the paved surface [U.S. CADD]

588 NOTE The segments of a driveway centerline will coincide with the road segments in order to provide
589 network connectivity.

590 **4.21**
591 **EasementsAndRightofWays**

592 parcel of land for which formal or informal deed easement rights exist [U.S. CADD (modified)]

593 **4.22**
594 **ElevationContour**

595 connecting points on the surface of the Earth of equal vertical elevation representing some fixed
596 elevation interval [U.S. CADD]

597 **4.23**
598 **EnvironmentalContaminationArea**

599 facility or other locational entity (as designated by the Environmental Protection Agency) that is
600 regulated or monitored because of environmental concerns [U.S. CADD]

601 **4.24**
602 **FAARegionArea**

603 feature depicting the FAA region [U.S. CADD]

604 **4.25**
605 **FaunaHazardArea**

606 area where there are hazards due to wildlife activities [U.S. CADD]

607 NOTE. This includes bird aircraft strike hazard (BASH) areas, and deer strike areas.

608 **4.26**
609 **Fence**

- 610 fencing (such as chain-link, razor wire, PVC, and so on) [FAA]
- 611 **4.27**
612 **FlightTrackLine**
613 line indicating the general flight track used in the vicinity of airfields [U.S. CADD]
- 614 **4.28**
615 **FlightTrackPoint**
616 point in space that designates aircraft arrival and departure routes [FAA]
- 617 **4.29**
618 **FloatingDockSite**
619 floating facility which can serve as a mooring place for vessels or as a floating dry dock [U.S.
620 CADD]
- 621 **4.30**
622 **FloodZone**
623 area subject to 100-year, 500-year, and minimal flooding [U.S. CADD]
- 624 **4.31**
625 **FloraSpeciesSite**
626 specific location where an individual flora species or an aggregate of flora species has been
627 identified [U.S. CADD]
- 628 **4.32**
629 **ForestStandArea**
630 forest flora community with similar characteristics [U.S. CADD]
- 631 **4.33**
632 **FrequencyArea**
633 area specifying the designated part of the surface movement area where a specific frequency is
634 required by ATC or ground control [RTCA DO-272]
- 635 **4.34**
636 **Gate**
637 aircraft stand location defining the outermost location to where a parking stand area can
638 accommodate a specific aircraft type [RTCA DO-272]
- 639 **4.35**
640 **HazMatStorageSite**
641 defined or bounded geographical area designated and used for the storage of contained
642 hazardous materials [U.S. CADD]
- 643 **4.36**
644 **Helipad**
645 small designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff
646 area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters [FAA AC
647 150/5390-2B]
- 648 NOTE Also known as the Touchdown and Lift-Off Area (TLOF).
- 649 **4.37**

650 **HelipadFATO**

651 defined area over which the final phase of the approach to a hover, or a landing, is completed
652 and from which the takeoff is initiated [FAA AC 150/5390-2B]

653 NOTE This area was called the "takeoff and landing area" in previous publications.

654 **4.38**

655 **HelipadThreshold**

656 based on the predominant wind direction, helipad threshold position is congruent with the
657 approach/takeoff paths [RTCA DO-272]

658 **4.39**

659 **HelipadTLOF**

660 load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands
661 or takes off [FAA AC 150/5390-2B]

662 NOTE The TLOF is frequently called a helipad or helideck. TLOFs shall be photogrammetrically
663 determined.

664 **4.40**

665 **ImageArea**

666 image foot print or coverage area [U.S. CADD]

667 **4.41**

668 **LandmarkSegment**

669 geographic features located in the vicinity of an airport that aid geographic orientation [NGS]

670 NOTE The features may or may not have obstruction value.

671 EXAMPLES These may include objects such as roads, railroads, fences, utility lines, shorelines,
672 levees, quarries and nearby airport, and so on.

673 **4.42**

674 **LandUse**

675 description of the human use of land and water [U.S. CADD]

676 **4.43**

677 **LeaseZone**

678 parcel of land leased by an individual, agency, or organization for their use [U.S. CADD]

679 **4.44**

680 **MarkingArea**

681 element of marking whose geometry is a polygon [FAA AC 150/5340-1]

682 **4.45**

683 **MarkingLine**

684 element of marking whose geometry is a line [FAA AC 150/5340-1, RTCA DO-272]

685 **4.46**

686 **Municipality**

687 boundary line of the land and water under the right, power, or authority of the municipal
688 government [U.S. CADD]

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

- 689 **4.47**
690 **NAVAIDCriticalArea**
691 zone encompassing a specific ground area in the vicinity of a radiating antenna array which must
692 be protected from parking and unlimited movement of surface and air traffic [FAA Order
693 6750.16C]
- 694 **4.48**
695 **NAVAIDEquipment**
696 ground-based visual or electronic device that provides point to point guidance information or
697 position to aircraft in flight [FAA No. 405]
698 NOTE The location is specified by FAA No. 405.
- 699 **4.49**
700 **NAVAIDSite**
701 parcel, lease, or right-of-way boundary for a NAVAID facility that is located off airport property
- 702 **4.50**
703 **NAVAIDSystem**
704 reference point to a grouping of NAVAIDs that together perform a common function
- 705 **4.51**
706 **NavigationBuoy**
707 floating marker which is moored to the bottom at a specific known location, which is used as an
708 aid to navigation or for other special purposes [U.S. CADD]
- 709 **4.52**
710 **NoiseContour**
711 area that describes the noise attributed to operations [14 CFR Part 150]
712 NOTE For aircraft operations, the Day/Night average sound level (Ldn) descriptor is typically used to
713 categorize noise levels.
- 714 **4.53**
715 **NoiseIncident**
716 formal complaint by an individual or group regarding excessive noise resulting from airport
717 operations
- 718 **4.54**
719 **NoiseMonitoringPoint**
720 location of noise sensing equipment or where a noise sample is taken [U.S. CADD]
- 721 **4.55**
722 **Obstacle**
723 fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on
724 an area intended for the surface movement of aircraft or that represent a defined
725 **ObstructionIdentificationSurface** [NGS]
- 726 **4.56**
727 **ObstructionArea**
728 region, zone, or locality penetrating the plane of a specified or supplemental
729 **ObstructionIdentificationSurface** (OIS) [NGS]

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

- 730 NOTE The type of obstructing area is determined by the predominantly obstructing element in the
731 grouped area.
- 732 EXAMPLES Penetrating groups of trees, ground, buildings, urban areas, mobile cranes, and
733 agricultural area are the most common types of area limits found within the surfaces of a FAR-77 survey.
- 734 **4.57**
735 **ObstructionIdentificationSurface**
736 **OIS**
737 derived imaginary **ObstructionIdentificationSurface** defined by the FAA [NGS]
- 738 **4.58**
739 **OtherLine**
740 other line features not elsewhere classified
- 741 **4.59**
742 **OtherPoint**
743 other point features not elsewhere classified
- 744 **4.60**
745 **OtherPolygon**
746 other polygon features not elsewhere classified
- 747 **4.61**
748 **Parcel**
749 single cadastral unit, which is the spatial extent of the past, present, and future rights and
750 interests in real property and the geographic framework to support the description of the spatial
751 extent [U.S. CADD]
- 752 **4.62**
753 **ParkingLot**
754 area of an airport used for parking of automobiles, buses, and so on [U.S. CADD]
- 755 **4.63**
756 **PassengerLoadingBridge**
757 bridge for loading/unloading access to airplanes for passengers and crew
- 758 **4.64**
759 **PavementSection**
760 section of paved surface used for pavement condition assessment
- 761 **4.65**
762 **RailroadCenterline**
763 represents the centerline of each pair of rails [ANSI, Part 7c: Roads]
- 764 **4.66**
765 **RailroadYard**
766 represents a railroad yard [ANSI, Part 7c: Roads]
- 767 **4.67**
768 **RegulatedAirspaceArea**

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

769 three-dimensional region of airspace for activities which must be confined because of their nature
770 [U.S. CADD]

771 NOTE Limitations may be imposed upon aircraft operations that are not a part of the airspace activities.
772 Includes any associated underlying surface and subsurface training areas.

773 EXAMPLES The types of SUA are Alert Area, Controlled Firing Area, Military Operating Area (MOA),
774 Prohibited Area, Restricted Area, and Warning Area.

775 **4.68**
776 **RestrictedAccessBoundary**

777 restricted area boundary defines aircraft movement area that is strictly reserved for use by
778 authorized personnel only [NGS]

779 NOTE: These boundaries, typically found on joint civil/military use airports, are often painted red lines
780 on taxiway or apron surfaces.

781 **4.69**
782 **RoadCenterline**

783 center of the roadway as measured from the edge of the paved surface [U.S. CADD]

784 NOTE The segments of a road centerline will coincide with the road segments in order to have similar
785 characteristics.

786 **4.70**
787 **RoadPoint**

788 point along the roadway system which has some special significance either for starting or ending
789 a road segment or for representing a significant position along the roadway system such as the
790 start or center of a bridge or the center of an intersection [ANSI, Part 7c: Roads]

791 **4.71**
792 **RoadSegment**

793 represents a linear section of the physical road system designed for, or the result of, human or
794 vehicular movement; must be continuous (no gaps) and cannot branch; no mandates are
795 provided on how to segment the road system except that data providers adopt a consistent
796 method [ANSI, Part 7c: Roads]

797 **4.72**
798 **Runway**

799 defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft
800 along its length [AC 150/5300-13]

801 NOTE Runways are normally numbered in relation to their magnetic direction rounded off to the
802 nearest 10 degrees (for example, Runway 10/28, Runway 07/25).

803 **4.73**
804 **RunwayArrestingArea**

805 FAA-approved high energy absorbing material of a specific strength that will reliably and
806 predictably bring and aircraft to a stop without imposing loads that exceed the aircraft's design
807 limits, cause major structural damage, or impose excessive forces on its occupants [AC
808 150/5220-22]

809 NOTE Currently, the only FAA approved material is Engineered Material Arresting System (EMAS).

810 **4.74**
811 **RunwayBlastPad**

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

812 specially prepared surface placed adjacent to the ends of runways to eliminate the erosive effect
813 of the high wind forces produced by airplanes at the beginning of their takeoff rolls [FAA AC
814 150/5300-13]

815 **4.75**
816 **RunwayCenterline**

817 continuous line along the painted centerline of a runway connecting the middle-points of the two
818 outermost thresholds [FAA AC 150/5300-13]

819 NOTE Centerline is composed of many centerline points (see RunwayControlPoint). It is used to
820 calculate grade and line-of-sight criteria.

821 **4.76**
822 **RunwayEnd**

823 end of the runway surface suitable for landing or takeoff runs of aircraft [NGS]

824 NOTE RunwayEnds are related to and describe the approach and departure procedure characteristics
825 of a runway threshold. RunwayEnd is the same as the runway threshold when the threshold is not
826 displaced.

827 **4.77**
828 **RunwayHelipadDesignSurface**

829 three-dimensional surface that is used in runway design [FAA AC 150/5300-13]

830 **4.78**
831 **RunwayIntersection**

832 area of intersection between two or more runways [RTCA DO-272]

833 **4.79**
834 **RunwayLabel**

835 bottom center position of the runway designation marking [NGS]

836 **4.80**
837 **RunwayLAHSO**

838 markings installed on a runway where an aircraft is to stop when the runway is normally used as
839 a taxiway or used for Land and Hold Short Operations (LAHSO) as identified in a letter of
840 agreement with the Air Traffic Control Tower (ATCT)

841 NOTE A runway should be considered as normally used for taxiing if there is no parallel taxiway and no
842 ATCT. Otherwise, seek input from ATCT [Order 7110.118].

843 **4.81**
844 **RunwaySegment**

845 section of the runway surface [FAA AC 150/5335-5, FAA AC 150/5320-12, FAA AC 150/5320-17,
846 AC 150/5320-6]

847 NOTE The runway surface can be defined by a set of non-overlapping RunwaySegment polygons.
848 RunwaySegments may overlap Runway and RunwayIntersection features. Use RunwaySegment to model
849 the physical runway pavement in terms of surface, material, strength and condition.

850 **4.82**
851 **SampleCollectionPoint**

852 physical location at which one or more environmental hazards field samples are collected [U.S.
853 CADD]

- 854 **4.83**
855 **SeaplaneLandingArea**
856 area specifically designated for take-offs and landings of seaplanes [U.S. CADD]
- 857 **4.84**
858 **SeaplaneRampCenterline**
859 centerline of ramps specifically designed to transit seaplanes from land to water and vice versa
860 [U.S. CADD]
- 861 **4.85**
862 **SeaplaneRampSite**
863 ramps specifically designed to transit seaplanes from land to water and vice versa [U.S. CADD]
- 864 **4.86**
865 **SecurityArea**
866 area of the airport in which security measures required by 49CFR1542.201 must be carried out
867 [49 CFR Part 1542]
- 868 **4.87**
869 **SecurityIdentificationDisplayArea**
870 portion of an airport, specified in the airport security program, in which security measures
871 required by regulation must be carried out [DHS]
872 NOTE This area includes the security area and may include other areas of the airport.
- 873 **4.88**
874 **SecurityPerimeterLine**
875 type of perimeter that ensures no unauthorized visitors can gain entry [U.S. CADD]
876 EXAMPLES Such as barbed wire, high fences, motion detectors and armed guards at gates.
- 877 **4.89**
878 **Shoreline**
879 boundary where land meets the edge of a large body of fresh or salt water [U.S. CADD]
880 NOTE The shoreline is the mean high water line between high and low tide.
- 881 **4.90**
882 **Shoulder**
883 area adjacent to the edge of paved runways, taxiways, or aprons providing a transition between
884 the pavement and the adjacent surface; support for aircraft running off the pavement; enhance
885 drainage; and blast protection [FAA AC 150/5300-13]
- 886 **4.91**
887 **Sidewalk**
888 paved or concrete pad used as a pedestrian walkway [U.S. CADD]
889 NOTE Usually is composed of one or more SideWalkSegments.
- 890 **4.92**
891 **Space**
892 space not elsewhere classified within a building

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

- 893 **4.93**
894 **State**
- 895 boundary line of the land and water under the right, power, or authority of the State government
896 [U.S. CADD]
- 897 **4.94**
898 **SterileArea**
- 899 portions of an airport defined in the airport security program that provide passengers access to
900 boarding aircraft and to which the access is generally controlled by TSA, an aircraft operator, or a
901 foreign air carrier [DHS]
- 902 **4.95**
903 **Stopway**
- 904 defined rectangular surface beyond the end of a runway prepared or suitable for use in lieu of
905 runway to support an airplane, without causing structural damage to the airplane, during an
906 aborted takeoff [FAA AC 150/5300-13]
- 907 **4.96**
908 **TankSite**
- 909 above or below grade receptacle or chamber for holding anything (for example, fuels, water, and
910 waste, and so on) on a temporary basis prior to transfer, use, or disposal [U.S. CADD]
- 911 NOTE Tanks are located on TankSites.
- 912 **4.97**
913 **TaxiwayHoldingPosition**
- 914 designated position at which taxiing aircraft and vehicles shall stop and hold position, unless
915 otherwise authorized by the aerodrome control tower [RTCA DO-272]
- 916 **4.98**
917 **TaxiwayIntersection**
- 918 junction of two or more taxiways [ICAO Annex 14 (Aerodromes)]
- 919 **4.99**
920 **TaxiwaySegment**
- 921 taxiway segment features are used to represent taxiways, apron taxiways, rapid exit taxiways,
922 taxiway intersections, and aircraft stand taxilane surfaces [FAA AC 150-5300-13]
- 923 **4.100**
924 **Tower**
- 925 existing structure that was created, by man, to facilitate an activity at an elevated level above the
926 ground [U.S. CADD]
- 927 **4.101**
928 **Tunnel**
- 929 area of a transportation passage, open at both ends, used to provide access through or under a
930 natural obstacle [U.S. CADD]
- 931 **4.102**
932 **UtilityLine**
- 933 utility feature that can be represented as a line

- 934 **4.103**
935 **UtilityPoint**
936 utility feature that can be represented as a point
- 937 **4.104**
938 **UtilityPolygon**
939 utility feature that can be represented as a polygon
- 940 **4.105**
941 **Walls**
942 wall within a floor
- 943 **4.106**
944 **Wetland**
945 transitional lands between terrestrial and aquatic systems where the water table is usually at or
946 near the surface or the land is covered by shallow water [U.S. CADD]
947 NOTE The soils are predominantly saturated with water and the plants and animals that live there are
948 specialized for this ecosystem.
- 949 **4.107**
950 **Zoning**
951 parcel of land zoned specifically for real estate and land management purposes; more specifically
952 for commercial, residential, or industrial use [U.S. CADD]
- 953 **5 Symbols, abbreviated terms, and notations**
954 Symbols and abbreviations that pertain to the Air part are listed here. Other symbols and
955 abbreviations that have more general application to transportation are listed in the Transportation
956 Base (Part 7).
957 AAAE – American Association of Airport Executives
958 AC – Advisory Circular
959 A/E/C – Architecture Engineering and Construction
960 AIA – American Institute of Architects
961 AICM – Aeronautical Information Conceptual Model
962 AIS – Aeronautical Information Services
963 AIXM – Aeronautical Information Exchange Model
964 ALP – Airport Layout Plan
965 ANSI – American National Standards Institute
966 AOA – Air Operations Area
967 ATC – Air Traffic Control
968 ATCT – Air Traffic Control Tower
969 BASH – Bird Aircraft Strike Hazard
970 CADD – Computer Automated Drafting & Design
971 DOD – U.S. Department of Defense
972 DOT – U.S. Department of Transportation

Information Technology – Geographic Information Framework Data Content Standard Part 7a: Air

- 973 eALP – electronic Airport Layout Plan
- 974 EMAS – Engineered Material Arresting System
- 975 EUROCAE – European Organization for Civil Aviation Equipment
- 976 FAA – Federal Aviation Administration
- 977 FAR – Federal Aviation Regulation
- 978 FATO – Final Approach and Take-Off Area
- 979 FGDC – Federal Geographic Data Committee
- 980 GIS – Geographic Information System
- 981 GML – Geographic Markup Language
- 982 ICAO – International Civil Aviation Organization
- 983 ISO – International Organization for Standards
- 984 LAHSO – Land and Hold Short Operation
- 985 MAT – Modeling Advisory Team
- 986 MOA – Military Operating Area
- 987 NAD – North American Datum
- 988 NAS – National Airspace System
- 989 NAVAID – Navigational Aid
- 990 NGA – National Geospatial-Intelligence Agency
- 991 NGS – National Geodetic Survey
- 992 NGVD – National Geodetic Vertical Datum
- 993 NOAA – National Oceanic and Atmospheric Administration
- 994 NSDI – National Spatial Data Infrastructure
- 995 NSRS – National Spatial Reference System
- 996 OIS – Obstruction Identification Surface
- 997 RTCA – Radio Technical Commission for Aeronautics
- 998 SDSFIE – Spatial Data Standards for Facilities Infrastructure and Environment
- 999 SF21 – Safe Flight 21
- 1000 SIDA – Secure Identification Area
- 1001 SSI – Sensitive Security Information
- 1002 TERPS – Terminal Instrument Procedures
- 1003 TLOF – Touchdown and Lift-Off Area
- 1004 U.S. CADD – U.S. CADD/GIS Technology Center
- 1005 USGS – U.S. Geological Survey

1006 **6 Requirements**

1007 An airport is a specialized type of transportation feature. Airport is an area of the Earth's surface
1008 that is designed for the movement of people, goods, and services primarily by aircraft. Depicting
1009 an airport using geospatial information requires many feature definitions; the Air MAT has
1010 identified 99 which are detailed in this section. These 99 feature classes are grouped into

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

1011 categories for modeling and ease of reading. The first categories include airfield, runway,
1012 taxiway, and other feature classes that are directly related to an airport. The next categories
1013 include features that may extend beyond and above an airport, such as navigational aids and
1014 airspace features. Finally, a variety of features that are not unique to but are required by airports
1015 are provided. These include cadastral, environmental, and structural features.

1016 Attribute definitions for each feature class have been provided. In many cases, attribute names
1017 have been adopted from existing standards, such as the SDSFIE. This was done to promote
1018 compatibility between this part and other existing standards and is a first major step towards
1019 harmonization of this part and other closely related standards. The short term result, until further
1020 harmonization efforts are completed, is attributes that follow different naming conventions. This
1021 inconsistency was recognized by the Air MAT and was determined to be a minor sacrifice in the
1022 interest of cross standard compatibility.

1023 The following are a few notes about some of the attributes that appear in the tables within this
1024 section:

1025 • Metadata attribute is equalivalent to SDSFIE's attribute known as Meta_ID inherited from
1026 the BaseTrans model. Attribute is equalivalent to SDSFIE's attribute known as user_flag.
1027 Feat_desc is equalivalent to SDSFIE's attribute known as narrative. The Air Mat however
1028 places an additional restriction on it that it be numeric.

1029 • All measures (that is to say, length, feature_width) should be real values with units
1030 expressed as U.S. Survey Feet.

