Data Content Standard for Airport Obstruction Charts

DRAFT

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Required Output

AOC eALP Feature Definitions

Data Content standard for the required content of an AOC (includes features that will be submitted via EXG format and features derived from FAA's Airport Surveying-GIS Program database).

If no default values have been defined in numeric attributes, then -9999 should be used to indicate unknown, not applicable, or values not entered. Unknown, not applicable, or values not entered for non-coded string attribute entries may be left blank.

AirportControlPoint Feature Definition

Stereotype: Feature
Description: A control station established in the vicinity of, and usually on, an airport and tied to the National Spatial Reference System (NSRS).
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: NAME
Type: String
Description: Name of the feature.
Maximum Length: 40
Example: BWI F

Attribute Name: COMMENT
Type: String
Description: Additional information about the feature from the Field Survey.
Maximum Length: 80
Example: Contact Bill Abel, Airport Operations, at (410) 859-7018

Attribute Name: PID
Type: String
Description: Permanent IDentifier assigned by NGS to PACS and SACS.
Maximum Length: 6
Example: AA9297

Attribute Name: POINTTYPE
Type: String
Description: The type of Airport Control Stations set to meet high-stability standards and positioned to meet high accuracy standards relative to the NSRS.
Domain: ControlPointType
Maximum Length: 9
Example: PACS

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59

Maximum Length: 15
Example: 391017.92754

Attribute Name: LONGITUDE
Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -0763955.57787

Attribute Name: ELEVATION
Type: Float
Description: Elevation of the point relative to selected vertical datum.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 156.5

Attribute Name: ELLIP_HT
Type: Float
Description: The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called geodetic height.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 49.18

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 24-MAR-1998

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 30-NOV-2000

AirportReferencePoint Feature Definition

Stereotype: Feature
Description: The approximate geometric center of all usable runways (See attachment *** for equations).
Geometry Type: 2D-Point
Abbreviation: ARP

Attribute Name: NAME
Type: String
Description: Name of the feature. [Format: ARP(XXXX), where XXXX is the year of the most recent runway end survey used in the ARP computation.] [FAA No. 405] The year of the most recent runway end survey used in the ARP computation.
Maximum Length: 40
Example: ARP(2005)

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: 245328.7315

Attribute Name: LONGITUDE
Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -1235832.1281

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Apron Feature Definition

Stereotype: Feature
Description: A defined area on an airport or heliport, paved or unpaved, intended to accommodate aircraft for purposes of loading or unloading passengers or cargo, refueling, parking, or maintenance.
Geometry Type: 3D-Polygon
Abbreviation: APN

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: General Aviation Apron

Attribute Name: SURF_TYPE
Type: String
Description: Material used in finish of apron
Domain: SurfaceTypeCode
Maximum Length: 1
Example: P

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode
Maximum Length: 3
Example: OPN

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

BlastPad Feature Definition

Stereotype: Feature
Description: A specially prepared surface placed adjacent to the end of a runway to eliminate the erosive effect of the high wind forces produced by airplanes at the beginning of their takeoff rolls.
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Rwy End 36

Attribute Name: RWYENDID
Type: String
Description: Runway End designation painted on runway. Runway End identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. (See “rwyid” attribute of Runway Feature description for further description)
Maximum Length: 47
Examples: “ 7L”, “ 3 “

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1

Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Building Feature Definition

Stereotype: Feature
Description: A three-dimensional structure (e.g, hangers, terminals, etc.) modeled with a bounding polygon.
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Free form text description of the building structure (e.g., Hanger, 10, Terminal C, etc.)
Maximum Length: 40
Example: Hanger

Attribute Name: STRUCTHGHT
Type: Integer
Description: Maximum height of structure. The height of the building polygon is determined as the difference between the base elevation and top elevation.
Unit of Measure: Feet
Format: 99999
Maximum Length: 5
Example: 123

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode

Maximum Length: 3
Example: NUL

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

ConstructionArea Feature Definition

Stereotype: Feature
Description: 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.
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Constructing Terminal D

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.

Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

LandmarkSegment Feature Definition

Stereotype: Feature
Description: Geographic features that appear to be polygonal in shape located in the airport vicinity. The features should be of landmark value that aid in geographic orientation. The features may or may not have obstruction value. These may include objects such as roads, railroads, fences, utility lines, shoreline, levees, quarries, etc.
Geometry Type: 3D-Line
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Lake Howard

Attribute Name: ATTRIBUTE
Type: String
Description: Type of Landmark feature.
Domain: LandmarkType
Maximum Length: 25
Example: SHORELINE

Attribute Name: FEAT_STAT

Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode
Maximum Length: 3
Example: NUL

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

LowestOIS Feature Definition

Stereotype: Feature
Description: Lowest Obstruction Identification Surface that an obstacle may penetrate.
Geometry Type: 3D-Line
Abbreviation: None

Attribute Name: OIS_ZONE
Type: String
Description: Specifies zones within Obstruction Identification Surface (OIS).
Domain: OIS_ZoneType
Maximum Length: 50
Example: APPROACH

NavaidEquipment Feature Definition

Stereotype: Feature
Description: Any ground based visual or electronic device that provides point to point guidance information or position data to aircraft in flight.
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: NAV_TYPE
Type: String
Description: Specifies the type of navigational aid.
Domain: NavaidTypeCode
Maximum Length: 7
Example: LOC

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: CAT III

Attribute Name: COMMENT
Type: String
Description: Additional information about the feature from the Field Survey.
Maximum Length: 80
Example: Repositioned this survey

Attribute Name: RWYENDID
Type: String
Description: Runway End designation painted on runway. Runway End identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. (See “rwyid” attribute of Runway Feature description for further description)
Maximum Length: 47
Examples: “ 7L”, “ 3 “

Attribute Name: FAC_ID
Type: String
Description: ID of the associated Facility. Note that the Facility ID for NAVAIDS associated with a specific runway end (as with an ILS/MLS system identifier) is located in the Runway End Ids attribute.
Maximum Length: 4
Example: SUN

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: 245328.7315

Attribute Name: LONGITUDE

Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -1235832.1281

Attribute Name: BASE_ELEV
Type: Float
Description: The orthometric (MSL) vertical survey point for most NAVAIDS (refer to Volume C) will be the intersection of the ground, gravel, concrete pad, or other base and plumb line through the horizontal survey point. When access to this point is impractical, elevation of the vertical survey point will be approximated.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: B_ELIP_HT
Type: Float
Description: The ellipsoidal vertical survey point for most NAVAIDS (refer to Volume C) will be the intersection of the ground, gravel, concrete pad, or other base and plumb line through the horizontal survey point. When access to this point is impractical, elevation of the vertical survey point will be approximated.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 382.289

Attribute Name: REF_ELEV
Type: Float
Description: For ILS DME the orthometric (MSL) 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.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 472.845

Attribute Name: R_ELIP_HT
Type: Float
Description: For ILS DME the ellipsoidal 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.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 385.289

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode
Maximum Length: 3

Example: OPN

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Obstacle Feature Definition

Stereotype: Feature
Description: All fixed (whether temporary or permanent) and mobile objects, or parts thereof, that are located on an area intended for the surface movement of aircraft or represent a defined Obstruction Identification Surface.
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: NAME
Type: String
Description: Name of the feature. (See Attachment *** “Contractions”)
Maximum Length: 40
Example: TREE

Attribute Name: COMMENT
Type: String
Description: Additional information about the feature from the Field Survey.
Maximum Length: 80

Example: Dead Branch

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: 245328.7315

Attribute Name: LONGITUDE
Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -1235832.1281

Attribute Name: ELEVATION
Type: Float
Description: Elevation of the point relative to selected vertical datum.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: ELLIP_HT
Type: Float
Description: The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called geodetic height.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 382.289

Attribute Name: BASE_ELEV
Type: Float
Description: The orthometric (MSL) vertical survey point of the highest point of ground in contact with either the obstacle that is measured for a possible AGL or the structure on which the obstacle rest.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: B_ELIP_HT
Type: Float
Description: The ellipsoidal vertical survey point of the highest point of ground in contact with either the obstacle that is measured for a possible AGL or the structure on which the obstacle rest.

Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 382.289

Attribute Name: HACC
Type: Float
Description: Horizontal accuracy of entity as a 95% CE
Units of Measure: Feet
Format: XXX.XX
Maximum Length: 6
Example: 123.12

Attribute Name: VACC
Type: Float
Description: Vertical accuracy of entity as a 95% LE
Format: XXX.XX
Maximum Length: 6
Example: 123.12

Attribute Name: VACC_BASE
Type: Float
Description: Vertical accuracy of entity's base as a 95% LE
Format: XXX.XX
Maximum Length: 6
Example: 123.12

Attribute Name: AGL
Type: Integer
Description: Above Ground Level (AGL) elevation for man-made obstacles that are equal to or greater than 200 feet.
Format: 99999
Maximum Length: 5
Example: 12345

Attribute Name: PEN_SPEC
Type: Integer
Description: The elevation difference between the height of the obstacle and the most penetrating specified surface.
Units of Measure: Feet
Format: 99999
Maximum Length: 5
Example: 12345

Attribute Name: PEN_SUPP
Type: Integer
Description: The elevation difference between the height of the obstacle and the most penetrating supplemental surface.
Units of Measure: Feet
Format: 99999
Maximum Length: 5
Example: 12345

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.

Domain: FeatureStatusCode
Maximum Length: 3
Example: NUL

Attribute Name: HSRC
Description: Source used to derive the horizontal component of the feature.
Type: String
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: VSRC
Description: Source used to derive the vertical component of the feature.
Type: String
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

ObstructionArea Feature Definition

Stereotype: Feature
Description: 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.
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Predominantly Conifers

Attribute Name: OIS_COND

Type: String
Description: The Obstruction Identification Surface that Obstructing Area represents.
Domain: OIS_SurfaceConditionType
Maximum Length: 13
Example: SPECIFIED

Attribute Name: AREA_TYPE
Type: String
Description: Description of the Obstruction Area type.
Domain: ObstAreaType
Maximum Length: 15
Example: TREE

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

ObstructionIdentificationSurface Feature Definition

Stereotype: Feature
Description: A derived imaginary Obstruction Identification Surface defined by the FAA.
Geometry Type: 3D-Polygon
Abbreviation: N/A

Attribute Name: OIS_TYPE

Type: String
Description: Surface Type refers to the general type of surfaces used to analyze features. Surfaces of the same type usually are similar in nature with respect to certain aspects of the surface definition or may merely be representative of different programs within the airport charting community.
Domain: OIS_SurfaceTypeCode
Maximum Length: 4
Example: F77

Attribute Name: OIS_ZONE
Type: String
Description: Specifies zones within Obstruction Identification Surface (OIS).
Domain: OIS_ZoneType
Maximum Length: 50
Example: APPROACH

Attribute Name: APPTYPE
Type: String
Description: Specific the Approach type surface used to analyze features. The approach types must be an approach of the general surface type specified in the OIS_TYPE attribute.
Domain: ApproachTypeCode
Maximum Length: 3
Example: PIR

Attribute Name: OIS_COND
Type: String
Description: Specifies the Obstruction Identification Surface (OIS) as Specified or Supplemental. (refer to FAA NO. 405)
Domain: OIS_SurfaceConditionType
Maximum Length: 50
Example: SPECIFIED

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

RestrictedAccessBoundry Feature Definition

Stereotype: Feature
Description: A restricted area boundary defines aircraft movement area that is strictly reserved for use by authorized personnel only.
Geometry Type: 3D-Line
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Air National Guard

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Runway Feature Definition

Stereotype: Feature
Description: A defined rectangular area on an airport prepared for the landing and takeoff of aircraft.
Geometry Type: 3D-Polygon
Abbreviation: RWY

Attribute Name: RWYID

Type: String

Description: Runway end designations painted on runway. Runway identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. So, for example, a runway identified with "36" would stand for a 360 degrees direction (i.e. North). Each runway can be used in two directions, and hence has two numbers. Since the directions are necessarily opposite, the number of a runway can always be found by adding or subtracting 18 from the opposite runway number (whichever yields a positive number less than 37). If an airport has more than one runway pointing in the same direction, the runways are further identified by the letters L, C and R, for Left, Center and Right, behind the number. Such an example would be runways "36L", "36C" and "36R". If a runway end identification number includes a letter the opposite runway end must also include the opposite directional letter. Such an example of letter designations would be 18R.36L, 18C.36C, and 18L.36R. If a planned runway is designated with an 'X' then the opposite runway end must also be designated with an 'X'.

Coding: Runway-designator of both runway directions, separated by a ".". (beginning with smaller number).