1031 The overall Air model is given in Figure 1.

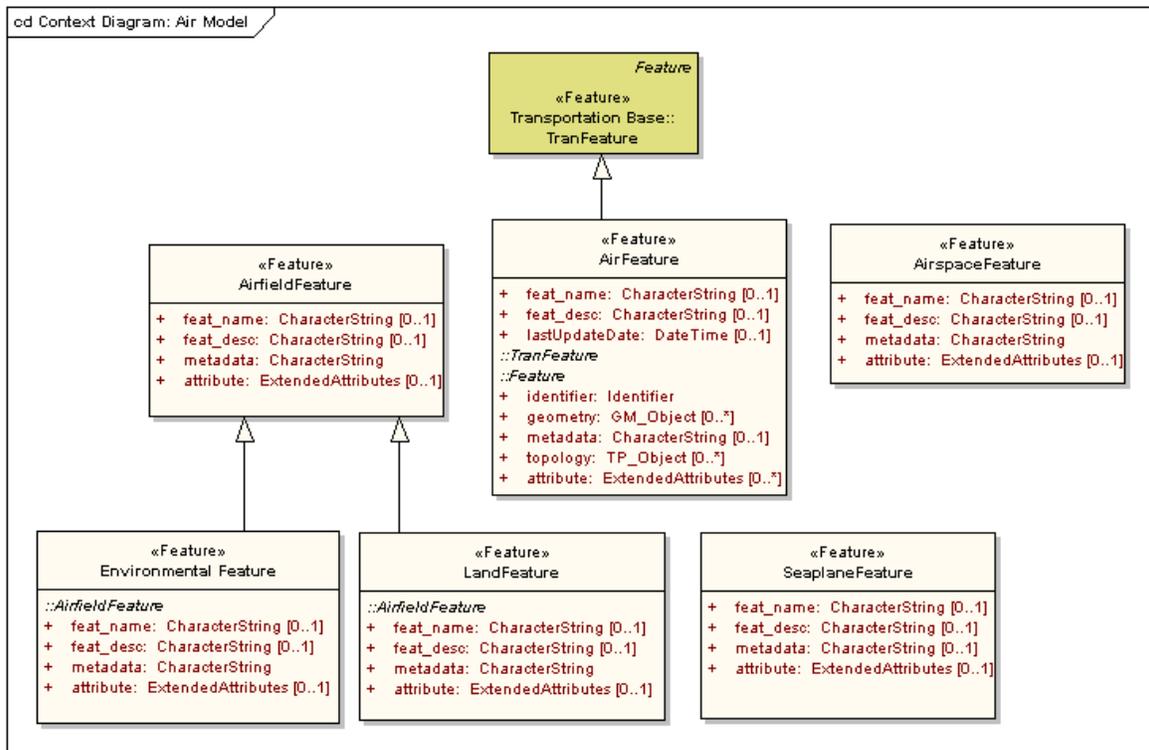
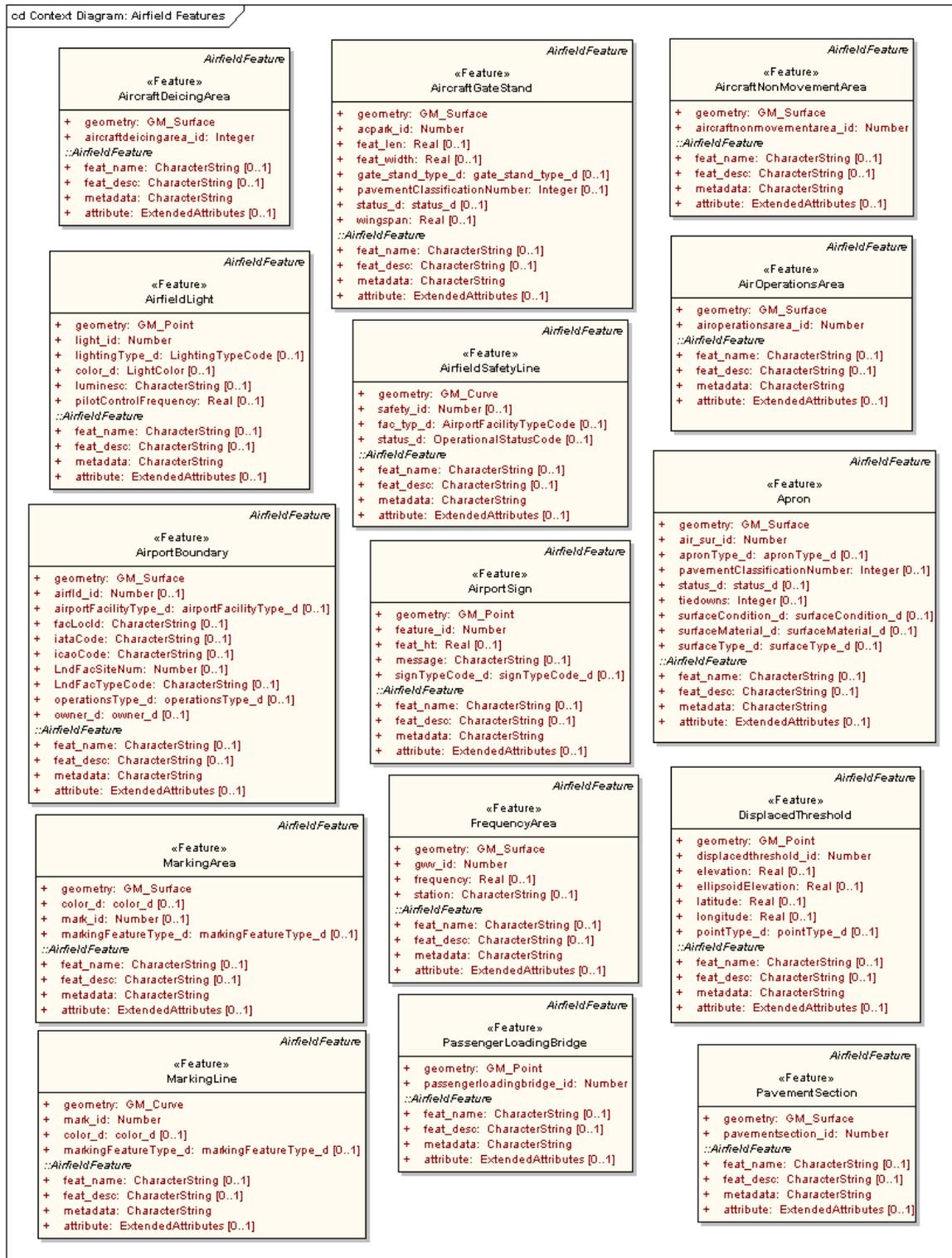


Figure 1 – Air model

1032
 1033

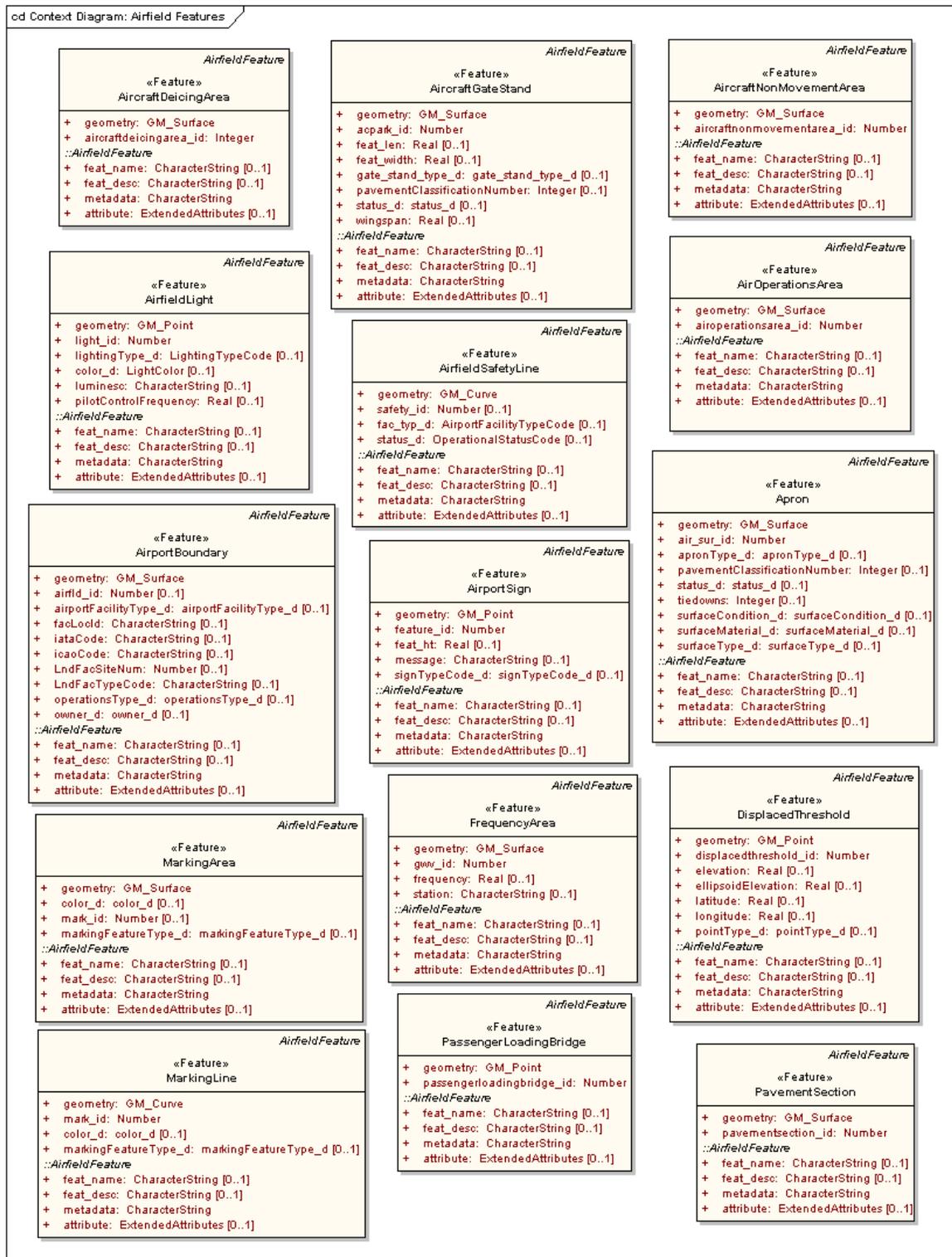
Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air



1037
1038

Figure 3 – Context diagram for Apron

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air



1039
1040
1041

Figure 4 – Context diagram for Marking feature

1042

Table 1 – Airfield feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
1	AircraftDeicingArea	An aircraft deicing facility is a facility where: (1) frost, ice, or snow is removed (deicing) from the aircraft in order to provide clean surfaces, and/or (2) clean surfaces of the aircraft receive protection (anti-icing) against the formation of frost (Source: AC 150/5300-13)	M		<<Feature>>	Lines 2-7
2	geometry	Geometry of the feature	M	1		GM_Surface
3	aircraftdeicingarea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
4	feat_name	Name of the feature	O	1	CharacterString	Unrestricted
5	feat_desc	A brief description of the area and any special characteristics [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
6	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
7	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
8	AircraftGateStand	Operational area of gate (parking) stand. If no gate stand area painting is available, a virtual parking stand area should be provided [RTCA DO-272]	M		<<Feature>>	Lines 9-20

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
9	geometry	Geometry of the feature	M	1		GM_Surface
10	acpark_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
11	feat_len	The overall length of the airfield surface [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
12	feat_width	The overall width of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
13	gate_stand_type_d	The type of aircraft gate/stand	O	1	CharacterString	gate_stand_type_d Enumeration
14	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150/5335-5]	O	1	Integer	Unrestricted
15	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	Status_d Enumeration
16	wingspan	The quantity representing the maximum wingspan which can be accommodated by the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
17	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
18	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
18	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
20	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
21	AircraftNonMovementArea	An area where aircraft cannot be seen by a control tower and therefore are restricted to move	O		<<Feature>>	Lines 22-27
22	geometry	Geometry of the feature	M	1		GM_Surface
23	aircraftnonmovementarea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
24	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
25	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
26	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
27	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
28	AirfieldLight	Any lighting located within or near an airport boundary the provides guidance for airborne and ground maneuvering of aircraft [FAR/AIM, AC 150/5340-24]	M		<<Feature>>	Lines 29-38

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
29	geometry	Geometry of the feature	M	1		GM_Point
30	light_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
31	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
32	color_d	The color of the airfield light [U.S. CADD Feature Table]	O	1	CharacterString	color_d Enumeration
33	luminesc	The luminescence of the airfield light [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
34	pilotControlFrequency	The radio frequency used by pilots to control various airport lighting systems	M	1	Real	Unrestricted
35	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
36	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
37	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
38	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
39	AirfieldSafetyLine	Location of the arresting gear cable across the runway [RTCA DO-272]	M		<<Feature>>	Lines 40-47

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
40	geometry	Geometry of the feature	M	1		GM_Curve
41	safety_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
42	fac_typ_d	The type of facility or feature related to airfield operations [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
43	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	Status_d Enumeration
44	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
45	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
46	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
47	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
48	AirOperationsArea	A portion of an airport, specified in the airport security program, in which security measures are carried out. This area include aircraft movement areas, aircraft parking areas, loading ramps, and safety areas and any adjacent areas (such as a general a [49 CFR Part 1542,	M		<<Feature>>	Lines 49-54

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		Airport Security]				
49	airoperationsarea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
50	geometry	Geometry of the feature	M	1		GM_Surface
51	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
52	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
53	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
54	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
55	AirportBoundary	A polygon, or a set of polygons, that encompasses all property owned or controlled by the airport for aviation purposes [FAA AC 150/5300-13, Appendix 7, Order 5190.6A, Section 5]	O		<<Feature>>	Lines 56-59
56	geometry	Geometry of the feature	M	1		GM_Surface
57	airfld_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
58	airportFacilityType_d	The type of airfield	O	1	CharacterString	airportFacilityType_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
59	faaLocID	The location identifier assigned to the feature by the FAA	O	1	CharacterString	Unrestricted
60	iataCode	The location identifier assigned to the feature by IATA	O	1	CharacterString	Unrestricted
61	icaoCode	The location identifier assigned to the feature by the International Civil Aviation Organization	O	1	CharacterString	Unrestricted
62	LndFacSiteNum	A unique identifying number assigned to all airports	O	1	Number	Unrestricted
63	LndFacTypeCode	Landing facility type	O	1	CharacterString	Unrestricted
64	operationsType_d	The type of operations permitted on the airfield	O	1	CharacterString	operationsType_d Enumeration
65	owner_d	The type of owner of the airfield	O	1	CharacterString	Owner_d Enumeration
66	feat_name	The name of the airfield [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
67	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
68	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
69	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
70	AirportSign	Signs at an airport other than surface painted signs [FAA AC 150/5340-18]	M		<<Feature>>	Lines 71-79

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
71	geometry	Geometry of the feature	M	1		GM_Point
72	feature_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
73	feat_ht	The overall height of the feature [U.S. CADD Feature Table]	O	1	Real	Unrestricted
74	message	The text message which appears on the sign	O	1	CharacterString	Unrestricted
75	signTypeCode_d	The type of sign	O	1	CharacterString	signTypeCode_d Enumeration
76	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
77	feat_desc	Any brief description of the improvement feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
78	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
79	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
80	Apron	A defined area on an airport or heliport, paved or unpaved, intended to accommodate aircraft for purposes of loading or unloading passengers, cargo, refueling, parking or maintenance [FAA]	M		<<Feature>>	Lines 81-93

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
81	geometry	Geometry of the feature	M	1		GM_Surface
82	air_sur_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
83	apronType_d	A classification of the typical use for the apron	O	1	CharacterString	apronType_d Enumeration
84	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
85	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
86	tiedowns	The approximate number of tiedowns in the surface [U.S. CADD Feature Table]	O	1	Integer	Unrestricted
87	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
88	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
89	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction Charts [NGS]	O	1	CharacterString	surfaceType_d Enumeration
90	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
91	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
92	metadata	Foreign Key. Used to link the record	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		to the applicable feature level metadata record(s)				
93	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
94	DisplacedThreshold	The beginning of that portion of the runway available for landing when it is located at a point other than the physical end of the runway [FAA AC 150/5300-13]	M		<<Feature>>	Lines 95-105
95	geometry	Geometry of the feature	M	1		GM_Point
96	displacedthreshold_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
97	elevation	Elevation of the point relative to the selected vertical datum [NGS]	O	1	Real	Unrestricted
98	ellipsoidElevation	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height [NGS]	O	1	Real	Unrestricted
99	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
100	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
101	pointType_d	Contains the allowable values of a point type used by the ControlPoint	O	1	CharacterString	pointType_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		feature. The point types may be supplementally provided as subtypes of ControlPoint for ease of use and clarification				
102	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
103	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
104	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
105	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
106	FrequencyArea	Area specifying the designated part of the surface movement area where a specific frequency is required by ATC or ground control [RTCA DO-272]	M		<<Feature>>	Lines 107-114
107	geometry	Geometry of the feature	M	1		GM_Surface
108	gww_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
109	frequency	Primary frequency used on frequency area (in MHZ) [RTCA DO-272]	O	1	Real	Unrestricted
110	Station	Service or Station assigned to primary frequency (for example, ATC Tower, Ground Control) [RTCA	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		DO-272]				
111	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
112	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
113	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
114	Attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
115	MarkingArea	An element of Marking whose geometry is a polygon [FAA AC 150/5340-1]	M		<<Feature>>	Lines 116-123
116	Geometry	Geometry of the feature	M	1		GM_Surface
117	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
118	mark_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
119	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
120	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
121	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
122	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
123	Attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
124	MarkingLine	An element of Marking whose geometry is a line [FAA AC 150/5340-1, RTCA/DO-272]	M		<<Feature>>	Lines 125-132
125	Geometry	Geometry of the feature	M	1		GM_Curve
126	mark_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
127	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
128	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
129	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
130	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
131	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
132	Attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		should not be used to store the subject item's data				
133	PassengerLoadingBridge	A bridge for loading/unloading access to airplanes for passengers and crew	M		<<Feature>>	Lines 134-139
134	Geometry	Geometry of the feature	M	1		GM_Surface
135	passengerloadingbridge_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
136	feat_name	Name, code or identifier used to identify the loading bridge	O	1	CharacterString	Unrestricted
137	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
138	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
139	Attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
140	PavementSection	A section of paved surface used for pavement condition assessment	M		<<Feature>>	Lines 141-146
141	Geometry	Geometry of the feature	M	1		GM_Surface
142	pavementrsection_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
143	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

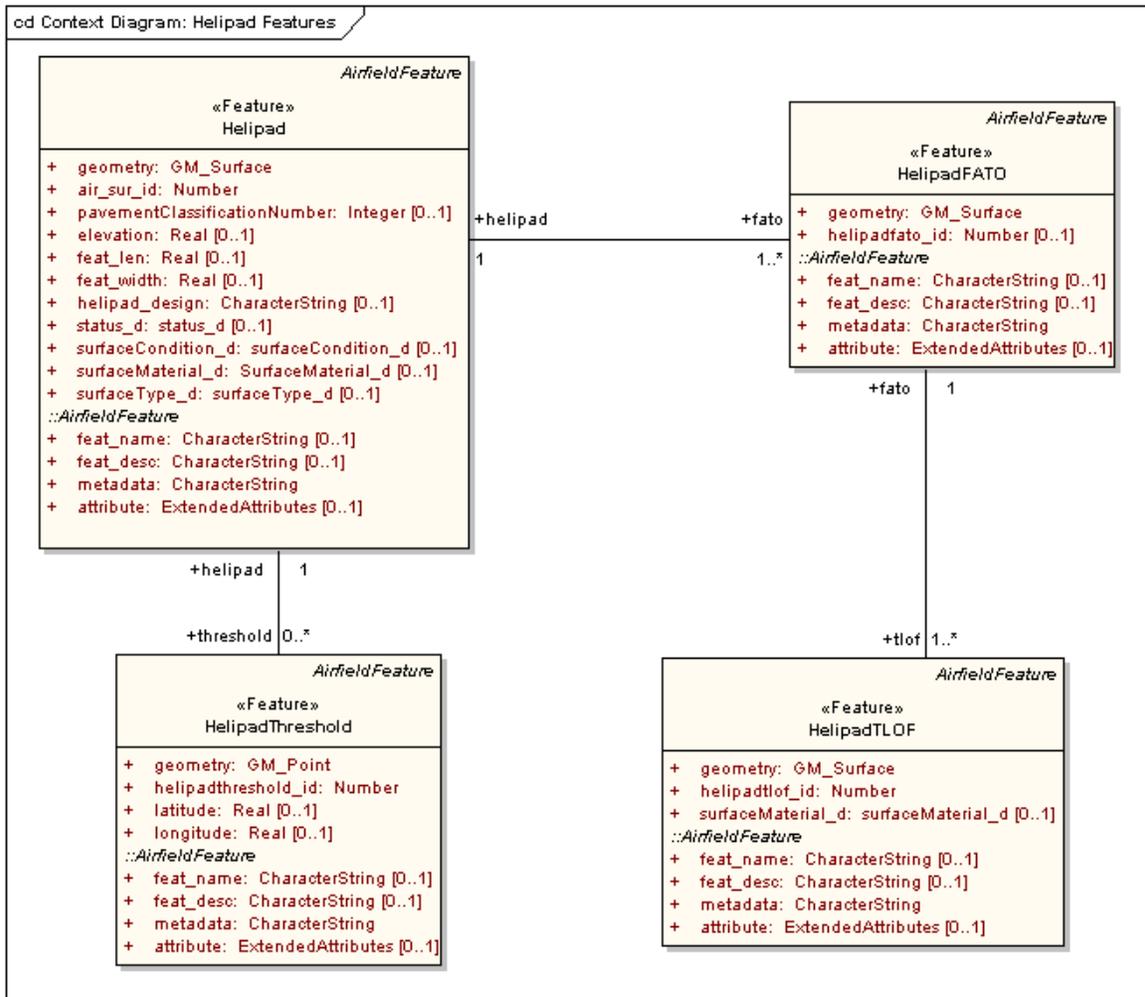
Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
144	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
145	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
146	Attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
147	RestrictedAccessBoundary	A restricted area boundary defines aircraft movement area that is strictly reserved for use by authorized personnel only. These boundaries, typically found on joint civilian/military use airports, are often painted red lines on taxiway or apron surfaces [NGS]	M		<<Feature>>	Lines 148-153
148	Geometry	Geometry of the feature	M	1		GM_Curve
149	access_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
150	feat_name	A common name for the restricted area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
151	feat_desc	A description of the restricted area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
152	Metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
153	Attribute	An operator defined work area. This attribute can be used by the	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				

1043

6.2 Helipad feature



1044

1045

1046

Figure 5 – Context diagram for Helipad feature

1047

Table 2 – Helipad feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
154	Helipad	A small designated area, usually with a prepared surface, on a heliport, airport, landing/takeoff area, apron/ramp, or movement area used for takeoff, landing, or parking of helicopters. Also known as the Touchdown and Lift-Off Area (TKLOF) [FAA AC 150/5390-2B]	M		<<Feature>>	Lines 155-171
155	Geometry	Geometry of the feature	M	1		GM_Surface
156	air_sur_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
157	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
158	Elevation	The elevation of helipad measured from mean sea level (MSL) [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
159	feat_len	The overall length of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
160	feat_width	The overall width of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
161	helipad_design	The name of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
162	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	Status_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
163	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
164	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
165	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction Charts [NGS]	O	1	CharacterString	surfaceType_d Enumeration
166	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
167	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
168	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
169	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
170	Role Name: Helipad			1		
171	Role Name: Fato			*		
172	HelipadFATO	A defined area over which the final phase of the approach to a hover, or a landing, is completed and from which the takeoff is initiated. This area was called "takeoff and landing area" in previous publications [AC 150/5390-2B]	M		<<Feature>>	Lines 173-180
173	geometry	Geometry of the feature	M	1		GM_Surface

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
174	helipadfato_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
175	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
176	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
177	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
178	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
179	Role Name: Fato			1		
180	Role Name: Threshold			*		
181	HelipadThreshold	Based on the predominant wind direction, the helipad threshold position is congruent with the approach/takeoff paths [RTCA DO-272]	M		<<Feature>>	Lines 182-190
182	geometry	Geometry of the feature	M	1		GM_Point
183	helipadthreshold_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
184	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted

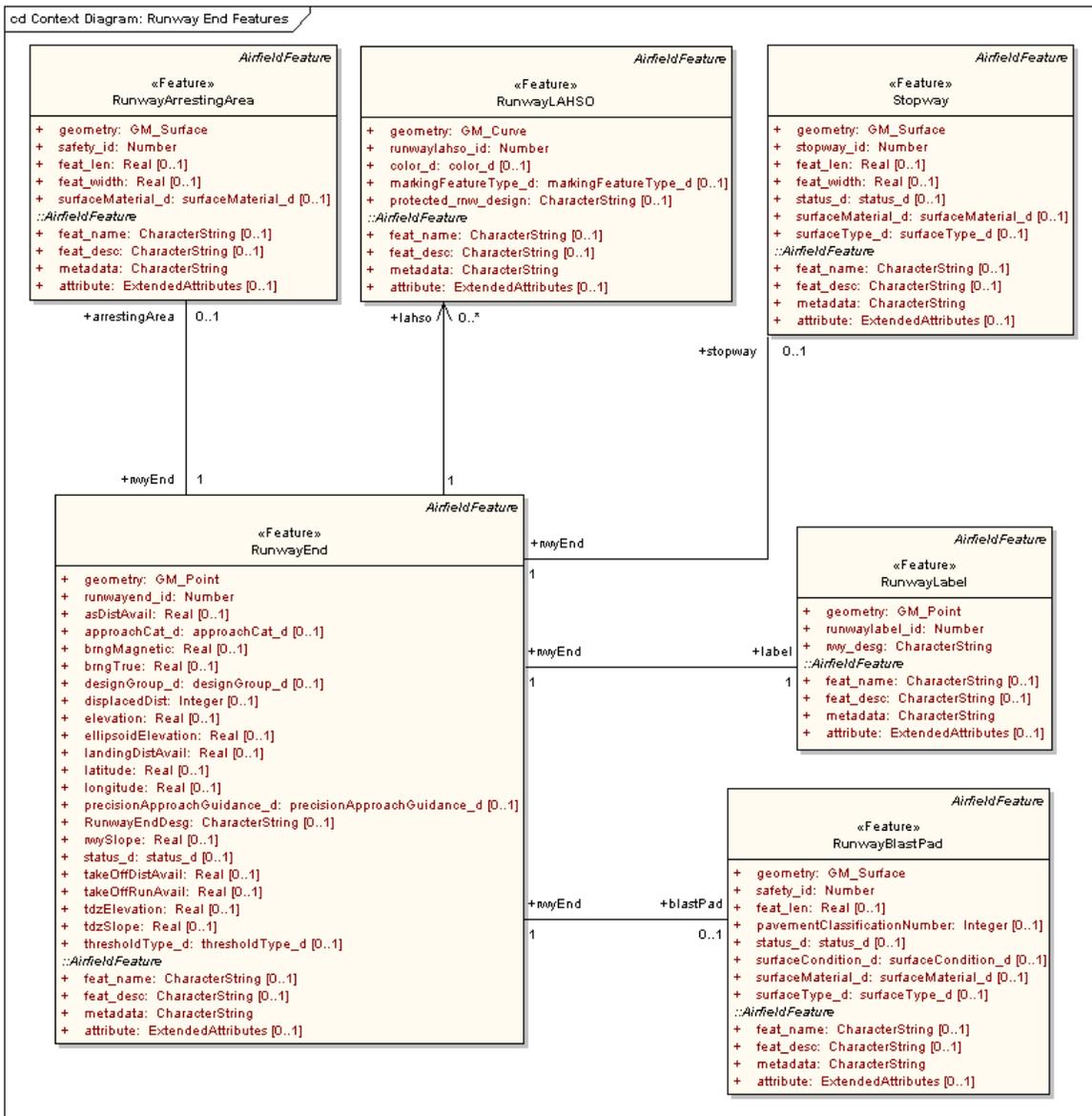
Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
185	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
186	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
187	feat_desc	A descriptive of the helipad and direction. See SF21 3.3.3.4.54	O	1	CharacterString	Unrestricted
188	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
189	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
190	Role Name: tlof			*		
191	HelipadTLOF	A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off. The TLOF is frequently called helipad or helideck. TLOFs shall be photogrammetrically determined [FAA AC 150/5390-2B]	M		<<Feature>>	Lines 192-198
192	geometry	Geometry of the feature	M	1		GM_Surface
193	helipadtlof_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
194	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
195	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
196	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
197	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
198	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1051



1052

1053

Figure 7 – Context diagram for Runway End feature

1058

Table 3 – Runway feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
199	Runway	A defined rectangular area on a land airport prepared for the landing and takeoff run of aircraft along its length. Runways are normally numbered in relation to their magnetic direction rounded off to the nearest 10 degrees: for example, Runway 10/28 , Runway 07/25 [FAA AC 150/5300-13]	O		<<Feature>>	Lines 200-212
200	geometry	Geometry of the feature	M	1		GM_Surface
201	air_sur_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
202	feat_len	The straight line distance between runway end points. This line does not account for surface undulations between points. Official runway lengths are normally computed from runway end coordinates and elevations [Source FAA No. 405]	O	1	Real	Unrestricted
203	feat_width	A perpendicular line to the surface centerline, extending to the edge of the runway pavement on both sides of the runway, through a runway end-point	O	1	Real	Unrestricted
204	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
205	runway_num	Designator of the runway based on the magnetic bearing and position in relation to parallel runways (for	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		example, 33R/15L) [FAA AC 150/5340-1]				
206	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
207	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
208	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
209	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction Charts [NGS]	O	1	CharacterString	surfaceType_d Enumeration
210	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
211	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
212	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
213	RunwayArrestingArea	Any FAA-approved high energy absorbing material of a specific strength that will reliably and predictably bring and aircraft to a stop without imposing loads that exceed the aircraft's design limits, cause major structural damage, or impose excessive [FAA AC 150/5220-22]	M		<<Feature>>	Lines 214-223

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
214	geometry	Geometry of the feature	M	1		GM_Surface
215	feat_len	The overall length of the feature [U.S. CADD Feature Table]	O	1	Real	Unrestricted
216	feat_width	The overall width of the feature	O	1	Real	Unrestricted
217	safety_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
218	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
219	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
220	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
221	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
222	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
223	Role Name: Arresting area			1		
224	RunwayBlastPad	A specially prepared surface placed adjacent to the ends of runways to eliminate the erosive affect of the high wind forces produced by airplanes at the beginning of their takeoff rolls [U.S. CADD Feature Table]	M		<<Feature>>	Lines 225-237

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
225	geometry	Geometry of the feature	M	1		GM_Surface
226	feat_len	The overall length of the feature [U.S. CADD Feature Table]	O	1	Real	Unrestricted
227	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
228	safety_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
229	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
230	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
231	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
232	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction Charts [NGS]	O	1	CharacterString	surfaceType_d Enumeration
233	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
234	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
235	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
236	attribute	An operator defined work area. This	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
237	Role Name: blastPad			1		
238	RunwayCenterline	Continuous line along the painted centerline of a runway connecting the middle-points of the two outermost thresholds. Centerline is composed of many centerline points (see RunwayControlPoint). It is used to calculate grade and line-of-sight criteria [FAA AC 150/5300-13]	M		<<Feature>>	Lines 239-248
239	geometry	Geometry of the feature	M	1		GM_Curve
240	runwaycenterline_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
241	isDerived	Indicates whether the centerline is derived or photodetermined	O	1	Boolean	Unrestricted
242	rwy_desg	Designator of the runway based on the magnetic bearing and position in relation to parallel runways (for example, 33R/15L) [FAA AC 150/5300-13]	O	1	CharacterString	Unrestricted
243	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
244	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
245	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
246	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
247	Role Name: Centerline			1		
248	Role Name: rwyEnd			1		
249	RunwayEnd	The end of the runway surface suitable for landing or takeoff runs of aircraft. RunwayEnds are related to and describe the approach and departure procedure characteristics of a runway threshold. RunwayEnd is the same as the runway threshold when the thr [NGS]	O		<<Feature>>	Lines 250-277
250	geometry	Geometry of the feature	M	1		GM_Point
251	approachCat_d	A grouping of aircraft based on 1.3 times their stall speed in the landing configuration at the certificated maximum flap setting and maximum landing weights at standard atmospheric conditions [FAA AC 150/5300-13]	O	1	CharacterString	approachCat_d Enumeration
252	asDistAvail	ASDA: The runway plus stopway length declared available and suitable for the acceleration and deceleration of an airplane aborting a takeoff [FAA AC 150/5300-13]	O	1	Real	Unrestricted
253	brngMagnetic	Magnetic runway bearing corresponding to threshold location valid at the day of data generation [RTCA DO-272]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
254	brngTrue	True bearing corresponding to the landing direction [ICAO Annex 14]	O	1	Real	Unrestricted
255	designGroup_d	A grouping of airplanes based on wingspan [FAA AC 150/5300-13]	O	1	CharacterString	designGroup_d Enumeration
256	displacedDist	The distance from the runway end to the landing threshold. When the thresholdType is normal, displacedDist = 0	O	1	Integer	Unrestricted
257	elevation	Elevation of the point relative to the selected vertical datum [NGS]	O	1	Real	Unrestricted
258	ellipsoidElevation	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height [NGS]	O	1	Real	Unrestricted
259	landingDistAvail	LDA: The runway length declared available and suitable for a landing airplane [FAA AC 150/5300-13]	O	1	Real	Unrestricted
260	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
261	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
262	precisionApproachGuidance_d		O	1	CharacterString	precisionApproachGuidance_d Enumeration
263	runwayend_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
264	RunwayEndDesg	The designator for the runway end (that is to say, 32L)	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
265	rwySlope	Runway slope corresponding to landing direction [RTCA DO-272]	O	1	Real	Unrestricted
266	status_d	The predominant status of the airfield facility surface site [U.S. CADD Feature Table]	O	1	CharacterString	status_d Enumeration
267	takeOffDistAvail	TODA: The TORA plus the length of any remaining runway clearway beyond the far end of the TORA [FAA AC 150/5300-13]	O	1	Real	Unrestricted
268	takeOffRunAvail	TORA: The runway length declared available and suitable for the ground run of an airplane taking off [FAA AC 150/5300-13]	O	1	Real	Unrestricted
269	tdzElevation	The highest elevation in the Touchdown Zone. The Touchdown Zone is the first 3,000 feet of the runway beginning at the threshold [FAA No. 405]	O	1	Real	Unrestricted
270	tdzSlope	The longitudinal slope of the first 3000 feet of the runway beginning at the threshold [FAA No. 405]	O	1	Real	Unrestricted
271	thresholdType_d	An description of the landing threshold: either normal or displaced	O	1	CharacterString	thresholdType_d Enumeration
272	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
273	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
274	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
275	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
276	Role Name: rwyEnd			2		
277	Role Name: designSurface			*		
278	RunwayHelipadDesignSurface	A three-dimensional surface that is used in runway design [FAA AC 150/5300-13]	M		<<Feature>>	Lines 279-294
279	geometry	Geometry of the feature	M	1		GM_Surface
280	designSurfaceType_d	A description of the design surface	O	1	CharacterString	designSurfaceType_d Enumeration
281	determination	A formal declaration of the runway safety area condition with respect to standards and any requirement improvements [FAA Order 5200.8]	O	1	CharacterString	Unrestricted
282	determinationDate	The date the RSA determination was approved [FAA Order 5200.8]	O	1	Date	Unrestricted
283	grad_lo_hi	The low to high gradient within the airspace [U.S. CADD Feature Table]	O	1	Real	Unrestricted
284	safety_reg	An identifier for the safety regulations in effect within the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
285	spc_zon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
286	zone_use	A description of the use of the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
287	zone_inner_width	The width of the narrow end of a	M	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		trapezoidal shaped DesignSurface feature. This is normally the end that is closest to the landing surface [FAA AC 150/5300-13]				
288	zone_length	The length of a trapezoidal shaped DesignSurface feature	O	1	Real	Unrestricted
289	zone_outer_width	The width of the wide end of a trapezoidal shaped DesignSurface feature. This is normally the end that is furthest from the landing surface	O	1	Real	Unrestricted
290	zone_name	A commonly used name for the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
291	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
292	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
293	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
294	Role Name: intersection			*		
295	RunwayIntersection	The area of intersection between two or more runways [RTCA DO-272]	M		<<Feature>>	Lines 296-303
296	geometry	Geometry of the feature	M	1		GM_Surface
297	runwayintersection_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
298	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
299	rnw1_desgn	Designator of the 1st intersecting runway based on the magnetic bearing and position in relation to parallel runways (for example, 33R/15L) [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
300	rnw2_desgn	Designator of the 2nd intersecting runway based on the magnetic bearing and position in relation to runways (for example, 33R/15L) [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
301	rnw3_desgn	Designator of the 3rd intersecting runway based on the magnetic bearing and position in relation to runways (for example, 33R/15L) [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
302	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
303	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
304	RunwayLabel	The bottom center position of the runway designation marking [NGS]	O		<<Feature>>	Lines 305-312
305	geometry	Geometry of the feature	M	1		GM_Point

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
306	runwaylabel_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
307	rwy_desg	The designator of the associated runway	O	1	CharacterString	Unrestricted
308	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
309	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
310	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
311	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
312	Role Name: Label			1		
313	RunwayLAHSO	Markings installed on a runway where an aircraft is to stop when the runway is normally used as a taxiway or used for Land and Hold Short Operations (LAHSO) as identified in a letter of agreement with the Air Traffic Control Tower (ATCT). A runway should [Order 7110.118]	M		<<Feature>>	Lines 314-323
314	geometry	Geometry of the feature	M	1		GM_Curve
315	runwaylahso_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
316	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
317	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
318	protected_rnw_desgn	Unique runway identifier for the airport of the runway, if any, being protected by the LAHSO (when the LAHSO precedes a runway intersection)	O	1	CharacterString	Unrestricted
319	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
320	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
321	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
322	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
323	Role Name: Lahso			*		
324	RunwaySegment	A section of the runway surface. The runway surface can be defined by a set of non-overlapping RunwaySegment polygons. RunwaySegments may overlap Runway and Runway/Intersection features. Use RunwaySegment to model the physical runway pavement in terms [FAA AC 150/5320-12, AC 150/5335-5, AC 1520-17, AC 150/5320-6]	M		<<Feature>>	Lines 325-337

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
325	geometry	Geometry of the feature	M	1		GM_Surface
326	runwaysegment_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
327	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
328	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
329	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
330	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
331	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction Charts [NGS]	O	1	CharacterString	surfaceType_d Enumeration
332	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
333	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
334	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
335	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		used to store the subject item's data				
336	Role Name: composedOf			*		
337	Role Name: runwaysegment			*		
338	Shoulder	An area adjacent to the edge of paved runways, taxiways, or aprons providing a transition between the pavement and the adjacent surface; support for aircraft running off the pavement; enhance drainage; and blast protection [FAA AC 150/5300-13]	M		<<Feature>>	Lines 339-349
339	geometry	Geometry of the feature	M	1		GM_Surface
340	air_sur_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
341	feat_len	The overall length of the airfield surface [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
342	feat_width	The overall width of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
343	restricted	An indicator as to whether access to the feature is restricted	O	1	Boolean	Unrestricted
344	shl_type_d	Code for whether this is a runway shoulder or taxiway shoulder [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
345	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
346	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

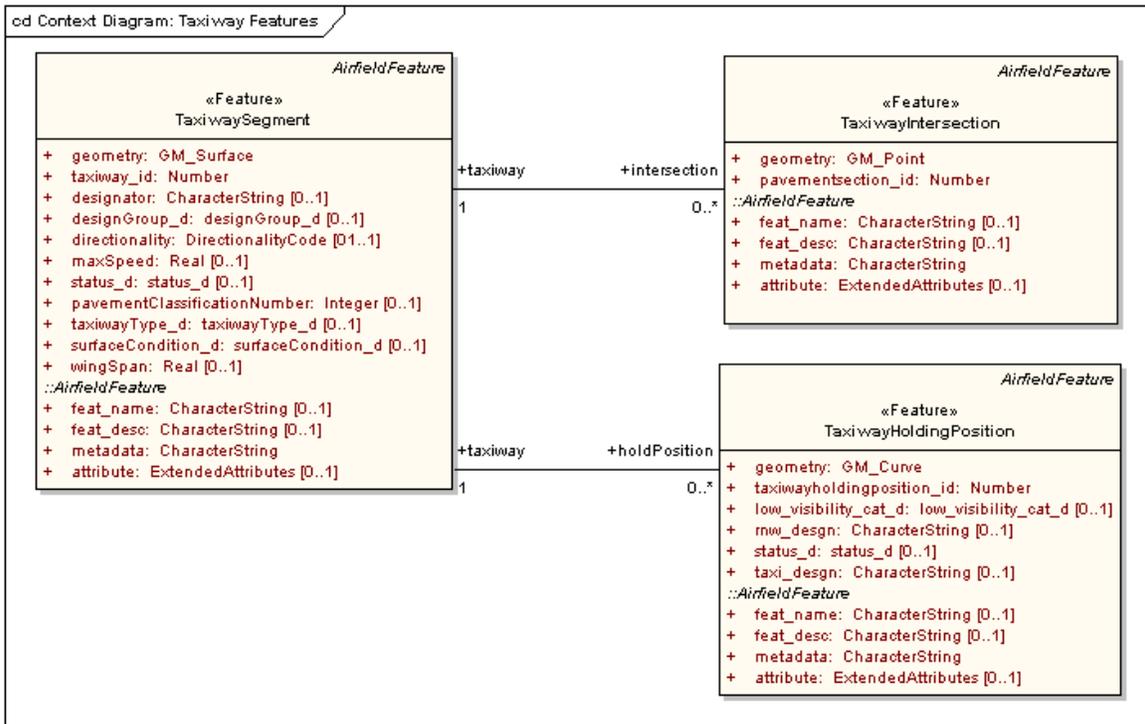
Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
347	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
348	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
349	Role Name: shoulder			*		
350	Stopway	A defined rectangular surface beyond the end of a runway prepared or suitable for use in lieu of runway to support an airplane, without causing structural damage to the airplane, during aborted takeoff [Source AC 150-5300-13]	M		<<Feature>>	Lines 351-362
351	geometry	Geometry of the feature	M	1		GM_Surface
352	stopway_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
353	feat_len	The length of the designated stopway from the end of the runway	O	1	Real	Unrestricted
354	feat_width	The overall width of the feature	O	1	Real	Unrestricted
355	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
356	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration
357	surfaceType_d	A classification of airfield pavement surfaces for Airport Obstruction	O	1	CharacterString	surfaceType_d

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		Charts [NGS]				Enumeration
358	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
359	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
360	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
361	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
362	Role Name: Stopway			1		

1059

6.4 Taxiway feature



1060

1061

1062

Figure 9 – Context diagram for Taxiway feature

1063

Table 4 –Taxiway feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
363	TaxiwayHoldingPosition	A designated position at which taxiing aircraft and vehicles shall stop and hold position, unless otherwise authorized by the aerodrome control tower [RTCA DO-272]	O		<<Feature>>	Lines 364-374
364	geometry	Geometry of the feature	M	1		GM_Curve
365	taxiwayholdingposition_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
366	low_visibility_cat_d	The low visibility category	O	1	CharacterString	low_visibility_cat_d Enumeration
367	rnw_desgn	The designator for the approaching runway [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
368	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	Status_d Enumeration
369	taxi_desgn	The designator for the taxiway [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
370	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
371	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
372	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
373	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
374	Role Name: holdPosition			*		
375	TaxiwayIntersection	A junction of two or more taxiways [ICAO Annex 14 (Aerodromes), Chapter 1, page 5]	M		<<Feature>>	Lines 376-382
376	geometry	Geometry of the feature	M	1		GM_Point
377	pavementsection_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
378	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
379	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
380	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
381	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
382	Role Name: intersection			*		
383	TaxiwaySegment	The taxiway segment features are used to represents taxiway, apron taxiway, rapid exit taxiway, taxiway intersection, and aircraft stands tazilane surface [FAA AC 150/5300-	M		<<Feature>>	Lines 384-403

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

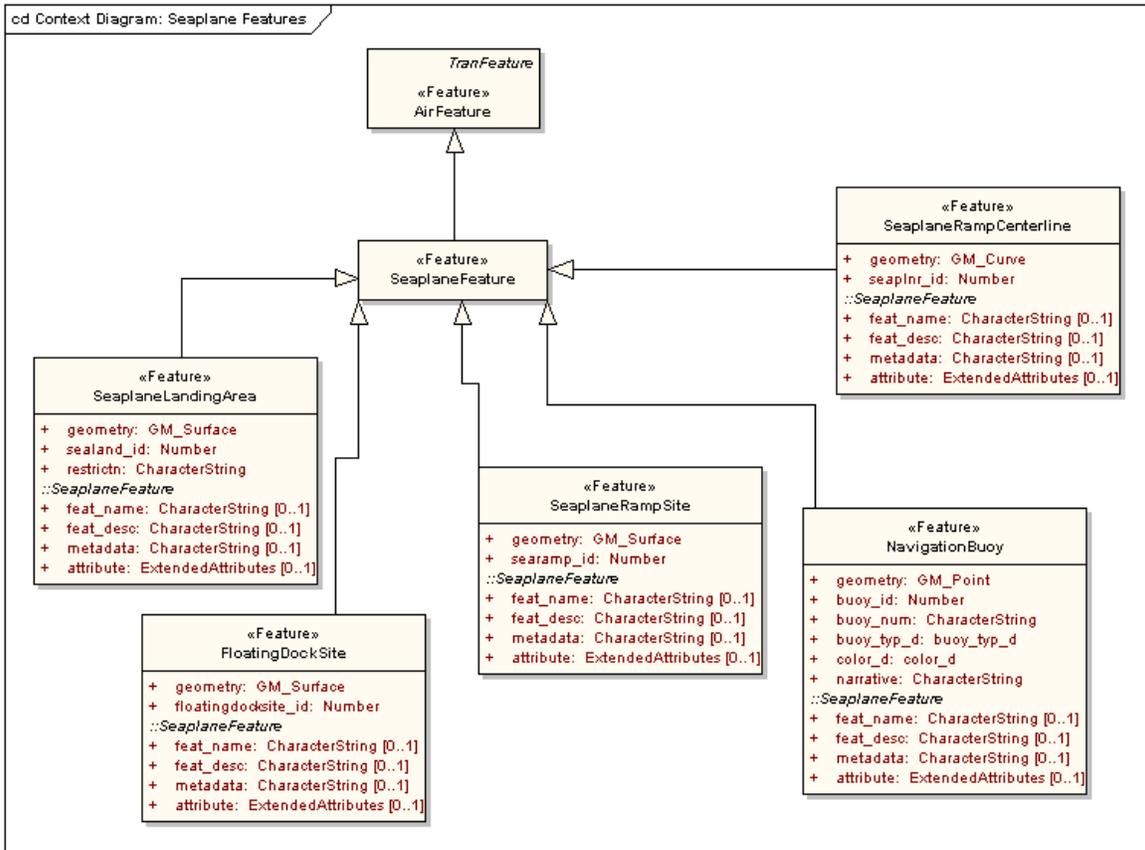
Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		13]				
384	geometry	Geometry of the feature	M	1		GM_Surface
385	taxiway_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
386	designator		O	1	CharacterString	
387	designGroup_d	A grouping of airplanes based on wingspan [FAA AC 150/5300-13]	O	1	CharacterString	designGroup_d Enumeration
388	directionality_d	An indicator as to whether operations can be conducted in one or two directions	O	1	CharacterString	directionality_d Enumeration
389	feat_len	The overall length of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
390	feat_width	The overall width of the airfield surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
391	maxSpeed	The maximum speed permitted	O	1	Real	Unrestricted
392	pavementClassificationNumber	A number which expresses the relative load carrying capacity of a pavement in terms of a standard single wheel load [FAA AC 150 5335-5]	O	1	Integer	Unrestricted
393	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration
394	surfaceCondition_d	A description of the serviceability of the pavement [NFDC]	O	1	CharacterString	surfaceCondition_d Enumeration
395	surfaceMaterial_d	A code indicating the composition of the related surface [NFDC]	O	1	CharacterString	surfaceMaterial_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
396	taxi_desgn	Taxiway segment name. The name should be identical to the corresponding taxiway name. Multiple taxiway segments can have the same name. If two or more taxiways intersect the taxiway segment intersection will be names after the predominant taxiway. If two taxiways on the same level intersect the segment can be named arbitrary after one of the taxiways	O	1	CharacterString	Unrestricted
397	taxiwayType_d	The type of taxiway	O	1	CharacterString	taxiwayType_d Enumeration
398	wingspan	The quantity representing the maximum wingspan which can be accommodated by the airfield d surface [U.S. CADD Feature Table]	O	1	Real	Unrestricted
399	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
400	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
401	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
402	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
403	Role Name: composedOf			*		

1064

6.5 Seaplane feature



1065

1066

Figure 10 –Context diagram for Seaplane feature

1067

Table 5 – Seaplane feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
404	FloatingDockSite	A floating facility which can serve as a mooring place for vessels or as a floating dry dock [U.S. CADD]	M		<<Feature>>	Lines 405-410
405	geometry	Geometry of the feature	M	1		GM_Surface
406	floatingdocksite_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
407	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
408	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
409	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
410	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
411	NavigationBuoy	A floating marker which is moored to the bottom at a specific known location, which is used as an aid to navigation or for other special purpose [U.S. CADD]	M		<<Feature>>	Lines 412-421
412	geometry	Geometry of the feature	M	1		GM_Point
413	buoy_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
414	buoy_num	The official number of the buoy [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
415	buoy_typ_d	Discriminator - The type of the buoy [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
416	color_d	The color of the buoy [U.S. CADD Feature Table]	O	1	CharacterString	color_d Enumeration
417	feat_desc	A description or other unique information concerning the buoy limited to 240 characters [U.S. CADD Feature Table also known as "narrative"]	O	1	CharacterString	Unrestricted
418	feat_name	Any commonly used name associated with the buoy [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
419	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
420	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
412	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
422	SeaplaneLandingArea	An area specifically designated for take-offs and landings of sea planes [U.S. CADD]	M		<<Feature>>	Lines 423-429
423	geometry	Geometry of the feature	M	1		GM_Surface
424	sealand_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

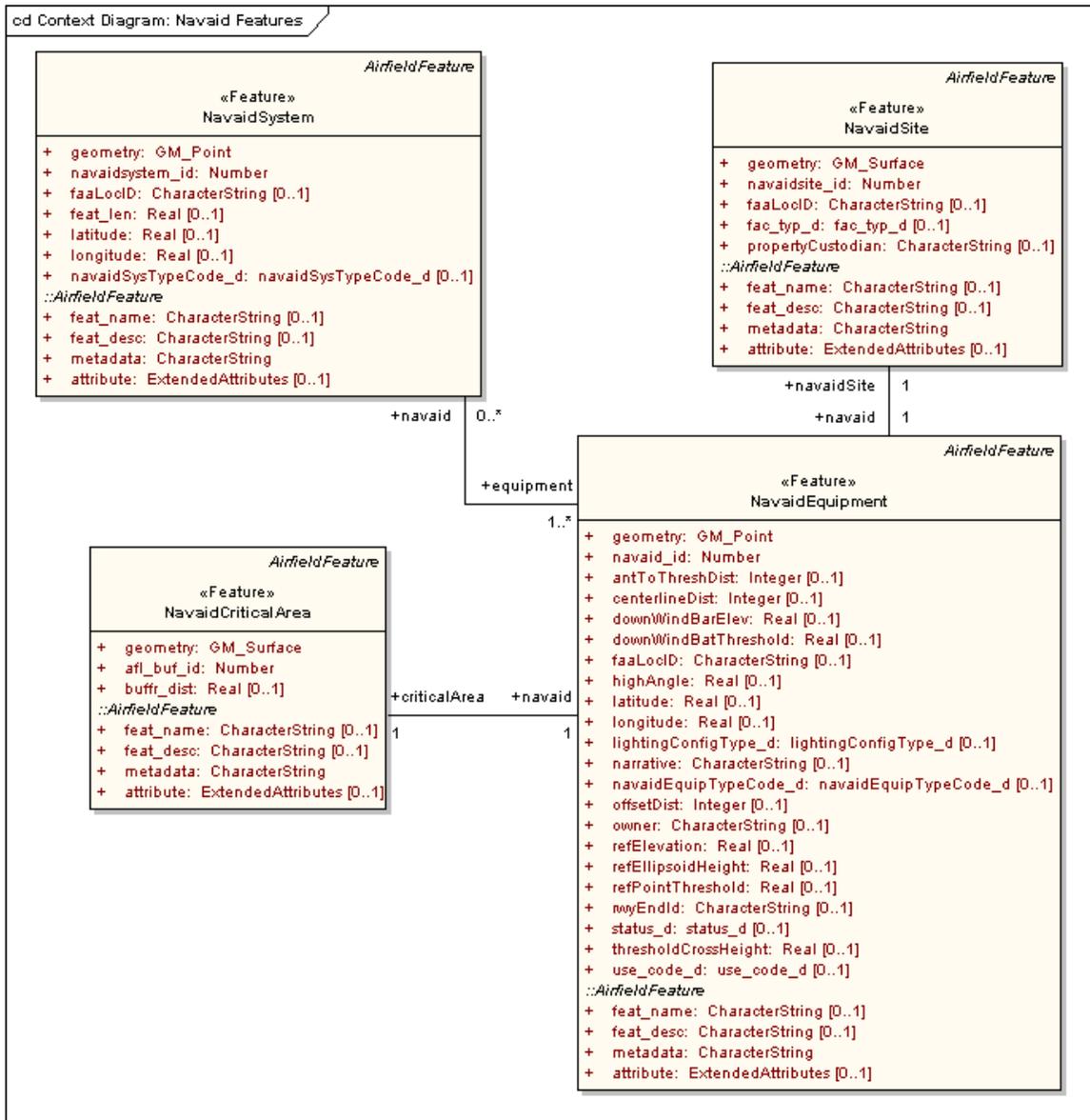
Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
425	restrictn	Any restrictions or cautions associated with the sea plane landing area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
426	feat_name	Any commonly used name associated with the sea plane landing area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
427	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
428	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
429	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
430	SeaplaneRampCenterline	The centerline of ramps specifically designed to transit seaplanes from land to water and vice versa [U.S. CADD]	M		<<Feature>>	Lines 431-436
431	geometry	Geometry of the feature	M	1		GM_Curve
432	seaplnr_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
433	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
434	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
435	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
436	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
437	SeaplaneRampSite	Ramps specifically designed to transit seaplanes from land to water and vice versa [U.S. CADD]	M		<<Feature>>	Lines 438-443
438	geometry	Geometry of the feature	M	1		GM_Surface
439	seaplnr_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
440	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
441	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
442	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
443	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1068 **6.6 Navigational Aids feature**



1069

1070

Figure 11 – Context diagram for Navigational Aids feature

1071

Table 6 – Navigational Aids data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
444	NAVAIDCriticalArea	A zone encompassing a specific ground area in the vicinity of a radiating antenna array which must be protected from parking and unlimited movement of surface air traffic [FAA Order 6750.16C]	M		<<Feature>>	Lines 445-454
445	geometry	Geometry of the feature	M	1		GM_Surface
446	afl_buf_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
447	bufrr_dist	The linear distance of the limit of the buffer for the airfield [U.S. CADD Feature Table]	O	1	Real	Unrestricted
448	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
449	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
450	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
451	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
452	Role Name: criticalArea			1		
453	Role Name: navaid			1		

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
454	Role Name: equipment			*		
455	NAVAIDEquipment	Any ground-based visual or electronic device that provides point to point guidance information or position to aircraft in flight. The location is specified by FAA No. 405 [FAA No. 405]	M		<<Feature>>	Lines 456-480
456	geometry	Geometry of the feature	M	1		GM_Point
457	navaid_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
458	antToThreshDist	The distance in feet that the antenna is from the runway threshold	O	1	Integer	Unrestricted
459	centerlineDist	Navaid along centerline distances (distance between the navaid perpendicular point (PP) and the runway approach or stop-end, de	O	1	Integer	Unrestricted
460	downWindBarElev		O	1	Real	Unrestricted
461	downWindBarThreshold		O	1	Real	Unrestricted
462	faaLocID	ID of the associated Facility. Note that the Facility ID for NAVAIDS associated with an ILS/MLS references the associated ILS/MLS system identifier [NGS]	O	1	CharacterString	Unrestricted
463	highAngle	Maximum approach light vertical angle [FAA AAS-100]	O	1	Real	Unrestricted
464	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
465	longitude	Longitude in decimal degrees with	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		negative numbers used for Western Hemisphere				
466	lightingConfigType	The configuration type of visual navigational aid systems (use only when NavaidEquipTypeCode_d is set to "Visual")	O	1	CharacterString	lightingConfigType Enumeration
467	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
468	navaidEquipTypeCode_d	Specifies the type of NAVAID [NGS]	O	1	CharacterString	navaidEquipTypeCode_d Enumeration
469	offsetDist	The distance in feet that the feature is offset from the runway centerline	O	1	Integer	Unrestricted
470	owner	The owner of the facility	O	1	CharacterString	Unrestricted
471	refElevation	The Base Elevation for most NAVAIDS. For ILS DME the elevation is the center of the antenna cover. For MLSAZ, MLSEL and End Fire Type Glide Slope Antennas the elevation is the phase center of the reference point [NGS]	O	1	Real	Unrestricted
472	refEllipsoidHeight	The Base Ellipsoid Height for most NAVAIDS. For ILS DME the elevation is the center of the antenna cover. For MLSAZ, MLSEL and End Fire Type Glide Slope Antennas the elevation is the phase center of the reference point [NGS]	O	1	Real	Unrestricted
473	refPointThreshold	Distance from the VGSI runway reference point to the threshold [FAA AAS-100]	O	1	Real	Unrestricted
474	rwyEndID	The runway end associated with the NAVAID equipment (if any). This is the same as the runway	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		identification number painted on the runway at the time of the survey				
475	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	Status_d Enumeration
476	thresholdCrossHeight		O	1	Real	Unrestricted
477	use_code_d	The code that represents the airspace structure in which the aeronautical-navigational-aid is utilized [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
478	feat_name	Name of the feature	O	1	CharacterString	Unrestricted
479	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
480	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
481	NAVAIDSite	The parcel, lease, or right-of-way boundary for a navaid facility that is located off airport property	M		<<Feature>>	Lines 482-491
482	geometry	Geometry of the feature	M	1		GM_Surface
483	navaidsite_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
484	faaLocID	The location identifier assigned to the feature by the FAA	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
485	fac_typ_d	The type of facility or feature related to airfield operations [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
486	PropertyCustodian	The regional property management office responsible for ownership of the site	O	1	CharacterString	Unrestricted
487	feat_desc	A brief description of the facility and any special characteristics [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
488	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
489	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
490	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
491	Role Name: navaidSite			1		
492	NAVAIDSystem	A reference point to a grouping of NAVAIDS that together perform a common function	M		<<Feature>>	Lines 493-504
493	geometry	Geometry of the feature	M	1		GM_Point
494	navaidssystem_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
495	faaLocID	The location identifier assigned to the feature by the FAA	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
496	feat_len	The overall length of the airfield surface [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
497	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
498	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
499	navaidSysTypeCode_d	The type of NAVAID system	O	1	CharacterString	navaidSysTypeCode_d Enumeration
500	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
501	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
502	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
503	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
504	Role Name: navaid			*		

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

1076 The following model defines some airspace features which are relevant to an airport. This is by no means an extensive list of the features relevant
 1077 to airspace design, management or to the navigation of aircraft.

1078

1079

Table 7 – Airspace feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
505	ObstructionArea	Areas penetrating the plane of a specified or supplemental obstruction identification surface (OIS). The type of obstructing area is determined by the predominantly obstructing element in the grouped area. Penetrating groups of trees, ground, buildings, urban areas, mobile cranes, and agricultural area are the most common types of area limits found within the surfaces of a FAR-77 survey [NGS]	M		<<Feature>>	Lines 506-522
506	geometry	Geometry of the feature	M	1		GM_Surface
507	air_obs_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
508	dispostn_d	The disposition of the airspace obstruction [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
509	faa_d	A Boolean indicating whether the obstruction has received FAA coordination or review [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
510	feat_ht	The overall height of the obstruction from the surface of the earth [U.S. CADD Feature Table]	O	1	Real	Unrestricted
511	feat_len	The overall length of the obstruction [U.S. CADD Feature Table]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
512	feat_width	The overall width of the obstruction [U.S. CADD Feature Table]	O	1	Real	Unrestricted
513	frangibl_d	A Boolean indicating whether the obstruction is easily broken [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
514	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Feature Table also known as "narrative"]	O	1	CharacterString	Unrestricted
515	obs_number	An obstruction number, as shown on a map, which is assigned to the wavier, deviation, and so on [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
516	obs_typ_d	Description of Obstruction Area type	O	1	CharacterString	obs_typ_d Enumeration
517	oisSurfaceCondition_d	The Obstruction Identification Surface that Obstructing Area represents	O	1	CharacterString	oisSurfaceCondition_d Enumeration
518	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
519	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
520	narrative		O	1	CharacterString	
521	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
522	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/Condition	Maximum Occurrence	Data Type	Domain
		subject item's data				
523	LandmarkSegment	Geographic features located in the vicinity of an airport that aid geographic orientation. The features may or may not have obstruction value. These may include objects such as roads, railroads, fences, utility lines, shorelines, levees, quarries and nearby airport, and so on [NGS]	O		<<Feature>>	Lines 524-530
524	geometry	Geometry of the feature	M	1		GM_Surface
525	landmarksegment_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
526	landmarkType_d	Type of landmark feature	O	1	CharacterString	landmarkType_d Enumeration
527	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
528	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
529	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
530	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
531	Obstacle	All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an	O		<<Feature>>	Lines 532-554

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		area intended for the surface movement of aircraft of that represent a defined Obstruction Identification Surface [NGS]				
532	geometry	Geometry of the feature	M	1		GM_Point
533	obstacle_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
534	aboveGroundLevel	The vertical distance from the ground to the top of the obstacle [NGS]	O	1	Real	Unrestricted
535	elevation	Elevation of the point relative to the selected vertical datum	O	1	Real	Unrestricted
536	ellipsoidElevation	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called the geodetic height	O	1	Real	Unrestricted
537	FromDTHLDDist	Distance measured along runway centerline or centerline extended from a Displaced Threshold to point abeam the obstacle. A negative distance indicated that the obstacle is on the touchdown side of the runway approach end. This data is not provided for HCT surveys	O	1	Integer	Unrestricted
538	FromRwyCenterlineDist	Shortest distance from the runway centerline or centerline extended to the obstacle. "L" (LEFT) or "R" (RIGHT) is relative to an observer facing forward in a landing aircraft. This data is not provided for HCT surveys	O	1	Integer	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
539	FromRwyEndDist	Distance measured along runway centerline or centerline extended from the physical end to point abeam the obstacle. A negative indicated that the obstacle is on the touchdown side of the runway approach end. This data is not provided for the HCT surveys	O	1	Integer	Unrestricted
540	groupCode	A text code indicating that the obstacle consists of a group of obstacles of the same type. For example, a group of trees, a group of buildings, a group of antennas, and so on [AIXM]	O	1	CharacterString	Unrestricted
541	heightAboveAirport	Height above airport the official airport elevation point [NGS]	O	1	Integer	Unrestricted
542	heightAboveRunway	Height above runway physical end for obstructions located underneath the approach surface [NGS]	O	1	Integer	Unrestricted
543	heightAboveTdz	Height above touchdown zone elevation for obstructions located underneath the approach surface [NGS]	O	1	Integer	Unrestricted
544	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
545	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
546	lightCode	A code indicating that the obstacle is lighted [AIXM]	O	1	Boolean	Unrestricted
547	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
548	obstacle_type_d	The type of obstacle	O	1	CharacterString	obstacle_type_d Enumeration
549	penVal_Specified	The elevation difference between the height of the obstacle and the specified approach surface [NGS]	O	1	Integer	Unrestricted
550	penVal_Supplemental	The elevation difference between the height of the obstacle and the supplemental approach surface [NGS]	O	1	Integer	Unrestricted
551	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
552	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
553	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
554	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
555	ObstructionIdentificationSurface	A derived imaginary Obstruction Identification Surface defined by the FAA [NGS]	O		<<Feature>>	Lines 556-569
556	geometry	Geometry of the feature	M	1		GM_Surface
557	spc_zon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
558	approachType_d	Specific approach type used to analyze features. The approach	O	1	CharacterString	approachType_d

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		types must be an approach of the general surface type specified in the AirportSurface Type attribute				Enumeration
559	grad_lo_hi	The low to high gradient within the airspace [U.S. CADD Feature Table]	O	1	Real	Unrestricted
560	oisSurfaceCondition_d	The Obstruction Identification Surface that Obstructing Area represents	O	1	CharacterString	oisSurfaceCondition_d Enumeration
561	oisSurfaceType_d	Surface Type refers to the general type of surface used to analyze features. Surfaces of the same type usually are similar in nature with respect to certain aspects of the surface definition of may merely be representative of different programs within the airport charting community	O	1	CharacterString	oisSurfaceType_d Enumeration
562	oisZoneType_d	Specifies zones within Obstruction Identification Surfaces (OIS)	O	1	CharacterString	oisZoneType_d Enumeration
563	safety_reg	An identifier for the safety regulations in effect within the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
564	zone_use	A description of the use of the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
565	zone_name	A commonly used name for the zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
566	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
567	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
568	metadata	Foreign Key. Used to link the record to the applicable feature level	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		metadata record(s)				
569	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
570	AirwayLine	The location of airways between origins and destinations [U.S. CADD]			<<Feature>>	Lines 571-578
571	geometry	Geometry of the feature	M	1		
572	airway_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	
573	ops_typ_d	The air operations permitted within the airway [Source U.S. CADD Feature Table]	O	1	CharacterString	
574	route_len	The length of the air route [Source U.S. CADD Feature Table]	O	1	Real	
575	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
576	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
577	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
578	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		should not be used to store the subject item's data				
579	FlightTrackLine		M		<<Feature>>	Lines 580-590
580	geometry	Geometry of the feature	M	1		
581	flighttrackpoint_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	
582	altitude	The altitude in feet above mean sea level	O	1	Real	
583	flight_no	The flight number assigned to the Flight Plan	O	1	CharacterString	
584	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	
585	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	
586	narrative		O	1	CharacterString	
587	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
588	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
589	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
590	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

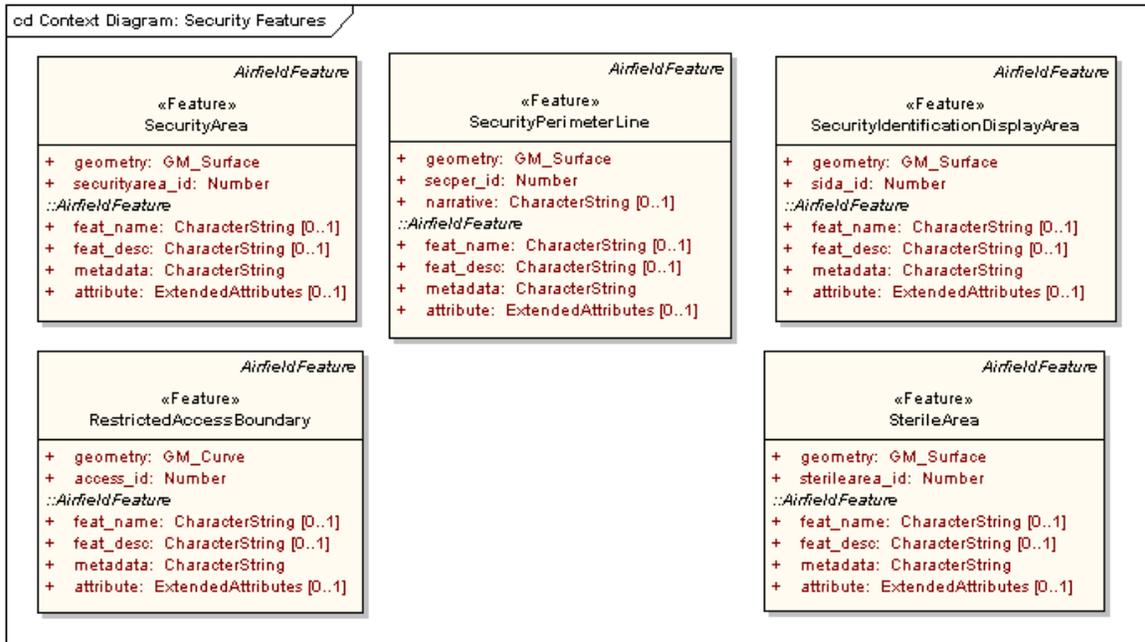
Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		subject item's data integrity and should not be used to store the subject item's data				
591	FlightTrackPoint		M		<<Feature>>	Lines 592-599
592	geometry	Geometry of the feature	M	1		
593	otherline_id				Number	
594	featureType		O	1	CharacterString	
595	flight_no		O	1	CharacterString	
596	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
597	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
598	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
599	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
600	RegulatedAirspaceArea				<<Feature>>	Lines 601-609
601	geometry	Geometry of the feature	M	1		
602	airspace_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]			Number	
603	elevation	The height of the restriction airspace	O	1	Real	

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		measured from a reference point or from sea level [U.S. CADD Feature Table]				
604	fea_typ_d	Type of restriction [U.S. CADD Feature Table]	O	1	CharacterString	
605	notice_num	The Notice to Airman number (that is to say, 3/4223) [U.S. CADD Feature Table]	O	1	CharacterString	
606	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
607	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
608	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
609	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1080