Range: 1-18 followed by:

- blank - only runway with this azimuth
- L - left runway
- R - right runway
- C - center runway
- X – unmarked runway

Maximum Length: 7

Example: " 7L.25R"

Attribute Name: SURF_TYPE

Type: String

Description: Material used in finish of runway

Domain: SurfaceTypeCode

Maximum Length: 1

Example: P

Attribute Name: FEAT_STAT

Type: String

Description: A code indicating the status of the feature.

Domain: FeatureStatusCode

Maximum Length: 3

Example: OPN

Attribute Name: LENGTH

Type: Float

Description: [FAA No 405] 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.

Units of Measure: Feet

Range: None

Format: 99999999999.999

Maximum Length: 15

Example: 10000.456

Attribute Name: WIDTH

Type: Float

Description: 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.

Coding: If the runway width is less than 100 feet, the width is rounded up to the nearest 5 feet. If the runway width is more than 100 feet, the width is rounded to the nearest 10 feet. If the rounded width is different from the published width, NGS should be contacted for further advice.
Units of Measure: Feet
Range: None
Format: 99999999999.9999
Maximum Length: 15
Example: 156.456

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

RunwayEnd Feature Definition

Stereotype: Feature
Description: A point at the end of a runway that is available for landing.
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: RWYENDID
Type: String
Description: Runway End designation painted on runway. Runway End identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. (See “RWYID” attribute of Runway Feature description for further description)

Range: 1-18 followed by:
blank - only runway with this azimuth
L - left runway
R - right runway
C - center runway
X – unmarked runway
Maximum Length: 3
Examples: " 7L", " 3 "

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: 245328.7315

Attribute Name: LONGITUDE
Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds
Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -1235832.1281

Attribute Name: ELEVATION
Type: Float
Description: ELEVATION of the point relative to selected vertical datum.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: ELLIP_HT
Type: Float
Description: The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called geodetic height.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: TDZE
Type: Float
Description: Touch Down Zone Elevation.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15

Example: 469.845

Attribute Name: GEOD_AZ
Type: String
Description: Geodetic (True) Azimuth of Runway from designated Runway End.
Format: DDDMMSS where
DDD - Degrees
MM - Minutes
SS - Seconds
Maximum Length: 7
Example: 1802930

Attribute Name: MAG_BRNG
Type: String
Description: Magnetic Bearing of Runway from designated Runway End.
Format: DDD where
DDD - Degrees
Maximum Length: 3
Example: 180

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

RunwayLabel Feature Definition

Stereotype: Feature
Description: The bottom center position of the runway designation marking.
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: RWYENDID
Type: String
Description: Runway End designation painted on runway. Runway End identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. (See "rwyid" attribute of Runway Feature description for further description)
Maximum Length: 3
Examples: " 7L", " 3 "

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Numbers re-painted

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

RunwayPoint Feature Definition

Stereotype: Feature
Description: Points located on the straight line between the runway threshold points. This feature is used for Displaced Thresholds, Airport Elevation, Stopway Ends, Supplemental Profile Points, and Blast Pad end.
Geometry Type: 3D-Point
Abbreviation: None

Attribute Name: POINTTYPE
Type: String
Description: Required points along the runway centerline/centerline extended.
Domain: RwyPointType
Maximum Length: 15
Example: 245328.7315

Attribute Name: RWYID
Type: String
Description: Runway end designations painted on runway. Runway identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. So, for example, a runway identified with "36" would stand for a 360 degrees direction (i.e. North). Each runway can be used in two directions, and hence has two numbers. Since the directions are necessarily opposite, the number of a runway can always be found by adding or subtracting 18 from the opposite runway number (whichever yields a positive number less than 37). If an airport has more than one runway pointing in the same direction, the runways are further identified by the letters L, C and R, for Left, Center and Right, behind the number. Such an example would be runways "36L", "36C" and "36R". If a runway end identification number includes a letter the opposite runway end must also include the opposite directional letter. Such an example of letter designations wou ld be 18R.36L, 18C.36C, and 18L.36R. If a planned runway is designated with an 'X' then the opposite runway end must also be designated with an 'X'.
Coding: Runway-designator of both runway directions, separated by a ".". (beginning with smaller number).
Range: 1-18 followed by:
blank - only runway with this azimuth
L - left runway
R - right runway
C - center runway
X – unmarked runway
Maximum Length: 7
Example: " 7L.25R"