6.8 Security feature



1081

1082

1083

Figure 13 – Context diagram for Security feature

1084

Table 8 – Security feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
610	SecurityArea	An area of the airport in which security measures required by 49CFR1542.201 must be carried out [49 CFR Part 1542]	M		<<Feature>>	Lines 611-616
611	geometry	Geometry of the feature	M	1		GM_Surface
612	securityarea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
613	feat_name	Name of the feature	O	1	CharacterString	Unrestricted
614	feat_desc	Description of the feature	O	1	CharacterString	Unrestricted
615	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
616	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
617	SecurityIdentificationDisplayArea	Portions of an airport, specified in the airport security program, in which security measures required by regulation must be carried out. This area included the security area and may include other areas of the airport [DHS]	M		<<Feature>>	Lines 618-623
618	geometry	Geometry of the feature	M	1		GM_Surface
619	sida_id	Primary Key. A globally unique identifier assigned to the instance of	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		a feature type [FAA Airports GIS]				
620	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
621	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
622	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
623	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
624	SecurityPerimeterLine	Any type of perimeter, such as barbed wire, high fences, motion detectors, and armed guards at gates that ensure no unauthorized visitors can gain entry [U.S. CADD]	M		<<Feature>>	Lines 625-630
625	geometry	Geometry of the feature	M	1		GM_Surface
626	secper_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
627	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Attribute Table also known as "narrative"]	O	1	CharacterString	Unrestricted
628	feat_name	Name of the feature	O	1	CharacterString	Unrestricted
629	metadata	Foreign Key. Used to link the record to the applicable feature level	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		metadata record(s)				
630	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
631	SterileArea	Portions of an airport defined in the airport security program that provide passengers access to boarding aircraft and to which the access is generally controlled by TSA, an aircraft operator, or foreign air carrier [DHS]	M		<<Feature>>	Lines 632-637
632	geometry	Geometry of the feature	M	1		GM_Surface
633	sterilearea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
634	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
635	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
636	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
637	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
638	RestrictedAccessBoundary	A restricted area boundary defines aircraft movement area that is strictly reserved for use by authorized personnel only. These boundaries, typically found on joint civil/military use airports, are often painted redlines on taxiway or apron surfaces [NGS]			<<Feature>>	Lines 639-644
639	geometry					
640	access_id	Primary Key. A globally unique identifier assigned to the instance of a feature type			Number	
641	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
642	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
643	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
644	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1085 **6.9 Cadastral feature**

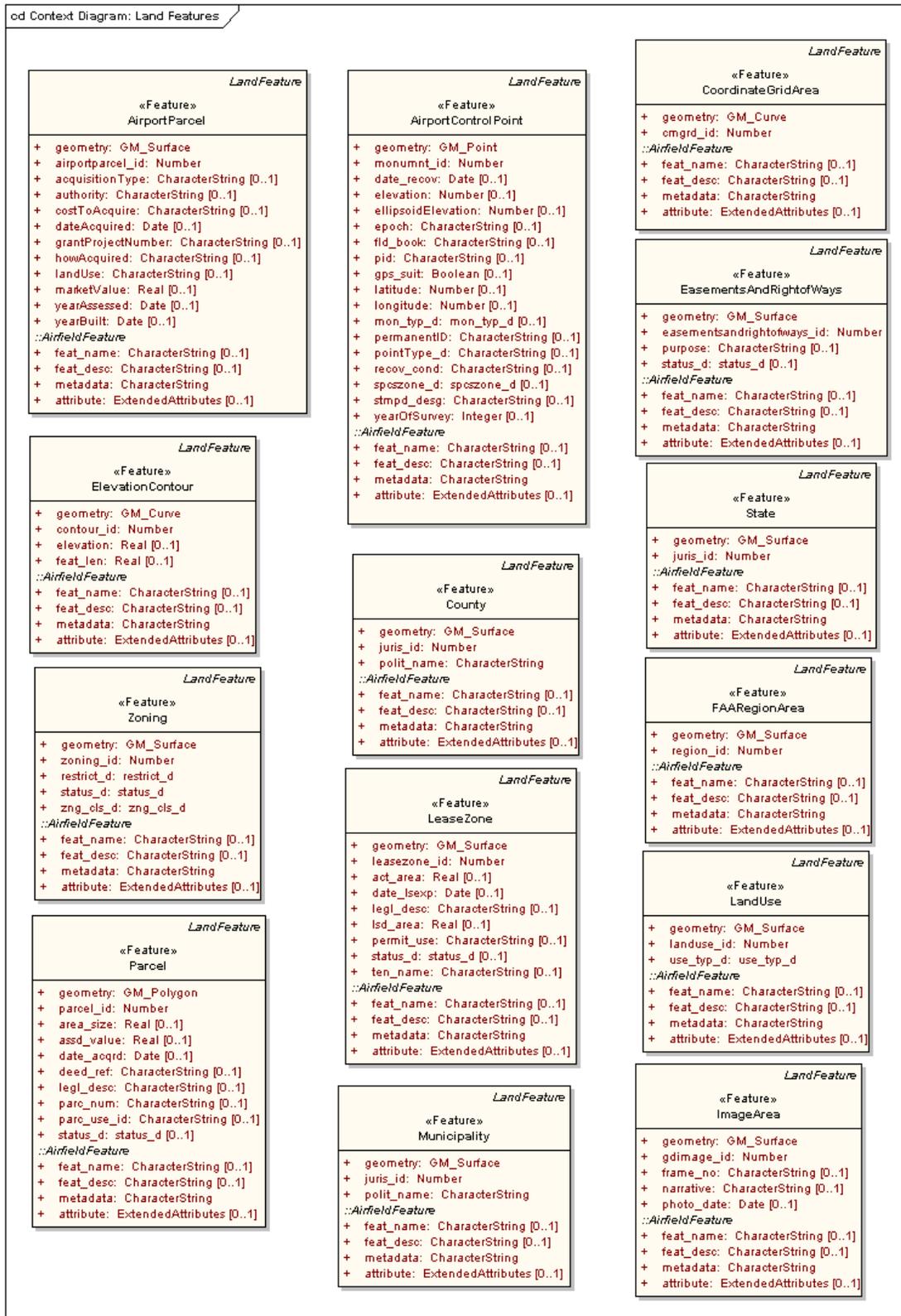


Figure 14 – Context diagram for Cadastral feature

1086

1087

Table 9 – Cadastral feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
645	AirportParcel	A tract of land within the airport boundary that was acquired from surplus property, Federal funds, local funds, and so on. Easement interests in areas outside the fee property line should also be included as an AirportParcel [FAA FAA AC 150/5300-13, Appendix 7, Order 5190.6A, Section 5]	M		<<Feature>>	Lines 646-661
646	geometry	Geometry of the feature	M	1		GM_Surface
647	airportparcel_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
648	acquisitionType	The type of acquisition used to acquire the parcel	O	1	CharacterString	Unrestricted
649	authority	The owner of the airport parcel	O	1	CharacterString	Unrestricted
650	costToAcquire	The amount paid to the owner in U.S. dollars for the parcel	O	1	Real	Unrestricted
651	dateAcquired	The date the parcel was acquired. Format for date is YYYYMMDD (that is to say, September 15, 1994 = 19940915)	O	1	Date	Unrestricted
652	grantProjectNumber	The grant number if Federal funds were used to acquire the parcel	O	1	CharacterString	Unrestricted
653	howAcquired	The manner in which the parcel was acquired	O	1	CharacterString	Unrestricted
654	landUse	The land use of the parcel when it was acquired	O	1	CharacterString	Unrestricted
655	marketValue	The assessed market value of the parcel in U.S. dollars when it was	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		acquired				
656	yearAssessed	The year in which the market value assessment was made	O	1	Date	Unrestricted
657	yearBuilt	The year in which the most recent structure(s) were built on the parcel	O	1	Date	Unrestricted
658	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
659	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
660	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
661	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
662	County	Boundary line of the land and water under the right, power, or authority of the county government [U.S. CADD]	O		<<Feature>>	Lines 663-669
663	geometry	Geometry of the feature	M	1		GM_Surface
664	juris_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
665	polit_name	The common name associated with the property area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
666	feat_name	Any commonly used name for the	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		feature [U.S. CADD Feature Table]				
667	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
668	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
669	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
670	EasementsAndRightofWays	A parcel of land for which formal or informal deed easement rights exist [U.S. CADD (modified)]	O		<<Feature>>	Lines 671-678
671	geometry	Geometry of the feature	M	1		GM_Surface
672	easementsandrightofways_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
673	purpose	Project purpose for which the easement was acquired [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
674	status_d	The status of the parcel. (Active, inactive, terminated) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
675	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
676	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
677	metadata	Foreign Key. Used to link the record	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		to the applicable feature level metadata record(s)				
678	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
679	FAARegionArea	This feature depicts the FAA regions [U.S. CADD]	O		<<Feature>>	Lines 680-685
680	geometry	Geometry of the feature	M	1		GM_Surface
681	region_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
682	reg_name	Name of the FAA region [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
683	feat_desc	Description of the FAA region [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
684	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
685	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
686	LandUse	A description of the human use of land and water [U.S. CADD]	M		<<Feature>>	Lines 687-693
687	geometry	Geometry of the feature	M	1		GM_Surface

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
688	landuse_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
689	use_typ_d	The way in which the land is being used. High level (that is to say, n000) or detailed (that is to say, nnnn) can be used [U.S. CADD]	O	1	CharacterString	use_typ_d Enumeration
690	use_name	Name of the land use area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
691	feat_desc	Description of the land use area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
692	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
693	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
694	LeaseZone	A parcel of land leased by an individual, agency, or organization for their use [U.S. CADD]	O		<<Feature>>	Lines 695-707
695	geometry	Geometry of the feature	M	1		GM_Surface
696	leasezone_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
697	act_area	Actual measured area of the leased parcel [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
698	date_lsexp	The date the lease is expected to expire. Format for date is YYYYMMDD (that is to say,	O	1	Date	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		September 15, 1994 = 19940915) [U.S. CADD Feature Table]				
699	legl_desc	The complete legal description of the property as it appears in the deed [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
700	lsd_area	Area accounted for in the lease for a parcel [U.S. CADD Attribute Table]	O	1	Real	Unrestricted
701	permit_use	Permitted use of the leased parcel [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
702	status_d	The status of the parcel. (Active, inactive, terminated) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
703	ten_name	The current name of the tenant occupying the leased parcel [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
704	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
705	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
706	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
707	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
708	Municipality	Boundary line of the land and water under the right, power, or authority of the municipal government [U.S.	M		<<Feature>>	Lines 709-715

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		CADD]				
709	geometry	Geometry of the feature	M	1		GM_Surface
710	juris_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
711	polit_name	The common name associated with the property area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
712	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
713	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
714	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
715	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
716	Parcel	A single cadastral unit, which is the spatial extent of the past, present, and future rights and interests in real property and the geographic framework to support the description of the spatial extent [U.S. CADD]	O		<<Feature>>	Lines 717-730
717	geometry	Geometry of the feature	M	1		GM_Surface
718	area_size	The size of the area, zone, or polygon in square units [U.S. CADD Feature Table]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
719	assd_value	The most recent assessed value of the parcel [U.S. CADD Feature Table]	O	1	Real	Unrestricted
720	date_acqrd	The date the parcel was acquired by the current owner. Format for date is YYYYMMDD (that is to say, September 15, 1994 = 19940915) [U.S. CADD Feature Table]	O	1	Date	Unrestricted
721	deed_ref	Reference to where the deed to the parcel is recorded in such information as Plat Book and Page [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
722	legl_desc	The complete legal description of the property as it appears in the deed [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
723	parc_num	Any locally used number to identify the parcel [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
724	parc_use_id	The current primary use of the parcel [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
725	parcel_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
726	status_d	The status of the parcel. (Active, inactive, terminated) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
727	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
728	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
729	metadata	Foreign Key. Used to link the record to the applicable feature level	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

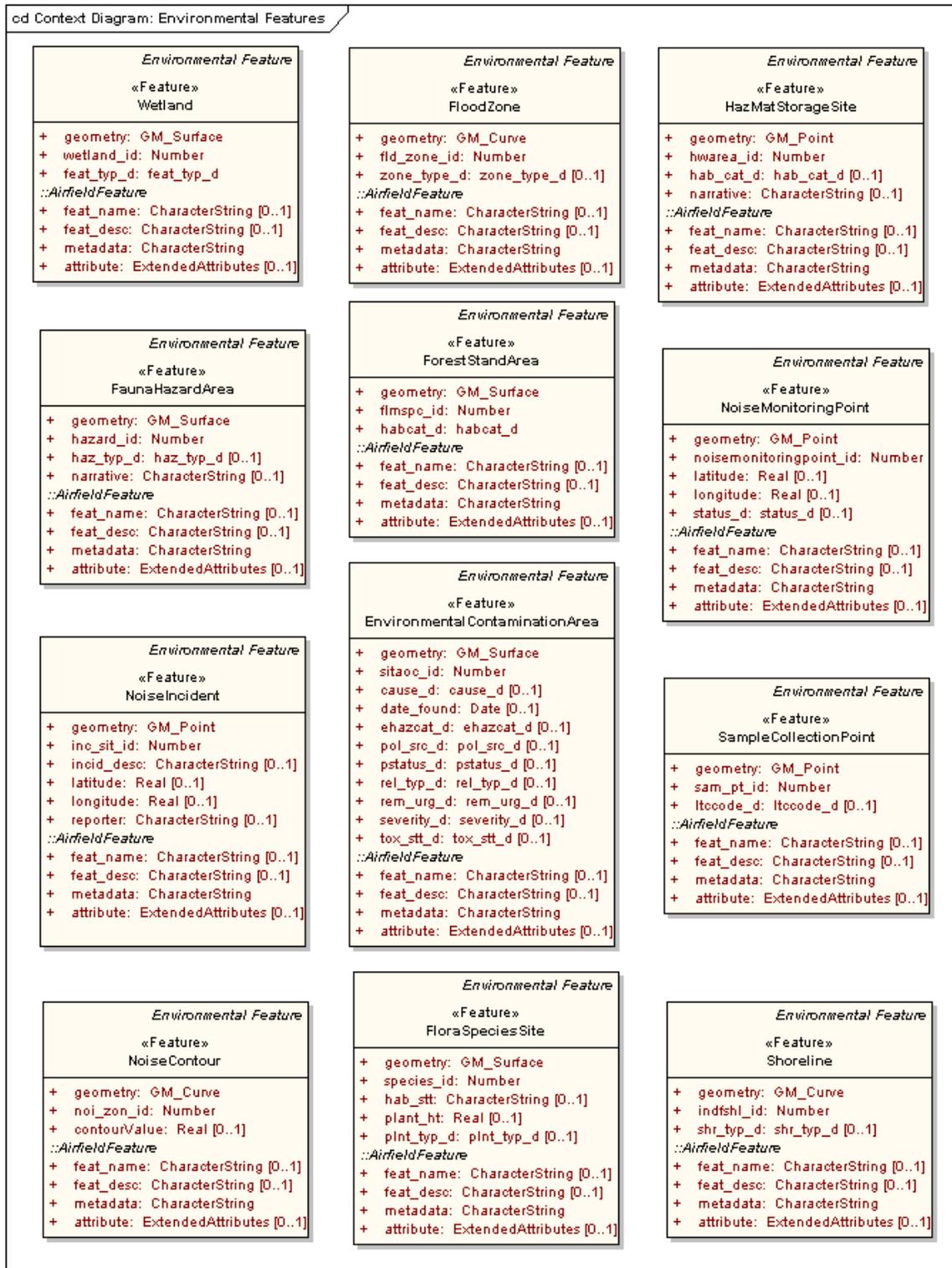
Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		metadata record(s)				
730	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
731	State	Boundary line of the land and water under the right, power, or authority of the State government [U.S. CADD]	O		<<Feature>>	Lines 732-737
732	geometry	Geometry of the feature	M	1		GM_Surface
733	juris_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
734	polit_name	The common name associated with the property area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
735	feat_desc	The description of the area [U.S. CADD Attribute Table]	O	1	CharacterString	Unrestricted
736	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
737	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
738	Zoning	A parcel of land zoned specifically for real estate and land management purposes; more specifically for commercial, residential, or industrial	M		<<Feature>>	Lines 739-747

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		use [U.S. CADD]				
739	geometry	Geometry of the feature	M	1		GM_Surface
740	zoning_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
741	restrict_d	Codes determining the land owner restriction for the parcel [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
742	status_d	The status of the parcel. (Active, inactive, terminated) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
743	zng_cls_d	The zoning classification of the parcel [U.S. CADD Feature Table]	O	1	CharacterString	zng_cls_d Enumeration
744	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
745	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
746	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
747	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1089

6.10 Environmental feature



1090

1091

Figure 15 – Context diagram for Environmental feature

1092

Table 10 – Environmental feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
748	EnvironmentalContaminationArea	A facility or other locational entity, (as designated by the Environmental Protection Agency) that is regulated or monitored because of environmental concerns [U.S. CADD]	O		<<Feature>>	Lines 749-763
749	geometry	Geometry of the feature	M	1		GM_Surface
750	sitaoc_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
751	cause_d	A code indicating the cause of the pollution [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
752	date_found	The date the pollution was discovered. Format for date is YYYYMMDD (that is to say, September 15, 1994 = 19940915) [U.S. CADD Feature Table]	O	1	Date	Unrestricted
753	ehazcat_d	Indicates the broad category or type of the most prevalent or serious environmental hazard present at the site [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
754	pol_src_d	The actual or suspected source of the pollutant [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
755	pstatus_d	The code indicating whether the facility status is Active or Inactive [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
756	rel_typ_d	A descriptor for the type of pollutant release experienced [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
757	rem_urg_d	A code indicating the urgency for accomplishing a site remediation project [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
758	severity_d	A descriptor for the severity of the pollution [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
759	tox_stt_d	A descriptor for the toxic status of the pollution [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
760	site_name	The name of a specific facility [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
761	feat_desc	A description of the source of the pollution [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
762	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
763	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
764	FaunaHazardArea	An area where there are hazards due to wildlife activities. This includes bird aircraft strike hazard (BASH) areas, and deer strike areas [U.S. CADD]	O		<<Feature>>	Lines 765-772
765	geometry	Geometry of the feature	M	1		GM_Surface
766	hazard_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
767	haz_typ_d	A descriptor of the type of the	O	1	CharacterString	haz_typ_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		hazard [U.S. CADD Feature Table]				
768	narrative		O	1	CharacterString	
769	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
770	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
771	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
772	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
773	FloodZone	Areas subject to 100-year, 500-year and minimal flooding [U.S. CADD]	M		<<Feature>>	Lines 774-780
774	geometry	Geometry of the feature	M	1		GM_Surface
775	fld_zon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
776	zone_type_d	The zoning classification of the area	O	1	CharacterString	zone_type_d Enumeration
777	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
778	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
779	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
780	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
781	FloraSpeciesSite	The specific location where an individual flora species or an aggregate of flora species has been identified [U.S. CADD]	M		<<Feature>>	Lines 782-790
782	geometry	Geometry of the feature	M	1		GM_Point
783	species_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
784	hab_stt	Defines if the habitat has been designated as a critical habitat under (C) the Endangered species Act or has not been so designated (N) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
785	plant_ht	The average height of the flora species [U.S. CADD Feature Table]	O	1	Real	Unrestricted
786	plnt_typ_d	A descriptor of the type of flora [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
787	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
788	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
789	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
790	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
791	ForestStandArea	A forest flora community with similar characteristics [U.S. CADD]	M		<<Feature>>	Lines 792-798
792	geometry	Geometry of the feature	M	1		GM_Surface
793	flmspc_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
794	habcat_d	Discriminator - The designation or type of the special wildlife habitat [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
795	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
796	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
797	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
798	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
799	HazMatStorageSite	A defined or bounded geographical area designated and used for the storage of contained hazardous materials [U.S. CADD]	O		<<Feature>>	Lines 800-807
800	geometry	Geometry of the feature	M	1		GM_Point

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
801	hwarea_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
802	hsb_cat_d	The general type or category of contained hazardous material stored [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
803	narrative		O	1	CharacterString	
804	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
805	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
806	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
807	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
808	NoiseContour	An area that describes the noise attributed to operations. For aircraft operations, the Day/Night average sound level (Ldn) descriptor is typically used to categorize noise levels [14 CFR Part 150]	M		<<Feature>>	Lines 809-815
809	geometry	Geometry of the feature	M	1		GM_Surface
810	noi_zon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
811	contourValue	The decibel level of the contour line	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
812	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
813	feat_desc	A description for the noise zone [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
814	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
815	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
816	NoiseIncident	A formal complaint by an individual or group regarding excessive noise resulting from airport operations	M		<<Feature>>	Lines 817-826
817	geometry	Geometry of the feature	M	1		GM_Point
818	inc_sit_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
819	incid_desc	A general description of the complete incident, including any reference material [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
820	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
821	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
822	reporter	The name of the individual or organization reporting the incident	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		[U.S. CADD Feature Table]				
823	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
824	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
825	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
826	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
827	NoiseMonitoringPoint	The location of noise sensing equipment or where a noise sample is taken [U.S. CADD]	M		<<Feature>>	Lines 828-836
828	geometry	Geometry of the feature	M	1		GM_Point
829	noisemonitoringpoint_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
830	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
831	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
832	status_d	A temporal description of the operational status of the feature. This attribute is used to describe real-time status	O	1	CharacterString	status_d Enumeration

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
833	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
834	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
835	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
836	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
837	SampleCollectionPoint	The physical location at which one or more environmental hazards field samples are collected [U.S. CADD]	O		<<Feature>>	Lines 838-844
838	geometry	Geometry of the feature	M	1		GM_Point
839	sam_pt_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
840	ltccode_d	Code describing the type of location which is undergoing sampling (for example, bh= borehole, wl=well). IRPIMS [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
841	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
842	feat_desc	Descriptor providing any additional information to describe the sampling location in text format (for example, monitoring well located 10 feet northeast of building 624 within spill area). IRPIMS [U.S. CADD Feature	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