Attribute Name: LATITUDE
Type: Float
Description: Latitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents hemisphere.
Units of Measure: Degrees, Minutes, Seconds
Range: -900000 to +900000, values south represented as negative
Format: DDMMSS.SSSS where
-90 < DD < +90
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: 245328.7315

Attribute Name: LONGITUDE
Type: Float
Description: Longitude in Degrees, Minutes, Seconds (DDMMSS.SSSS) where sign represents.
Units of Measure: Degrees, Minutes, Seconds

Range: -1800000 to +1800000, values west represented as negative
Format: DDDMMSS.SSSS where
-180 < DDD < + 180
0 <= MM <= 59
0 <= SS <= 59
Maximum Length: 15
Example: -1235832.1281

Attribute Name: ELEVATION
Type: Float
Description: ELEVATION of the point relative to selected vertical datum.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: ELLIP_HT
Type: Float
Description: The height above the reference ellipsoid, measured along the ellipsoidal outer normal through the point in question. Also called geodetic height.
Units of Measure: Feet
Format: 99999999999.999
Maximum Length: 15
Example: 469.845

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: F

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year

Maximum Length: 11
Example: 18-DEC-1996

Shoreline Feature Definition

Stereotype: Feature
Description: The line of contact between the land and a body of water… (Shalowitz, A.L., 1964. Shore and Sea Boundaries. U.S. Department of Commerce, National Oceanic and Atmospheric Administration, National Ocean Service)
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Lake Howard

Stopway Feature Definition

Stereotype: Feature
Description: An area beyond the takeoff runway, no less wide than the runway and centered upon the extended centerline of the runway, able to support the airplane during an aborted takeoff, without causing structural damage to the airplane. It is designated by the airport authorities for use in decelerating the airplane during an aborted takeoff.
Geometry Type: 3D-Polygon
Abbreviation: STWY

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Thin asphalt layer

Attribute Name: RWYENDID
Type: String
Description: Runway End designation painted on runway. Runway End identification numbers must be unique. They are identified by the magnetic direction in which they point, rounding to the nearest ten degrees. (See “rwyid” attribute of Runway Feature description for further description)
Maximum Length: 47
Examples: “ 7L”, “ 3 “

Attribute Name: SURF_TYPE
Type: String
Description: Material used in finish of stopway
Domain: SurfaceTypeCode
Maximum Length: 1
Example: P

Attribute Name: LENGTH
Type: Float
Description: The straight line distance between the Runway End point and the Stopway End point. This line does not account for surface undulations between points. The value of the physical length of the stopway. This value shall be automatically calculated and stored from the geometry.
Units of Measure: Feet

Range: None
Format: 9999999999.999
Maximum Length: 14
Example: 1000.456

Attribute Name: WIDTH
Type: Float
Description: A perpendicular line to the surface centerline, extending to the edge of the stopway pavement on both sides of the stopway, through a stopway end-point.
Coding: If the stopway width is less than 100 feet, the width is rounded up to the nearest 5 feet. If the stopway width is more than 100 feet, the width is rounded to the nearest 10 feet. If the rounded width is different from the published width, NGS should be contacted for further advice.
Units of Measure: Feet
Range: None
Format: 9999999999.9999
Maximum Length: 15
Example: 156.4565

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: C

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

TaxiwaySegment Feature Definition

Stereotype: Feature

Description: Defined paths on an airport established for the taxiing of aircraft and intended to provide a link between one part of the airport and another.
Geometry Type: 3D-Polygon
Abbreviation: None

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: BARRICADES ON TWY 'E'.

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode
Maximum Length: 3
Example: CLD

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description: Most recent date the feature was verified to be valid.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

TLOF Feature Definition

Stereotype: Feature

Description: [AC 150/5390-2A] A load bearing, generally paved area, normally centered in the FATO, on which the helicopter lands or takes off. The TLOF is frequently called a helipad or helideck.
Geometry Type: 3D-Polygon
Abbreviation: TLOF

Attribute Name: DESCRIPT
Type: String
Description: Description of the feature.
Maximum Length: 40
Example: Faded paint markings

Attribute Name: FEAT_STAT
Type: String
Description: A code indicating the status of the feature.
Domain: FeatureStatusCode
Maximum Length: 3
Example: OPN

Attribute Name: HSRC
Type: String
Description: Source used to derive the horizontal component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: VSRC
Type: String
Description: Source used to derive the vertical component of the feature.
Domain: SourceTypeCode
Maximum Length: 1
Example: R

Attribute Name: DET_DATE
Type: String
Description: Date the feature was originally determined.
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Attribute Name: VER_DATE
Type: String
Description:
Format: dd-mmm-yyyy where
dd - 2 character integer day
mmm - First 3 alpha characters of the month
yyyy - 4 character integer year
Maximum Length: 11
Example: 18-DEC-1996

Codes

ApproachTypeCode

NUL	NUL
PC1	ANA PC CAT 1
PC2	ANA PC CAT 2/3
AP1	ANA PC CAT 1 REVISION DATE : 1/28/2004
AP2	ANA PC CAT 2/3 REVISION DATE : 1/28/2004
PIR	PRECISION INSTRUMENT APPROACH
ANP	NONPRECISION APPROACH - UTILITY RUNWAY
C	NONPRECISION APPROACH - VISIBILITY MINIMUMS GREATER THAN 3/4 MILE
D	NONPRECISION APPROACH - VISIBILITY MINIMUMS AS LOW AS 3/4 MILE
AV	VISUAL APPROACH - UTILITY RUNWAY
BV	VISUAL APPROACH
BVC	BV W/SUPPLEMENTAL C
OEP	OEP
RBI	RBI
CGP	CONGRESSIONAL PIR APPROACH
CGD	CONGRESSIONAL D APPRAOCH

FeatureStatusCode:

NUL	NOT APPLICABLE
CLD	CLOSED
NCM	NOT COMMISSIONED
OPN	OPEN
OTS	OUT OF SERVICE
UNC	UNDER CONSTRUCTION

LandmarkType:

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

NavaidTypeCode:

APBN	Airport Beacon
ALS	Approach Lights
ARSR	Air Route Surveillance Radar
ASR	Airport Surveillance Radar
ATCBI	ATCBI
BCM	Back Course Marker
DME	Distance Measuring Equipment
FM	Fan Marker
GS	Glide Slope
IM	Inner Marker
LDA	Localizer Type Directional Aid
LFR	Low Frequency Radio Range
LMM	Locator Middle Marker
LOC	Localizer
LOM	Locator Outer Marker
LRR	Long Range Radar
MLSAZ	MLS Azimuth Guidance
MLSEL	MLS ELEVATION Guidance
MLSDME	DME Associated With MLS
MM	Middle Marker
NDB	Nondirectional Beacon
NDB/DME	NDB / DME
OTHER	Other NAVAID
OM	Outer Marker
PAPI	PAPI
PAR	PAR
PLASI	PLASI
PVASI	PVASI
REIL	REIL
SDF	Simplified Directional Facility
STARS	STARS
TACAN	TACAN
TDR	GCA Touchdown Reflectors
TRCV	TRCV
TVASI	TVASI
VASI	VASI
VOR	VMF Omni Directional Range
VOR/DME	VOR / DME
VORTAC	VOR + TACAN

ObstAreaType:

AG EQUIP
BUILDING
GROUND
MOBILE CRANE
TREE
URBAN

OIS_SurfaceConditionType:

SPECIFIED
SUPPLEMENTARY

OIS_SurfaceTypeCode

F77	FAR PART-77
ANA	AREA NAVIGATIONAL APPROACH
RBI	RON BROWN AIRPORT INITIATIVE
OEP	OPERATIONAL EVOLUTION PLAN
CGR	CONGRESSIONAL

OIS_ZoneType

APPROACH
TRANSITION
PRIMARY
HORIZONTAL
CONICAL
MISSED APPROACH

ControlPointType:

UNDEFINED
PACS
SACS
TACS

RwyPointType:

NOT APPLICABLE
AIRPORT ELEV
AIRPORT ELEV/DTHLD
BLASTPAD END
DISPLACED THRESHOLD
STOPWAY END
SUPPLEMENTAL POINT

SourceTypeCode:

F	Field (ground survey: GPS or Classical)
R	Remote Sensing (measurements made from interpreted imagery)
E	Manual Entry (direct numerical edits performed in the field)
O	Office (direct numerical edits performed in the office)
C	Calculated (derived)

SurfaceTypeCode

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