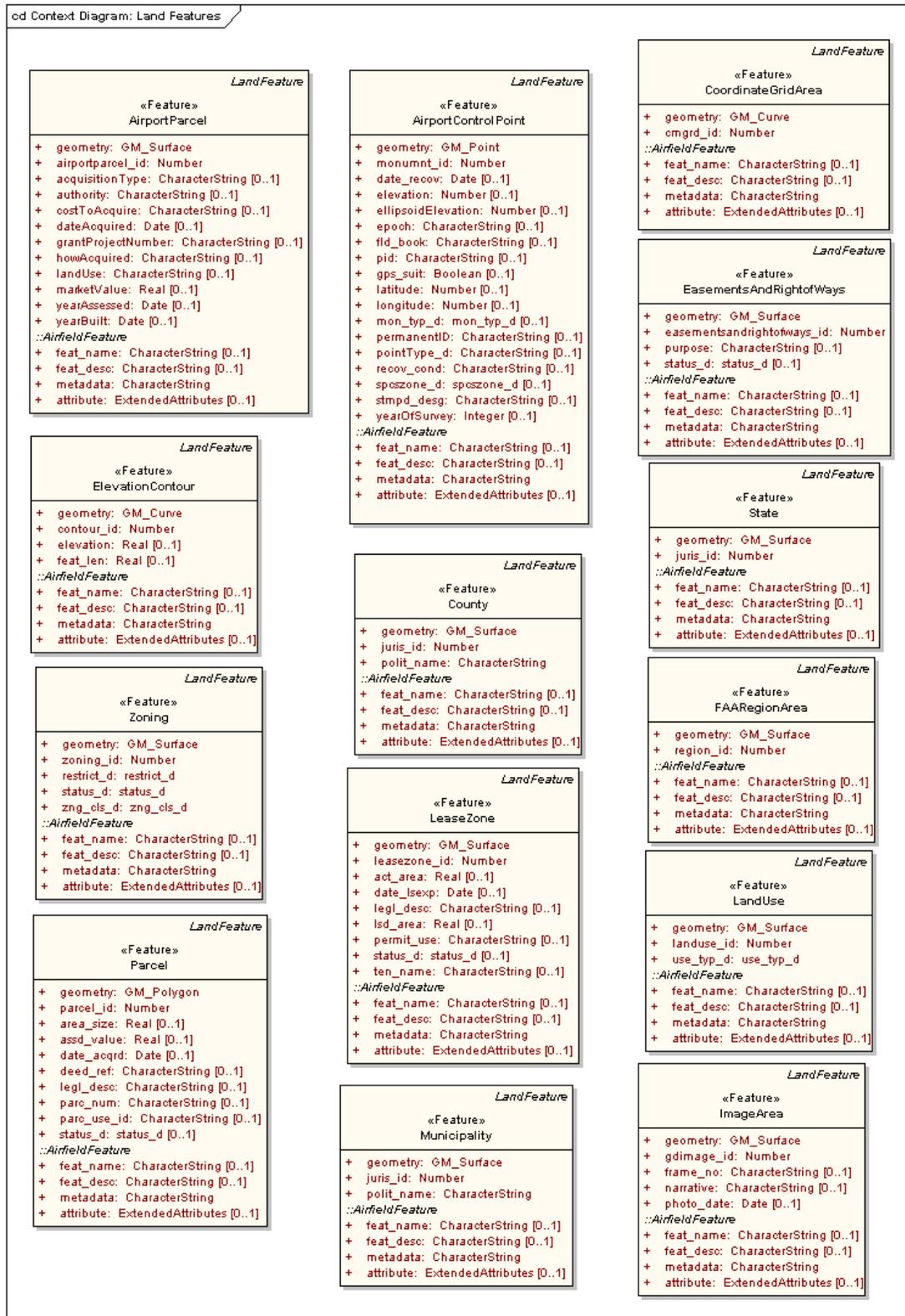
Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		Table]				
843	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
844	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
845	Shoreline	The boundary where land meets the edge of a large body of fresh or salt water. The shoreline is the mean high water line between high and low tide [U.S. CADD]	M		<<Feature>>	Lines 846-852
846	geometry	Geometry of the feature	M	1		GM_Curve
847	indfshl_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
848	shr_typ_d	Discriminator - A value indicating the type or kind of shoreline [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
849	shore_name	A commonly used name for the shoreline [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
850	feat_desc	A local description for the shoreline [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
851	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
852	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
853	Wetland	Transitional lands between terrestrial and aquatic systems where the water table is usually at or near the surface or the land	M		<<Feature>>	Lines 854-860
854	geometry	Geometry of the feature	M	1		GM_Surface
855	wetland_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
856	feat_typ_d	A descriptor of how the wetland is depicted graphically [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
857	wetln_name	Any commonly used name for the wetland [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
858	feat_desc	A description of the wetland [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
859	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
860	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1093

6.11 Geotechnical feature



1094

1095

Figure 16 – Context diagram for Geotechnical feature

1096

Table 11 – Geotechnical feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
861	AirportControlPoint	A control station established in the vicinity of, and usually on, an airport and tied to the National Spatial Reference System (NSRS) [NGS]	M		<<Feature>>	Lines 862-882
862	geometry	Geometry of the feature	M	1		GM_Point
863	monumnt_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
864	date_recov	The date the monument was last field recovered. Format for date is YYYYMMDD (that is to say, September 15, 1994 = 19940915) [U.S. CADD Feature Table]	O	1	Date	Unrestricted
865	elevation	Elevation of the point relative to the selected vertical datum [NGS]	O	1	Real	Unrestricted
866	ellipsoidElevation	The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called geodetic height [Source NGS]	O	1	Real	Unrestricted
867	epoch	Survey epoch used to establish the control point [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
868	fld_book	The field book [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
869	gps_suit_d	A Boolean indicating GPS suitability [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
870	latitude	Latitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
871	longitude	Longitude in decimal degrees with negative numbers used for Western Hemisphere	O	1	Real	Unrestricted
872	mon_typ_d	The type of monument as defined by the Corps of Engineers EM 1110-1-1002 [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
873	permanentId	Permanent point identifier assigned by NGS to PACS and SACS [NGS]	O	1	CharacterString	Unrestricted
874	pointType_d	Contains the allowable values of a point type used by the ControlPoint feature. The point types may be supplementally provided as subtypes of ControlPoint for ease of use and clarification	O	1	CharacterString	pointType_d Enumeration
875	recov_cond	The condition and type of the marker (witness post) used to identify the location of the monument [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
876	spszzone_d	The State Plane Coordinate System Code [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
877	stmpd_desg	The designation stamped into the bottom of the monument [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
878	yearOfSurvey	The year of the most recent runway end survey used to compute the ARP	O	1	Integer	Unrestricted
879	feat_name	Any commonly used name for the control point [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
880	feat_desc	The monument description [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
881	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
882	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's dat.	O	1	CharacterString	Unrestricted
883	CoordinateGridArea	A regular pattern of horizontal and vertical lines used to represent regular coordinate intervals along the x and y axis. This grid line can be used to generate an arbitrary grid system which is common on locator maps [U.S. CADD]	O		<<Feature>>	Lines 884-888
884	geometry	Geometry of the feature	M	1		GM_Curve
885	cmgrd_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
886	feat_name	The name, code or identifier used to refer to an individual grid cell	O	1	CharacterString	Unrestricted
887	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
888	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
889	ElevationContour	Connecting points on the surface of the earth of equal vertical elevation representing some fixed elevation	O		<<Feature>>	Lines 890-895

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

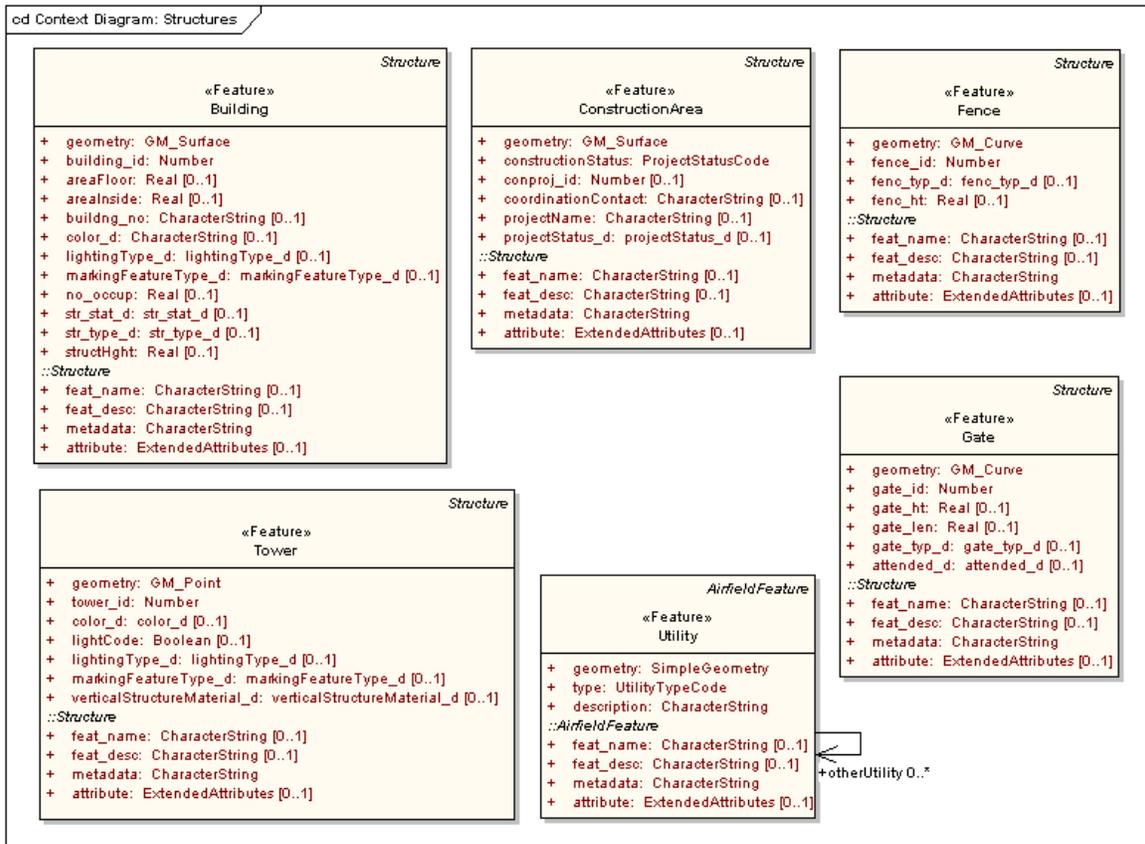
Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		interval [U.S. CADD]				
890	geometry	Geometry of the feature	M	1		GM_Curve
891	contour_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
892	elevation	The elevation of the contour line [U.S. CADD Feature Table]	O	1	Real	Unrestricted
893	feat_len	The overall length of the feature [U.S. CADD Feature Table]	O	1	Real	Unrestricted
894	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
895	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
896	ImageArea	The image foot print or coverage area [U.S. CADD]	O		<<Feature>>	Lines 897-903
897	geometry	Geometry of the feature	M	1		GM_Surface
898	gdimage_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
899	frame_no	Frame number of the image [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
900	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Feature Table also known as	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		"narrative"]				
901	photo_date	Date the aerial photography was flown. Format for date is YYYYMMDD (that is to say, September 15, 1994 = 19940915) [U.S. CADD Feature Table]	O	1	Date	Unrestricted
902	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
903	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1097

6.12 Structures feature



1098

1099

Figure 17 – Context diagram for Structures feature

1100

Table 12 – Structures feature data dictionary

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
904	Building	A three dimensional permanent structure modeled with a bounding polygon. This feature includes all on-airport buildings within an Airport Parcel and any buildings in the vicinity of the airport that affects air navigation or airport design requirement [FAA]	M		<<Feature>>	Lines 905-920
905	geometry	Geometry of the feature	M	1		GM_Surface
906	building_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
907	areaFloor	Total inside floor area [U.S. CADD Feature Table]	O	1	Real	Unrestricted
908	areaInside	Total inside area of structure [U.S. CADD Feature Table]	O	1	Real	Unrestricted
909	building_no	The code indicating the number of the building [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
910	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
911	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
912	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
913	no_occup	Number of persons currently occupying the structure [U.S. CADD Feature Table]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
914	str_stat_d	Discriminator. This value differentiates structure entities by operational status [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
915	str_type_d	The type of structure [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
916	structHght	Maximum height of structure [U.S. CADD Feature Table]	O	1	Real	Unrestricted
917	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Feature Table also known as "narrative"]	O	1	CharacterString	Unrestricted
918	feat_name	Any commonly used name for the control point [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
919	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
920	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
921	ConstructionArea	A defined area that is under construction, not intended for active use until authorized by the concerned authority. The area defines a boundary for personnel, material, and equipment engaged in the construction activity [FAA]	M		<<Feature>>	Lines 922-931
922	geometry	Geometry of the feature	M	1		GM_Surface

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
923	constructionStatus					
924	projectStatus_d	The status of the construction project	O	1	CharacterString	projectStatus_d Enumeration
925	conproj_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
926	CoordinationContact	Airport, emergency, airline, tenant, and contractor personnel who are responsible for coordinating on-airport construction work	O	1	CharacterString	Unrestricted
927	projectName	The name of the construction project	O	1	CharacterString	Unrestricted
928	feat_desc	Description of the construction area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
929	const_name	Name of the construction area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
930	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
931	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
932	Fence	Any fencing (chain-link, razor wire, PVC, and so on [FAA])	M		<<Feature>>	Lines 933-940
933	geometry	Geometry of the feature	M	1		GM_Curve
934	fence_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
935	fenc_typ_d	A code indicating the fencing material used [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
936	fence_ht	The overall distance from the surface of the ground to the top of the fence [U.S. CADD Feature Table]	O	1	Real	Unrestricted
937	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
938	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
939	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
940	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
941	Gate	The aircraft stand location defines the outermost location to where a parking stand area can accommodate a specific aircraft type [RTCA DO-272]	M		<<Feature>>	Lines 942-951
942	geometry	Geometry of the feature	M	1		GM_Curve
943	gate_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
944	gate_ht	The overall distance from the surface of the ground to the top of the gate [U.S. CADD Feature Table]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

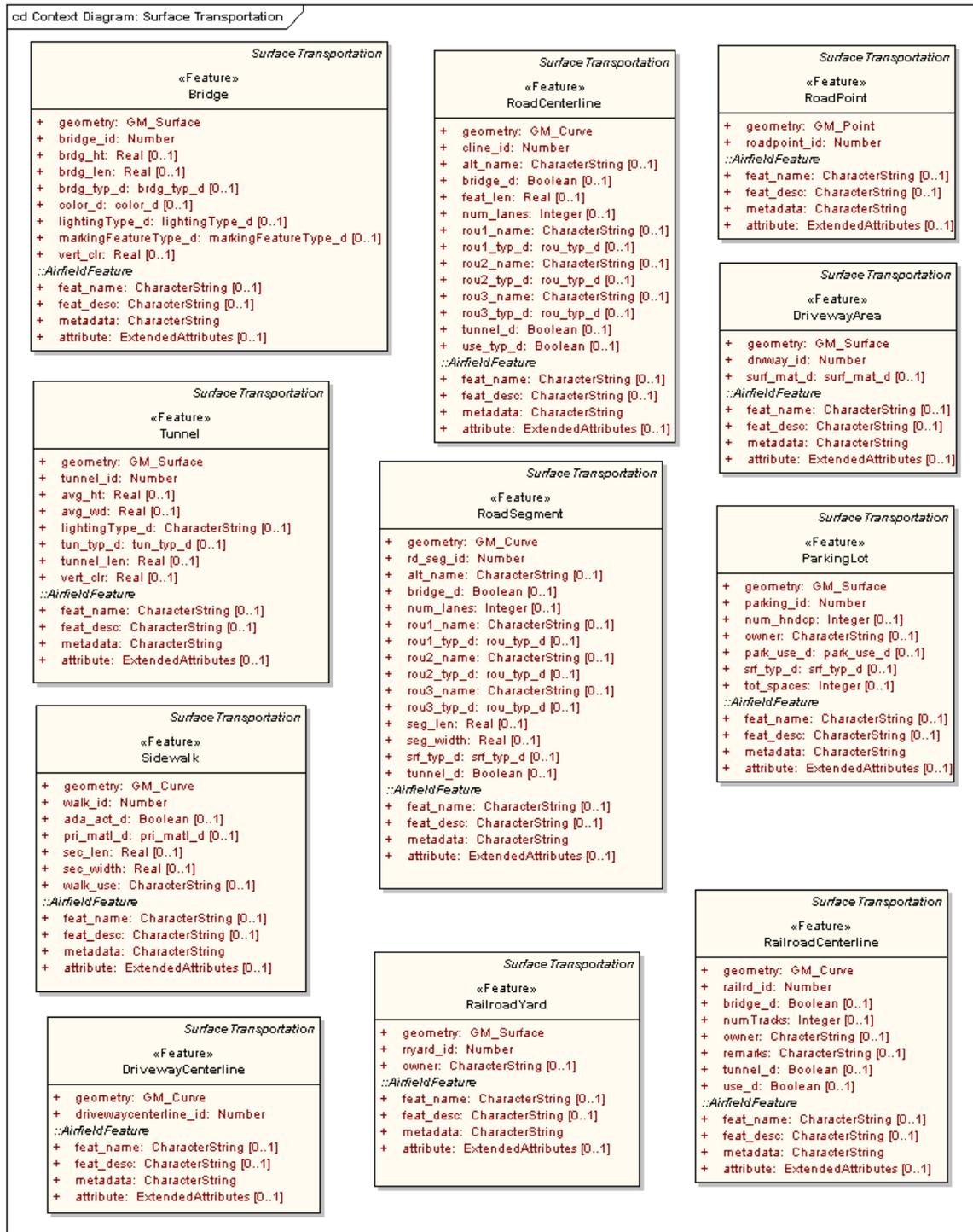
Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
945	gate_len	The overall distance from one end of the gate to the other [U.S. CADD Feature Table]	O	1	Real	Unrestricted
946	gate_typ_d	The gate material and method of construction [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
947	attended_d	A Boolean indicating whether the gate is tended by a guard or other individual [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
948	feat_name	Name, code or identifier used to identify the gate	O	1	CharacterString	Unrestricted
949	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Feature Table also known as "narrative"]	O	1	CharacterString	Unrestricted
950	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
951	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
952	Tower	An existing structure that was created, by man, to facilitate an activity at an elevated level above the ground [U.S. CADD]	M		<<Feature>>	Lines 953-963
953	geometry	Geometry of the feature	M	1		GM_Point
954	tower_id	Primary Key. A globally unique identifier assigned to the instance of	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation Condition	Maximum Occurrence	Data Type	Domain
		a feature type [FAA Airports GIS]				
955	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
956	lightCode	A code indicating that the obstacle is lighted [AIXM]	O	1	Boolean	Unrestricted
957	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
958	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
959	verticalStructureMaterial_d	Classifies the predominant material of the vertical object	O	1	CharacterString	verticalStructureMaterial_d Enumeration
960	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
961	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
962	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
963	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1101

6.13 Surface Transportation feature



1102

1103

Figure 18 – Context diagram for Surface Transportation feature

1104

Table 13 – Surface Transportation feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
964	Bridge	A structure used by vehicles that allows passage over or under an obstacle such as a river, chasm, mountain, road, or railroad [U.S. CADD]	M		<<Feature>>	Lines 965-977
965	geometry	Geometry of the feature	M	1		GM_Surface
966	bridge_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
967	brdg_ht	The clearance of the bridge structure; that is to say, the height beneath the structure of the bridge [U.S. CADD Feature Table]	O	1	Real	Unrestricted
968	brdg_len	The total length of the span of the bridge [U.S. CADD Feature Table]	O	1	Real	Unrestricted
969	brdg_typ_d	The fundamental structure type of the bridge [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
970	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
971	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
972	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
973	feat_desc	This attribute field is used to identify the datum from which the vertical clearance information is referenced and to calculate actual vertical clearance [U.S. CADD Feature	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		Table also known as “narrative”]				
974	vert_clr	The clearance in feet between the lowest point under the bridge opening and the water’s surface at Mean High Water (MHW) [U.S. CADD Feature Table]	O	1	Real	Unrestricted
975	feat_name	Any commonly used name for the bridge [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
976	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
977	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item’s data integrity and should not be used to store the subject item’s data	O	1	CharacterString	Unrestricted
978	DrivewayArea	An access to a residence or other vehicle parking lot or storage area [U.S. CADD]	O		<<Feature>>	Lines 979-985
979	geometry	Geometry of the feature	M	1		GM_Surface
980	drvway_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
981	surf_mat_d	The material used as a surface for the driveway [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
982	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
983	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
984	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
985	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
986	DrivewayCenterline	The center of the driveway as measured from the edge of the paved surface. The segments of a driveway centerline will coincide with the road segments in order to provide network connectivity [U.S. CADD]	O		<<Feature>>	Lines 987-992
987	geometry	Geometry of the feature	M	1		GM_Curve
988	drivewaycenterline_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
989	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
990	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
991	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
992	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
993	ParkingLot	An area of an airport used for parking of automobiles, buses, and so on [U.S. CADD]	O		<<Feature>>	Lines 994-1004
994	geometry	Geometry of the feature	M	1		GM_Surface
995	parking_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
996	num_hndcp	The total number of spaces marked as being handicapped parking [U.S. CADD Feature Table]	O	1	Real	Unrestricted
997	owner	The owner of the parking lot	O	1	CharacterString	Unrestricted
998	park_use_d	The primary use of the parking area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
999	srf_typ_d	Type of different materials used to construct the surface [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1000	tot_spaces	The total parking spaces available in the area including handicapped or reserved spaces [U.S. CADD Feature Table]	O	1	Integer	Unrestricted
1001	feat_name	Any commonly used name for the parking area [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1002	feat_desc	A description of the parking lot [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1003	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1004	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data				
1005	RailroadCenterline	Represents the centerline of each pair of rails [ANSI, Part 7c: Roads]	M		<<Feature>>	Lines 1006-1017
1006	geometry	Geometry of the feature	M	1		GM_Curve
1007	railrd_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1008	bridge_d	Indicates given road segment is bridge (Y- a is bridge, N-is not a bridge) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1009	numTracks	The number of tracks present	O	1	Integer	Unrestricted
1010	owner	The owner of the rail track	O	1	CharacterString	Unrestricted
1011	remarks	Any narrative remarks concerning the railroad [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1012	tunnel_d	Indicates given road segment is tunnel (Y- is a tunnel, N-is not a tunnel) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1013	use_d	The current status as to whether the railroad segment is being used [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1014	feat_name	Any commonly used name for the railroad [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1015	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1016	metadata	Foreign Key. Used to link the record	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		to the applicable feature level metadata record(s)				
1017	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1018	RailroadYard	Represents a railroad yard [ANSI, Part 7c: Roads]	M		<<Feature>>	Lines 1019-1025
1019	geometry	Geometry of the feature	M	1		GM_Surface
1020	rryard_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1021	owner	The owner of the rail yard	O	1	CharacterString	Unrestricted
1022	yard_name	A name that represent the railroad yard [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1023	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1024	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1025	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1026	RoadCenterline	The center of the roadway as measured from the edge of the paved surface. The segments of a road centerline will coincide with the	M		<<Feature>>	Lines 1027-1044

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		road segments in order to have similar characteristics [U.S. CADD]				
1027	geometry	Geometry of the feature	M	1		GM_Curve
1028	cline_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1029	alt_name	The alternate name or second name for the road [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1030	bridge_d	Indicates given road segment is bridge ("Y"- a is bridge, "N"-is not a bridge) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1031	feat_len	The overall length of the road centerline [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1032	num_lanes	The number of normal traffic lanes throughout the length of the centerline [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1033	rou1_name	The route number or other identifier that is affiliated with the first route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1034	rou1_typ_d	The first route type for the road (Interstate, U.S., State, and so on) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1035	rou2_name	The route number or other identifier that is affiliated with the second route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1036	rou2_typ_d	The second route type for the road (Interstate, U.S., State, and so on)	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		[U.S. CADD Feature Table]				
1037	rou3_name	The number or other identifier that is affiliated with the third route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1038	rou3_typ_d	The third route type for the road (Interstate, U.S., State, and so on) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1039	tunnel_d	Indicates given road segment is tunnel ("Y"- is a tunnel, "N"-is not a tunnel) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1040	use_typ_d	The current usage status of the road [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1041	feat_name	Any commonly used name for the road centerline [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1042	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1043	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1044	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1045	RoadPoint	A point along the roadway system which has some special significance either for starting or ending a road segment or for representing a significant position along the roadway system such as the start or center of a bridge or the center of an	M		<<Feature>>	Lines 1046-1051

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		intersection [ANSI, Part 7c: Roads]				
1046	geometry	Geometry of the feature	M	1		GM_Point
1047	roadpoint_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1048	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1049	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1050	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1051	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1052	RoadSegment	Represents a linear section of the physical road system designed for, or the result of, human or vehicular movement; must be continuous (no gaps) and cannot branch; no mandates are provided on how to segment the road system except that data providers adopt a consistent method [ANSI, Part 7c: Roads]	M		<<Feature>>	Lines 1053-1071
1053	geometry	Geometry of the feature	M	1		GM_Surface
1054	rd_seg_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1055	alt_name	The alternate name or second name for the road [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1056	bridge_d	Indicates given road segment is bridge (Y- a is bridge, N-is not a bridge) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1057	feat_desc	A general description of the road [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1058	num_lanes	The total number of lanes of traffic, counting both directions, not including turning lanes [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1059	rou1_name	The route number or other identifier that is affiliated with the first route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1060	rou1_typ_d	The first route type for the road (Interstate, U.S., State, and so on) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1061	rou2_name	The route number or other identifier that is affiliated with the second route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1062	rou2_typ_d	The second route type for the road (Interstate, U.S., State, and so on) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1063	rou3_name	The number or other identifier that is affiliated with the third route type [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1064	rou3_typ_d	The third route type for the road (Interstate, U.S., State, and so on) [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1065	seg_len	The length of the road segment measured at the centerline [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1066	seq_width	The average width of the road segment [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1067	srf_typ_d	Type of material used to construct the surface [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1068	tunnel_d	Indicates given road segment is tunnel (Y- is a tunnel, N-is not a tunnel) [U.S. CADD Feature Table]	O	1	Boolean	Unrestricted
1069	road_name	A common name or street name used to refer to the stretch of road [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1070	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1071	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1072	Sidewalk	A paved or concrete pad used as a pedestrian walkway. Usually is composed of one or more SideWalkSegments [U.S. CADD]	M		<<Feature>>	Lines 1073-1083
1073	geometry	Geometry of the feature	M	1		GM_Curve
1074	walk_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1075	ada_acc_d	Boolean indicating whether or not the walkway is in compliance with the American Disabilities Act [U.S. CADD Feature Tab	O	1	Boolean	Unrestricted
1076	pri_matl_d	Primary material used in the sidewalk and/or trail [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1077	sec_len	The overall length of the sidewalk section [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1078	sec_width	The mean width of the sidewalk section [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1079	walk_use	A short description of the primary use of the sidewalk [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1080	feat_name		O	1	CharacterString	Unrestricted
1081	feat_desc	A brief description of any special characteristics of the sidewalk [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1082	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1083	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1084	Tunnel	The area of a transportation passage, open at both ends, used to provide access through or under a natural obstacle [U.S. CADD]	M		<<Feature>>	Lines 1085-1096

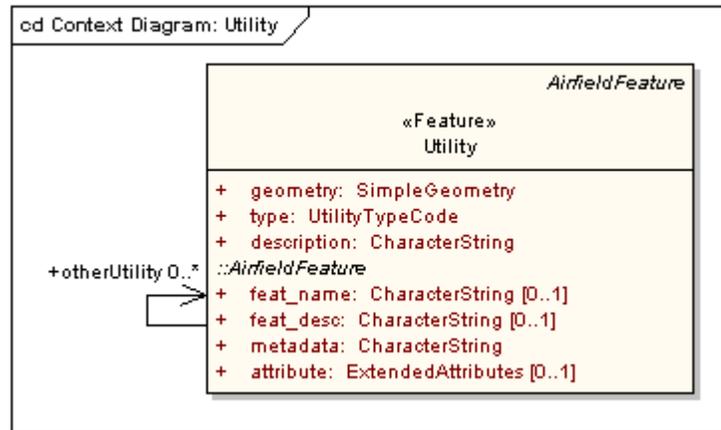
Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1085	geometry	Geometry of the feature	M	1		GM_Surface
1086	tunnel_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1087	avg_ht	The average height of the tunnel [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1088	avg_wd	The average width of the tunnel [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1089	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
1090	tun_typ_d	The code that represents the type of tunnel [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1091	tunnel_len	The length of the tunnel [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1092	vert_clr	Indicates the actual vertical clearance to the top of the tunnel imposed by any restrictions (measured in meters) [U.S. CADD Feature Table]	O	1	Real	Unrestricted
1093	feat_name	Any commonly used name for the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1094	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1095	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1096	attribute	An operator defined work area. This attribute can be used by the operator	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		for user defined system processes. It does not affect the subject item's data integrity and should not be used to store subject item's data				

1105 **6.14 Utilities feature**



1106

1107

Figure 19 – Context diagram for Utilities feature

1108

1109

Table 14 – Utilities feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1097	TankSite	An above or below grade receptacle or chamber for holding anything (for example, fuels, water, waste, and so on) on a temporary basis prior to transfer, use, or disposal. Tanks are located on TankSites [U.S. CADD]	M		<<Feature>>	Lines 1098-1109
1098	geometry	Geometry of the feature	M	1		GM_Surface
1099	unktnk_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1100	color_d	The color of the marking	O	1	CharacterString	color_d Enumeration
1101	lightCode	A code indicating that the obstacle is lighted [AIXM]	O	1	Boolean	Unrestricted
1102	lightingType_d	A description of the lighting system. Lighting system classifications are Approach; Airport; Runway; Taxiway; and Obstruction	O	1	CharacterString	lightingType_d Enumeration
1103	markingFeatureType_d	The type of the marking	O	1	CharacterString	markingFeatureType_d Enumeration
1104	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1105	tank_type	Name of the feature	O	1	CharacterString	Unrestricted
1106	top_elv	The dimension indicating the elevation of exterior top surface of the tank's lid, hatch, rim, or roof in feet (English units) or meters (SI units) above some datum, if it is known [U.S. CADD Feature Table]	O	1	Real	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

1107	verticalStructureMaterial_d	Classifies the predominant material of the vertical object	O	1	CharacterString	verticalStructureMaterial_d Enumeration
1108	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1109	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1110	UtilityLine	Any utility feature that can be represented as a line	O		<<Feature>>	Lines 1111-1116
1111	geometry	Geometry of the feature	M	1		GM_Curve
1112	utilityline_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1113	utilityType_d	The class of utility based on U.S. CADD Entity Class definitions	O	1	CharacterString	utilityType_d Enumeration
1114	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1115	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1116	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1117	UtilityPoint	Any utility feature that can be represented as a point	O		<<Feature>>	Lines 1118-1123
1118	geometry	Geometry of the feature	M	1		GM_Point

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

1119	utilityClass_d	The class of utility based on U.S. CADD Entity Class definitions	O	1	CharacterString	utilityClass_d Enumeration
1120	utilitypoint_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1121	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1122	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1123	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1124	UtilityPolygon	Any utility feature that can be represented as a polygon	O		<<Feature>>	Lines 1125-1130
1125	geometry	Geometry of the feature	M	1		GM_Surface
1126	utilitypolygon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1127	utilityType_d	The class of utility based on SDSFIE Entity Class definitions	O	1	CharacterString	utilityType_d Enumeration
1128	feat_desc	Any brief description of the feature [U.S. CADD Feature Table]	O	1	CharacterString	Unrestricted
1129	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1130	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be	O	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

		used to store the subject item's data				
--	--	---------------------------------------	--	--	--	--

1110 **6.15 Other Features feature**

1111

1112

Table 15 – Other Features feature data dictionary

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
1131	OtherLine	Other polygon features not elsewhere classified	O		<<Feature>>	Lines 1131-1137
1132	geometry	Geometry of the feature	M	1		GM_Curve
1133	otherline_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1134	featureType	The type of feature	O	1	CharacterString	Unrestricted
1135	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Attribute Table also known as "narrative"]	O	1	CharacterString	Unrestricted
1136	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1137	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes. It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1138	OtherPoint	Other line features not elsewhere classified	O		<<Feature>>	Lines 1139-1144
1139	geometry	Geometry of the feature	M	1		GM_Point
1140	otherpoint_id	Primary Key. A globally unique identifier assigned to the instance of	O	1	Number	Unrestricted

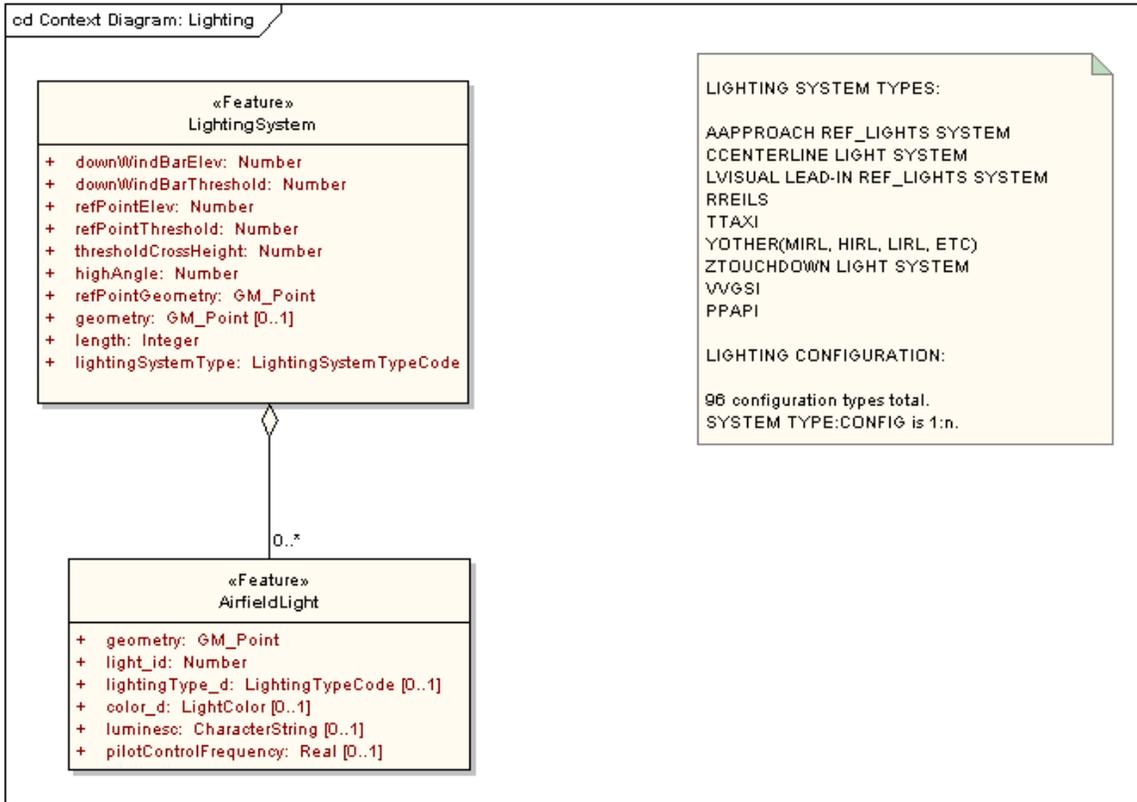
Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		a feature type [FAA Airports GIS]				
1141	featureType	The type of feature	O	1	CharacterString	Unrestricted
1142	metadata	Foreign Key. Used to link the record to the applicable feature level metadata record(s)	M	1	CharacterString	Unrestricted
1143	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted
1144	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Attribute Table also known as "narrative"]	O	1	CharacterString	Unrestricted
1145	OtherPolygon	Other point features not elsewhere classified	O		<<Feature>>	Lines 1146-1151
1146	geometry	Geometry of the feature	M	1		GM_Surface
1147	otherpolygon_id	Primary Key. A globally unique identifier assigned to the instance of a feature type [FAA Airports GIS]	O	1	Number	Unrestricted
1148	featureType	The type of feature	O	1	CharacterString	Unrestricted
1149	feat_desc	A description or other unique information concerning the subject item, limited to 240 characters [U.S. CADD Attribute Table also known as "narrative"]	O	1	CharacterString	Unrestricted
1150	metadata	Foreign Key. Used to link the record to the applicable feature level	M	1	CharacterString	Unrestricted

Information Technology – Geographic Information Framework Data Content Standard
 Part 7a: Air

Line	Name/Role Name	Definition	Obligation/ Condition	Maximum Occurrence	Data Type	Domain
		metadata record(s)				
1151	attribute	An operator defined work area. This attribute can be used by the operator for user defined system processes It does not affect the subject item's data integrity and should not be used to store the subject item's data	O	1	CharacterString	Unrestricted

1113 **6.16 Lighting feature**



1114
 1115
 1116

Figure 20 – Context diagram for Lighting feature

1117 **6.17 Enumerations**

1118

Table 16 – airportFacilityType_d enumeration

HP	Heliport only
AH	Airport with helicopter landing area
AD	Airport only

1119

1120

Table 17 – approachCat_d enumeration

A	Speed less than 91 knots
E	Speed 166 knots or more
D	Speed 141 knots or more but less than 166 knots
B	Speed 91 knots or more but less than 121 knots
C	Speed 121 knots or more but less than 141 knots

1121

1122

Table 18 – approachType_d enumeration

AP2	ANA PC CAT 2/3 REVISION DATE: 1/28/2004
NUL	NUL
PC1	ANA PC CAT 1
PC2	ANA PC CAT 2/3
AP1	ANA PC CAT 1 REVISION DATE: 1/28/2004

1123

1124

Table 19 – apronType_d enumeration

Hardstand	Area for parking a single aircraft; more temporary than a PARKING_AREA. [U.S. CADD]
Access Ramp	Access pavement between maintenance hangars opening to the apron and the apron edge.
Apron	Apron
CargoLoading	Cargo loading area used for the loading/unloading of cargo
Fueling Area	Area used for aircraft fueling
Maintenance	Area used for aircraft maintenance
PassengerLoading	Passenger loading area used for the loading/unloading of passengers

Turnaround	Area for aircraft to turn around [Source U.S. CADD]
Parking Area	Area used to park aircraft
De-icing	Area used for the de-icing of aircraft

1125

1126

Table 20 – color_d enumeration

Green	Green [U.S. CADD]
Violet	Violet [U.S. CADD]
TBD	to be determined [U.S. CADD]
Red	Red [U.S. CADD]
Yellow	Yellow [U.S. CADD]
Pink	Pink [U.S. CADD]
Orange	Orange [U.S. CADD]
Magenta	Magenta [U.S. CADD]
Grey	Grey [U.S. CADD]
Brown	Brown [U.S. CADD]
Blue	Blue [U.S. CADD]
Black	Black [U.S. CADD]
White	White [U.S. CADD]
Amber	Amber [U.S. CADD]
LightGrey	LightGrey [U.S. CADD]
Other	Other [U.S. CADD]

1127

1128

1129

Table 21 – designGroup_d enumeration

I	Up to but not including 49 ft (15 m)
II	49 ft (15 m) up to but not including 79 ft (24 m)
III	79 ft (24 m) up to but not including 118 ft (36 m)
IV	118 ft (36 m) up to but not including 171 ft (52 m)
V	171 ft (52 m) up to but not including 214 ft (65 m)
VI	214 ft (65 m) up to but not including 262 ft (80 m)

1130

1131

Table 22 – designSurfaceType_d enumeration

POFA	Precision object free area (See AC 150/5300-13, paragraph 307)
TSS	Threshold Siting Surface (See AC 150/5300-13, Appendix 2)
TSA	Threshold sighting area
TOFA	Taxiway and taxilane object free area (See AC 150/5300-13, paragraph 404)
RWYPTX	Runway to Parallel Taxiway and Taxilane Separation
RSZ	Runway safety zone
RSA	Runway safety area
RPZ	Runway protection zone (See AC 150/5300-13, paragraph 212)
TXSA	Taxiway safety area (See AC 150/5300-13, paragraph 403)
PRSVFR	Parallel Runway Separation Simultaneous VFR Operations
PRSIFR	Parallel Runway Separation Simultaneous IFR Operations
BRL	Building restriction line (not a standard)
ROFA	Runway object free area (See AC 150/5300-13, paragraph 307)
OFZ	Obstacle free zone (See AC 150/5300-13, paragraph 306)

1132

1133

Table 23 – directionality_d enumeration

BI	Bidirectional
ES	One way from end-to-startpoint
SE	One way from start-to-endpoint

1134

1135

Table 24 – faaRegion_d enumeration

ASO	Southern
AAL	Alaska
ACE	Central
AEA	Eastern
AGL	Great Lakes
ASW	Southwest
ANM	Northwest Mountain

AWP	Western Pacific
ANE	New England

1136

1137

Table 25 – gate_stand_type_d enumeration

TM	Temporary
HS	Hard stand
SR	Stairs
JB	Jet bridge

1138

1139

Table 26 – haz_typ_d enumeration

Bash	[U.S. CADD]
Unknown	[U.S. CADD]
Tortoise_Pitfall	[U.S. CADD]
Deer Strike	[U.S. CADD]
TBD	[U.S. CADD]

1140

1141

Table 27 – landmarkType_d enumeration

QUARRY	
UTILITY LINE	
OTHER	
AIRPORT	
LEVEE	
ROAD	
FENCE	
SHORELINE	
SHORELINE FEATURE BOUNDARY	
RAILROAD	

1142

1143

Table 28 – landUse_d enumeration

7140	Skiing, snowboarding, and so on (Source: APA LBCS)
6800	Historical or cultural celebrations, parades, reenactments, and so on (Source: APA LBCS)
7000	Leisure activities (Source: APA LBCS)

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

5400	Trains or other rail movement (Source: APA LBCS)
7100	Active leisure sports and related activities (Source: APA LBCS)
7110	Running, jogging, bicycling, aerobics, exercising, and so on (Source: APA LBCS)
5410	Rail maintenance, storage, or related activities (Source: APA LBCS)
7130	Hockey, ice skating, and so on (Source: APA LBCS)
5510	Boat mooring, docking, or servicing (Source: APA LBCS)
7150	Automobile and motorbike racing (Source: APA LBCS)
7160	Golf (Source: APA LBCS)
7180	Tennis (Source: APA LBCS)
7190	Track and field, team sports (baseball, basketball, and so on), or other sports (Source: APA LBCS)
7120	Equestrian sporting activities (Source: APA LBCS)
6700	Gatherings at galleries, museums, aquariums, zoological parks, and so on (Source: APA LBCS)
6600	Social, cultural, or religious assembly (Source: APA LBCS)
5520	Port, ship-building, and related activities (Source: APA LBCS)
5600	Aircraft takeoff, landing, taxiing, and parking (Source: APA LBCS)
5700	Spacecraft launching and related activities (Source: APA LBCS)
6000	Mass assembly of people (Source: APA LBCS)
6100	Passenger assembly (Source: APA LBCS)
6200	Spectator sports assembly (Source: APA LBCS)
6300	Movies, concerts, or entertainment shows (Source: APA LBCS)
6400	Gatherings at fairs and exhibitions (Source: APA LBCS)
6500	Mass training, drills, and so on (Source: APA LBCS)
7200	Passive leisure activity (Source: APA LBCS)

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

8200	Livestock related activities (Source: APA LBCS)
5500	Sailing, boating, and other port, marine and water-based activities (Source: APA LBCS)
8100	Farming, tilling, plowing, harvesting, or related activities (Source: APA LBCS)
9999	To be determined (Source: APA LBCS)
9990	To be determined (Source: APA LBCS)
9900	To be determined (Source: APA LBCS)
9300	Subsurface activity (Source: APA LBCS)
9200	Unclassifiable activity (Source: APA LBCS)
9100	Not applicable to this dimension (Source: APA LBCS)
9000	No human activity or unclassifiable activity (Source: APA LBCS)
8700	Drilling, dredging, and so on (Source: APA LBCS)
8600	Mining including surface and subsurface strip mining (Source: APA LBCS)
8500	Quarrying or stone cutting (Source: APA LBCS)
8400	Logging (Source: APA LBCS)
4320	Sewer-related control, monitor, or distribution activities (Source: APA LBCS)
8000	Natural resources-related activities (Source: APA LBCS)
8300	Pasturing, grazing, and so on (Source: APA LBCS)
7210	Camping (Source: APA LBCS)
7460	Water-skiing (Source: APA LBCS)
7450	Scuba diving, snorkeling, and so on (Source: APA LBCS)
7440	Fishing, angling, and so on (Source: APA LBCS)
7430	Swimming, diving, and so on (Source: APA LBCS)
7420	Canoeing, kayaking, and so on (Source: APA LBCS)
7410	Boating, sailing, and so on (Source: APA LBCS)
7400	Water sports and related leisure activities (Source: APA LBCS)

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

7300	Flying or air-related sports (Source: APA LBCS)
7260	Trapping (Source: APA LBCS)
7250	Shooting (Source: APA LBCS)
7240	Promenading and other activities in parks (Source: APA LBCS)
7230	Hunting (Source: APA LBCS)
7220	Gambling (Source: APA LBCS)
5220	Drive-in, drive through, stop-n-go, and so on (Source: APA LBCS)
2320	Office activities with high turnover of automobiles (Source: APA LBCS)
4130	Other instructional activities including those that occur in libraries (Source: APA LBCS)
4120	Training or instructional activities outside classrooms (Source: APA LBCS)
4110	Classroom-type activities (Source: APA LBCS)
4100	School or library activities (Source: APA LBCS)
4000	Social, institutional, or infrastructure-related activities (Source: APA LBCS)
3300	Construction activities (grading, digging, and so on) (Source: APA LBCS)
3230	Waste processing or recycling (Source: APA LBCS)
3220	Landfilling or dumping (Source: APA LBCS)
3210	Solid waste collection and storage (Source: APA LBCS)
3200	Solid waste management activities (Source: APA LBCS)
3120	Primarily goods storage or handling activities (Source: APA LBCS)
3110	Primarily plant or factory-type activities (Source: APA LBCS)
4200	Emergency response or public-safety-related activities (Source: APA LBCS)
3000	Industrial, manufacturing, and waste-related activities (Source: APA LBCS)
1300	Institutional living (Source: APA LBCS)
2310	Office activities with high turnover of people (Source: APA LBCS)
2300	Office activities (Source: APA LBCS)

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

2210	Restaurant-type activity with drive-through (Source: APA LBCS)
2200	Restaurant-type activity (Source: APA LBCS)
2120	Service-oriented shopping (Source: APA LBCS)
2110	Goods-oriented shopping (Source: APA LBCS)
2100	Shopping (Source: APA LBCS)
2000	Shopping, business, or trade activities (Source: APA LBCS)
5210	Vehicular parking, storage, and so on (Source: APA LBCS)
1200	Transient living (Source: APA LBCS)
4322	Sewer treatment and processing (Source: APA LBCS)
1000	Residential activities (Source: APA LBCS)
3100	Plant, factory, or heavy goods storage or handling activities (Source: APA LBCS)
4700	Military base activities (Source: APA LBCS)
1100	Household activities (Source: APA LBCS)
4210	Fire and rescue-related activities (Source: APA LBCS)
5200	Vehicular movement (Source: APA LBCS)
5100	Pedestrian movement (Source: APA LBCS)
5000	Travel or movement activities (Source: APA LBCS)
4710	Ordnance storage (Source: APA LBCS)
4600	Interment, cremation, or grave digging activities (Source: APA LBCS)
4500	Health care, medical, or treatment activities (Source: APA LBCS)
4430	Storage of chemical, nuclear, or other materials (Source: APA LBCS)
4420	Storage of natural gas, fuels, and so on (Source: APA LBCS)
4410	Water storage (Source: APA LBCS)
4400	Mass storage, inactive (Source: APA LBCS)
4350	Natural gas or fuels-related control, monitor, or distribution activities (Source: APA LBCS)
4311	Water storing, pumping, or piping (Source: APA LBCS)

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

	APA LBCS)
4230	Emergency or disaster-response-related activities (Source: APA LBCS)
4220	Police, security, and protection-related activities (Source: APA LBCS)
4720	Range and test activities (Source: APA LBCS)
4340	Telecommunications-related control, monitor, or distribution activities (Source: APA LBCS)
4300	Activities associated with utilities (water, sewer, power, and so on) (Source: APA LBCS)
4310	Water-supply-related activities (Source: APA LBCS)
4312	Water purification and filtration activities (Source: APA LBCS)
4313	Irrigation water storage and distribution activities (Source: APA LBCS)
4314	Flood control, dams, and other large irrigation activities (Source: APA LBCS)
4321	Sewage storing, pumping, or piping (Source: APA LBCS)
4330	Power generation, control, monitor, or distribution activities (Source: APA LBCS)
4331	Power transmission lines or control activities (Source: APA LBCS)
4332	Power generation, storage, or processing activities (Source: APA LBCS)

1144

1145

Table 29 – lightingType_d enumeration

PAPI-4	Precision Approach Path Indicator with 4 lights
VASI-2	Visual Approach Slope Indicator with 2 bars
SSALR	Simplified Short Approach Lighting System
PAPI-2	Precision Approach Path Indicator with 2 lights
RCLS	Runway Centerline Lighting System
REIL	Runway End Identifier Lights
RWYGRD	Runway Guard Lights
PVASI	Pulsating Visual Approach Slope Indicators
STPBAR	Stop Bar Lights

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

TCTL	Taxiway Centerline Lights
TDZL	Touchdown Zone Lighting
TLOF	Taxiway Lead-Off Lights
TRCV	Tri-Color Visual Approach Slope Indicator
VASI-16	Visual Approach Slope Indicator with 3 bars and 16 boxes
VASI-2-2	Visual Approach Slope Indicator with 2 bars and 2 boxes
ODALS	Omni Directional Approach Lighting System
LITL	Low Intensity Taxiway Edge Lights
VASI-3	Visual Approach Slope Indicator with 3 bars
VASI-12	Visual Approach Slope Indicator with 2 bars and 12 boxes
ALSF-2	High Intensity Approach Lighting System - Configuration 2
MALSR	Medium Intensity Approach Lighting Systems with Runway Alignment Indicator Lights (RAIL)
ALSF-1	High Intensity Approach Lighting System - Configuration 1
OBSWHT	Flashing White Obstruction Lights
APAP	Alignment of Elements Systems
APTBCN	Airport or Heliport Beacon
CLRBAR	Taxiway Clearance Bar Lights
CODEBCN	Code Beacon
COURSE	Course Lights
LAHSO	Land and Hold Short Lights
LIRL	Low Intensity Runway Edge Light System
MALSF	Medium Intensity Approach Lighting Systems with Sequenced Flashing Lights
MIRL	Medium Intensity Runway Edge Light System
MITL	Medium Intensity Taxiway Edge Lights
OBSCAT	Catenary Lighting
OBSDUAL	A combination of OBSRED and OBSDUAL
OBSRED	Aviation Red Obstruction Lights
HIRL	High Intensity Runway Edge Light System

1147

Table 30 – low_visibility_cat_d enumeration

1	Supports ILS CAT I low visibility operations
2	Supports ILS CAT II III low visibilioty operations
0	No low visibility operation supported

1148

1149

Table 31 – markingFeatureType_d enumeration

LAHSO	Marking associated with a Land And Hold Short Operations (LAHSO)
APRNSIGN	Surface painted apron position/entrance sign (Geometry Type: Polygon) [FAA AC 150/5340-1]
ARROW	Arrows identify the dsplaced threshold area to provide centerline guidance for takeoffs and rollouts (Geometry Type: Line) [So
ARROWHD	Arrow heads are used in conjunction with a threshold bar to further highlight the beginning of a runway (Geometry Type: Line) [
CHEVRON	A marking used to designate blast pads and other areas that are not suitable for aircraft (Geometry Type: Line) [FAA AC 150
DEMARK	Demarcation Bar (Geometry Type: Line) [FAA AC 150/5340-1]
DIRSIGN	Surface painted taxiway direction signs (Geometry Type: Polygon) [FAA AC 150/5340-1]
GATELINE	All painted taxilines covering a parking stand area are regarded as stand guidance lines and shall be individual objects in the
GATESIGN	Surface painted gate position signs (Geometry Type: Polygon) [FAA AC 150/5340-1]
HOLDSIGN	Surface painted holding position signs (Geometry Type: Polygon) [FAA AC 150/5340-1]
AIMINGPT	Runway Aiming Point (Geometry Type: Polygon) [FAA AC 150/5340-1]
TWYCTL	Taxiway Centerline (Geometry Type: Line) [FAA AC 150/5340-1]
INTRHOLD	Holding position marking for taxiway/taxiway intersections (Geometry Type: Line) [FAA AC 150/5340-1]
VEHICLE	Vehicle roadway markings (Geometry Type: Line) [FAA AC 150/5340-1]
TWYSHD	Taxway shoulder marking (Geometry Type: Line) [FAA AC 150/5340-1]

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

TWYEDGE	Taxiway edge marking (Geometry Type: Line) [FAA AC 150/5340-1]
THRSHBAR	Runway Threshold Bar (Geometry Type: Polygon) [FAA AC 150/5340-1]
TEMPCLSE	Markings for temporarily closed runways and taxiways (Geometry Type: Line) [FAA AC 150/5340-1]
TDZMARK	Runway Touchdown Zone Marking (Geometry Type: Polygon) [FAA AC 150/5340-1]
SIDESTRP	Runway Side Stripe Marking (Geometry Type: Line) [FAA AC 150/5340-1]
RWYTHRSH	Runway Threshold Marking (Geometry Type: Polygon) [FAA AC 150/5340-1]
RWYSHD	Runway shoulder markings (Geometry Type: Line) [FAA AC 150/5340-1]
NONMOVE	Non-movement area marking (Geometry Type: Line) [FAA AC 150/5340-1]
TWYHOLD	Runway hold position markings on taxiways (Geometry Type: Polygon) [FAA AC 150/5340-1]
RWYID	Runway Designation Marking (Geometry Type: Polygon) [FAA AC 150/5340-1]
ILSHOLD	Holding position markings for Instrument Landing Systems (Geometry Type: Polygon) [FAA AC 150/5340-1]
LOCSIGN	Surface painted taxiway location signs (Geometry Type: Polygon) [FAA AC 150/5340-1]
OTHLINE	Other markings suitable for representation as a line
OTHPOLY	Other markings suitable for representation as a polygon
PERMCLSE	Markings for permanently closed runways and taxiways (Geometry Type: Polygon) [FAA AC 150/5340-1]
POSSIGN	Geographic position markings (Geometry Type: Polygon) [FAA AC 150/5340-1]
RWYCTL	Runway Centerline (Geometry Type: Line) [FAA AC 150/5340-1]
RWYHOLD	Runway holding position markings on Runways (Geometry Type: Polygon) [FAA AC 150/5340-1]

1150
1151

Table 32 – NavaidEquipTypeCode_d enumeration

NDB/U - NDB	Required
-------------	----------

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

VOT - VOT	Required
TLS - APGS	Required
SDF - SDF	Required
SECRA - SECRA	Required
TACAN - TACAN	Required
PAR - PAR	Required
TLS - APLOC	Required
VDME - DME	Required
VDME - VOR	Required
VOR - VOR	Required
VORTAC - VOR	Required
NDB/M - NDB	Required
MLS - AZ	Required
VORTAC - TACAN	Required
DME - DME	Required
ARSR - ARSR	Required
MLS - ELEV	Required
DF - DF	Required
NDB/H - NDB	Required
FAN - FAN	Required
ILS - GS	Required
ILS - LOC	Required
MLS - DME	Required
MSBLS - AZ	Required
MSBLS - DME	Required
MSBLS - ELEV	Required
NDB/C - NDB	Required
LOC - LOC	Required
ASR - ASR	Required

1152

1153

Table 33 – NavaidSysTypeCode_d enumeration

VOT	VOR Test
PAR	Precision Approach Radar
SECRA	Secondary Radar

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

TACAN	Tactical Air Navigation
TLS	Transponder Landing System
VDME	VHF Omnirange w/Distance Measuring Equipment
Visual	
VORTAC	VHF Omnirange w/Tactical Air Navigation
NDB/M	Nondirectional Radio Beacons/Medium HF
NDB/U	Nondirectional Radio Beacons/Ultra HF
VOR	VHF Omnirange
ILS	Instrument Landing System
SDF	Simplified Direction Facility
ASR	Airport Surveillance Radar
DF	Direction Finder
FAN	FAN Marker Beacon
LOC	Localizer System
MLS	Microwave Landing System
MSBLS	Microwave Scan Beam Landing System
NDB/H	Nondirectional Radio Beacon -- High Frequency
NDB/C	Nondirectional Radio Beacon -- Compass Locator
ARSR	Air Route Surveillance Radar
DME	Distance Measuring Equipment

1154

1155

Table 34 – obstacle_type_d enumeration

OR	Other
OP	OEP
WW	Worldwide DOD
SE	Spot Elevations
ST	State-Coded
FI	FIFO
AR	Army
AN	ANA
OC	Obstacle Chart

1156

1157

Table 35 – ObstAreaType_d enumeration

TREE	
URBAN	
MOBILE CRANE	
GROUND	
BUILDING	
AG EQUIP	Agricultural equipment

1158

1159

Table 36 – oisSurfaceCondition_d enumeration

SUPPLEMENTARY	
PRIMARY	

1160

1161

Table 37 – oisSurfaceType_d enumeration

RBI	Ron Brown Airport Initiative
ANA	Area Navigational Approach
CGR	Congressional
F77	FAR Part 77
OEP	Operational Evolution Plan

1162

1163

Table 38 – oisZoneType_d enumeration

TRANSITION	
PRIMARY	
APPROACH	
CONICAL	
HORIZONTAL	

1164

1165

Table 39 – operationsType_d enumeration

CIV	Civil operations only
JOINT	Joining military and civil operations
MIL	Military operations only
MILEXT	Military operations + civil operations allowed

1166

1167

Table 40 – owner_d enumeration

K	International Military
---	------------------------

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

X	Special
S	State
R	Army
P	Private
O	Other (Specify In Metadata)
L	International (U.S. Aid Funds)
I	International
H	International Public
F	FAA (Other Than F&E)
E	FAA F&E Projects
C	Coast Guard
B	Public
A	Air Force
J	International Private
N	Navy

1168

1169

Table 41 – PointType_d enumeration

9	Spot Elevation Point
UNDEFINED/OTHER	
AIRPORT_ELEV	
5	ElevationPoint
CENTERLINE_ELEV	This may be the same as CenterlinePoint
DISPLACED_THRESHOLD	
RUNWAY_END	This item should be deleted, see RunwayEnd feature
TACS	
STOPWAY_END	
7	HelipadReferencePoint
6	NavaidControlPoint
4	CenterlinePoint
3	RunwayControlPoint
2	Secondary Airport Control Station (SAC)
1	Primary Airport Control Station (PAC)
0	Airport Reference Point (ARP)

8	VerticalPointObject
---	---------------------

1170

1171

Table 42 – precisionApproachGuidance_d enumeration

6	ILS precision approach runway category III D
5	ILS precision approach runway category III C
4	ILS precision approach runway category III B
3	ILS precision approach runway category III A
2	ILS precision approach runway, category II
0	non precision approach runway
7	MLS precision approach
1	ILS precision approach runway, category I

1172

1173

Table 43 – projectStatus_d enumeration

PROPOSED	Not yet approved
IN_PROGRESS	In progress
PLANNED	Approved and planned

1174

1175

Table 44 – signTypeCode_d enumeration

OUT_DEST	Outbound Destination Sign
INFO	Signs installed on the airside of an airport, other than taxiway guidance signs or runway distance remaining signs.
TWY_LOC	Taxiway Location Sign
TWY_END	Taxiway Ending Marker
TWY_DIR	Taxiway Direction Sign
TERM	Inbound Destination Sign - gate positionsat which aircraft are loaded and unloaded
RWY_LOC	Runway Location Sign
RWY_EXIT	Runway Exit Sign
RWY_DIST_REM	Sign that designates the remaining runway distance to pilots during takeoff and landing operations
RSA_RWY_APPR	Runway Safety Area/OFZ and Runway Approach Boundary Sign
RD_YIELD	Yield sign in areas where vehicle roadways

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

	intersect runways or taxiways
RD_STOP	Stop sign in areas where vehicle roadways intersect runways or taxiways
PAX	Inbound Destination Sign - areas set aside for passenger handling
FUEL	Inbound Destination Sign - areas where aircraft are fueled or serviced
MIL	Inbound Destination Sign - areas set aside for military aircraft
NO_ENTRY	No Entry Sign
CARGO	Inbound Destination Sign - areas set aside for cargo handling
FBO	Inbound Destination Sign - fixed base operator
HOLD_ILS	Holding Position Sign for ILS Critical Areas
HOLD_RWY_APPR	Holding Position Sign for Runway Approach Areas
HOLD_RWY_RWY	Holding Position Sign for Runway/Runway Intersections
HOLD_TWY_RWY	Holding Position Sign for Taxiway/Runway
ILS_CRITICAL	ILS Critical Area Boundary Sign
INTL	Inbound Destination Sign - areas set aside for handling international flights
APRON	Inbound Destination Sign - general parking, servicing, and loading areas
CIVIL	Inbound Destination Sign - areas set aside for civil aircraft

1176

1177

Table 45 – status_d enumeration

ABANDONED	Abandoned [U.S. CADD]
OPERATIONAL	Operational (fully) [U.S. CADD]
WIP	Construction or work in progress
UNDERCONSTRUCTION	Planned or under construction [U.S. CADD]
TBD	To be determined [U.S. CADD]
SPOWER	Secondary power supply in operation
PARKED	Parked or disabled aircraft
NONOPERATIONAL	Non operational [U.S. CADD]
LIMITED	Limited operations [U.S. CADD]
FAILAID	Failure or irregular operation of visual aides

CLOSED	Closed surface [U.S. CADD]
ACTIVE	Active surface [U.S. CADD]
BKN	Broken or rough surface

1178

1179

Table 46 – surfaceCondition_d enumeration

GOOD	Good condition
POOR	Poor condition
FAIR	Fair condition

1180

1181

Table 47 – surfaceMaterial_d enumeration

CNG	Concrete ungrooved
W	Water
SI	Snow/Ice
GS	Turf
DS	Desert/Sand
CGs	Concrete and turf
CG	Concrete grooved
BE	Bare earth
ANG	Asphalt ungrooved
GR	Gravel
Ags	Asphalt and turf
AG	Asphalt grooved
CA	Concrete and asphalt

1182

1183

Table 48 – surfaceType_d enumeration

P	PAVED (SPECIALLY PREPARED HARD SURFACE)
S	SPECIAL (NOT A SPECIALLY PREPARED HARD SURFACE)
U	UNPAVED (SPECIALLY PREPARED HARD SURFACE)

1184

1185

Table 49 – taxiwayType_d enumeration

LI-LANE	Lead-in taxilane
APRON	Apron taxiway

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

T-AROUND	Turn around taxiway
STUB	Stub taxiway
S-TLANE	Gate/stand taxilane
PAR	Parallel taxiway
LO-TLANE	Lead-out taxilane
AIR-TLANE	Air taxilane
FASTEXIT	Rapid exit/turnoff taxiway
EXIT	Exit/turnoff taxiway
BYPASS	Bypass holding bay
AIRTWY	Air taxiway
GNDTWY	Ground taxiway

1186

1187

Table 50 – thresholdType_d enumeration

Normal	An indication that the landing threshold cooresponds to the end of the runway
Displaced	An indication that the landing threshold is located at a point other than the runway end.

1188

1189

Table 51 – utilityType_d enumeration

CNTRL_MNTR_SYSTEM	The components of an electronic monitoring and control system (EMCS) including cables, devices, and so on
NATURAL_GAS_SYSTEM	The components of a natural gas distribution system consisting of pipes, fittings, fixtures, and so on
WATER_SYSTEM	The components of a water system including pipes, fittings, fixtures, treatment plants, and so on
TRANSMISSION_SYSTEM	Objects related to the long distance transmission of gas, oil, or hazardous liquid.
STORM_SYSTEM	The components of a storm drainage collection system including pipes, fittings, fixtures, and so on
SALTWATER_SYSTEM	The components of a salt water collection system.
NUCLEAR	The components of a nuclear system such as nuclear fuel, nuclear research, nuclear waste, and nuclear weapons.
WASTEWATER_SYSTEM	The components of a wastewater collection system including pipes, fittings, fixtures, treatment plants, collection locations, e

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

HEAT_COOL_SYSTEM	The components of a heating and cooling distribution system consisting of pipes, fittings, fixtures, and so on
GENERAL	The components of utility system which are universal in use and purpose and do not belong to a specific utility.
FUEL_SYSTEM	The components of a fuel distribution system consisting of pipes, fittings, fixtures, pumps, tanks, and so on
ELECTRICAL_SYSTEM	The components of an electrical distribution system including cables, switches, devices, motors, transformers, and so on
COMPRESSED_AIR_SYSTEM	The components of a compressed air system.
INDUSTRIAL_SYSTEM	The components of an industrial waste collection system including pipes, fittings, fixtures, tanks, lagoons, and so on
ELECTRICAL_EXT_LIGHT	The components of an electrical exterior lighting system including cables, switches, devices, transformers, and so on. Does not incl

1190

1191

Table 52 – verticalStructureMaterial_d enumeration

6	Wood
1	Concrete
2	Metal
3	Stone/brick
4	Composition
5	Rock

1192

1193

Table 53 – zng_cls_d enumeration

RESIDENTIAL	Areas which are zoned for housing or residential development [U.S. CADD]
QUASI_PUBLIC	Areas which are zoned public although under private ownership or control [U.S. CADD]
COMMERCIAL	Areas which are zoned for merchandising, shopping, or other commercial development [U.S. CADD]
INDUSTRIAL	Areas which are zoned for factory, manufacturing, or other industrial development [U.S. CADD]

1194

1195

Table 54 – zone_type_d enumeration

PROJECTED	Areas expected to be subject to flooding in the future.
10_YEAR	Areas subject to 10 year flooding.

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

100_YEAR	Areas subject to 100 year flooding.
15_YEAR	Areas subject to 15 year flooding.
25_YEAR	Areas subject to 25 year flooding.
5_YEAR	Areas subject to 5 year flooding.
50_YEAR	Areas subject to 50 year flooding.
500_YEAR	Areas subject to 500 year flooding.
GENERAL	Areas prone to flooding in general

1196

1197
1198
1199

Annex A
(normative)
Normative references

1200 ANSI, Geographic information, Framework data content standard, Part 7: Transportation base,
1201 ANSI X.X.XXXX, Part XXXX, forthcoming

1202 ANSI, Geographic information, Framework data content standard, Part 7c: Roads, ANSI
1203 X.X.XXXX, Part XXXX, forthcoming

1204
1205
1206

Annex B (informative) Bibliography

- 1207 The following standards contain provisions, which through reference in this text constitute
1208 provisions of this American National Standard. For dated references, only the edition cited
1209 applies. For undated references, the latest edition of the referenced document applies.
- 1210 49 CFR 1520, Protection of sensitive security information, Code of Federal Regulations, October
1211 1, 2003, http://www.access.gpo.gov/nara/cfr/waisidx_03/49cfr1520_03.html, accessed October
1212 2005
- 1213 ASTM E1557-05, Standard classification of building elements and related sitework –
1214 UNIFORMAT II, American Society for Testing and Materials, <http://www.astm.org>, accessed
1215 October 2005
- 1216 Eurocontrol, Aeronautical information exchange model (AIXM), 2003, Edition 3.3,
1217 <http://www.eurocontrol.int/ais/aixm/conceptual.htm>, accessed October 2005
- 1218 Executive Order 12906, Federal register, Volume 59, Number 71, 1994
- 1219 FAA AC 150/5070-6B, Advisory circular - Airport master plans, Federal Aviation Administration,
1220 Draft, <http://www.faa.gov/arp/publications/acs/draftacs.cfm>
- 1221 FAA AC 150/53XX-XX, Geographic information system data standard – Volume D, Federal
1222 Aviation Administration, <http://airports-gis.faa.gov/>
- 1223 FAA No. 405, September 1996, Standards for aeronautical surveys and related products, 4th
1224 edition, Federal Aviation Administration,
1225 <http://www.ngs.noaa.gov/AERO/aerospecs.htm#FAA405>, accessed October 2005
- 1226 FAA, Safe flight 21 program, Federal Aviation Administration, (Adaptation of User Requirements
1227 for Aerodrome Mapping Information, RTCA/EUROCAE)
- 1228 FAR/AIM, 2002, Federal aviation regulations, Aeronautical information manual
- 1229 FGDC-STD-007.3-1998, Geospatial positioning accuracy standards, Part 3: National standard for
1230 spatial data accuracy, http://www.fgdc.gov/standards/status/sub1_3.html, accessed October 2005
- 1231 FGDC-STD-007.4-2002, Geospatial positioning accuracy standards, Part 4: Architecture,
1232 Engineering, Construction, and Facilities Management,
1233 http://www.fgdc.gov/standards/status/sub1_5.html, accessed October 2005
- 1234 ICAO Annex 15 – Aeronautical information services (AIS), 2003, International Civil Aviation
1235 Organization, 11th edition, <http://www.aviatechpubs.com/custom4.html>, accessed October 2005
- 1236 ISO 19107:2003, Geographic information – Spatial schema, <http://www.iso.org>, accessed
1237 October 2005
- 1238 ISO 19115:2003, Geographic information – Metadata, <http://www.iso.org>, accessed October 2005
- 1239 ISO 19136.CD:2004, Geographic information – Geography Markup Language, (Version 3.1)
- 1240 OGC 02-23r4, 2003, OpenGIS® Geography Markup Language (GML) implementation
1241 specification, Version 3.00, Open GIS Consortium, Inc., [http://www.opengis.org/docs/02-](http://www.opengis.org/docs/02-023r4.pdf)
1242 [023r4.pdf](http://www.opengis.org/docs/02-023r4.pdf), accessed October 2005
- 1243 OGC 03-003r10, 2003, Level 0 profile of GML3 for WFS, Version 0.0.10, Open GIS Consortium,
1244 Inc., http://portal.opengeospatial.org/files/?artifact_id=4347, accessed October 2005
- 1245 RTCA, DO-272, October 12, 2001, User requirements for aerodrome mapping information,
1246 Prepared by RTCA Special Committee 193 and EUROCAE Working Group 44

Information Technology – Geographic Information Framework Data Content Standard
Part 7a: Air

- 1247 RTCA, DO-276, User requirements for terrain and obstacle data, Prepared by RTCA Special
1248 Committee 193 and EUROCAE Working Group 44
- 1249 U.S. CADD/GIS Technology Center, Spatial data standards for facilities, infrastructure and the
1250 environment, Version 2.4, [https://tsc.wes.army.mil/products/tssds-
1251 tsfms/tssds/projects/sds/default.asp](https://tsc.wes.army.mil/products/tssds-tsfms/tssds/projects/sds/default.asp), accessed October 2005