

## Background and Questions to Consider in Reviewing NENA's Draft CLDXFv2 Address Data Standard

- A. Background.** The National Emergency Number Association (NENA) has requested public comment by **December 11, 2020** on:
1. Proposed revisions to its Civic Location Data Exchange Standard (CLDXFv2), and
  2. An accompanying guidance document on CLDXFv2 – FGDC address data conversion.
- B. Organization.** This document explains the revisions proposed in CLDXFv2, and how they compare with the FGDC and CLDXF1 standards. It then lists some questions to consider in reviewing CLDXFv2, about:
1. The definitions and usability of the proposed new elements.
  2. Implementation and maintenance questions.
  3. The proposed conversion procedure from CLDXFv2 to FGDC.
- Finally, the document includes URLs for the CLDXFv2 documents and comment instructions, and the definitions of the new elements proposed in CLDXFv2.
- C. Key Revision in CLDXFv2: The Named Location Hierarchy.** CLDXFv2 proposes to create a set of named location categories. These categories would replace the landmark and subaddress categories used in the FGDC standard and CLDXFv1.

**C1. FGDC Categories.** The FGDC address data standard defines a *Complete Landmark Name* and a *Complete Subaddress*. Landmark names are separated from subaddresses in order to:

1. Provide for landmark addresses, which include no street name and no address number (e.g., "San Francisco International Airport, Terminal B, San Francisco CA 94128").
2. Accommodate "point of interest" names typically found in emergency dispatch systems.
3. Allow conformity to the USPS Publication 28 standard, by separating secondary address unit identifiers (subaddresses) from other names that do not denote secondary address units (e.g., "Suite 7408" in "Empire State Building, Suite 7408").
4. Allow a landmark name to be related to one street address, or several, or none at all.

The FGDC *Complete Landmark Name* may be parsed into its component *Landmark Names* if two or more names are strung together (e.g. the *Complete Landmark Name* "Harvard University, Harvard Yard, Widener Library" can be split into its three component *Landmark Names*).

FGDC *Complete Subaddresses* may be parsed into their separate *Subaddress Elements* (e.g. "Terminal B, Door 8" can be split into "Terminal B" and "Door 8". *Subaddress Elements* can be split into *Subaddress Types* (e.g., "Terminal", "Door") and *Subaddress Identifiers* (e.g., "B", "8")

**C2. CLDXFv1 Categories.** CLDXFv1 follows the FGDC structure for landmark names. For subaddresses, a *Complete Subaddress* must be parsed into its separate subaddress elements, and each separate element must be classified as a *Building, Floor, Unit, Room, Seat, or Additional Location Information* (a catchall category for anything that does not fit in the first five). In the CLDXFv1 schema, "San Francisco International Airport, Terminal B, Door 8" would be entered as follows:

Landmark Name = "San Francisco International Airport"

Building = "Terminal B"

Additional Location Information = "Door 8"

**C3. CLDXFv2 Named Location Schema.** The proposed CLDXFv2 would eliminate the landmark-subaddress distinction entirely and replace it with a single named-location hierarchy of 12 categories: *Site, Subsite, Structure, Wing, Unit Pre Type and Unit Value, Floor, Room, Section, Row, Seat, and "Additional Location Information"* (a catchall category for anything that does not fit in the other 11 categories). The definitions are given at the end of this document. For complete descriptions including technical notes, see CLDXFv2 Section 2.5, pp 44-67.

**C4. Relation between FGDC/CLDXFv1 categories and CKDXFv2 categories.** The FGDC and CLDXFv1 categories relate to the named location categories as follows:

<u>FGDC/CLDXF v1</u>	<u>CLDXFv2</u>
<i>FGDC Landmark Name (=CLDXFv1 Landmark Name Part)</i>	Could be <i>Site, Subsite, or Structure.</i>
<i>FGDC Subaddress Element (FGDC)</i>	Could be <i>Subsite or Structure.</i> Could also be <i>Wing, Unit Value (sometimes with Unit Pre Type), Floor, Room, Section, Row, Seat, or "Additional Location Information"</i>
<u>CLDXFv1 Subaddress Categories</u>	
<i>Building</i>	<i>Structure (slightly redefined)</i>
<i>Floor</i>	<i>Floor</i>
<i>Unit</i>	<i>Unit Value, or [Unit Pre Type + Unit Value]</i>
<i>Room</i>	<i>Room</i>
<i>Seat</i>	<i>Seat</i>
<i>Additional Location Information</i>	<i>Wing, Section, Row, Additional Location Information</i>

**C5. Purpose of the Named Location Hierarchy.** The categories were created because some NENA users found that the FGDC landmark and subaddress categories were sometimes difficult to distinguish in practice. The 12 new categories are intended to remove the ambiguity. In addition, they are intended to go beyond addressing by giving first responders an idea of the physical configuration of an incident location, in addition to the address itself.

**Questions about the Proposed Named Location Categories**

1. Are the 12 new categories clearly-defined and mutually exclusive, so that different people will interpret them the same way?
2. Are the 12 new categories exhaustive? That is, do the named elements include all significant types?
3. In managing your address data, have you found difficulties in deciding when something is a landmark name vs a subaddress? Would the named location categories be clearer to use?

**D. Implementation and Maintenance Questions**

**Background:** All landmark names and subaddress values **must** be classified into one of the 12 named location categories before they can be entered into an NG9-1-1 exchange record. There is no category for "Unclassified" or "Unknown".

1. If you had to meet this requirement, would classification require extensive field work? Does your organization have the resources to do the classification?
2. Would the classifications require a change to your existing address database schema?
3. Does your organization have the resources and business processes to maintain the classification data over time?

#### **E. CLDXFv2-to-FGDC Conversion Question**

**Background:** Two of the 12 named location categories include a mix of landmark names and subaddress identifiers. **Subsite** might include values such as “Harvard Yard”, and “Parking Lot”. **Structure** might include values such as “Empire State Building”, and “Maintenance Shed”. No provision is made within CLDXFv2 for indicating which are landmarks and which are subaddresses.

The accompanying crosswalk document advises users, when importing from CLDXFv2 format to FGDC format, to simply import all Subsite and Structure values as FGDC Subaddress Elements (unless some external source, or a manual review, shows that they are landmarks) (see pp.24-25).

1. Would you foresee any difficulties implementing this conversion procedure within your operations?

#### **F. Where to Find CLDXFv2 Documents and Instructions for Submitting Comments**

**Procedure for Commenting:** The documents, and instructions for submitting comments, are available here:

**CLDXFv2:** [NENA Next Generation 9-1-1 \(NG9-1-1\) United States Civic Location Data Exchange Format \(CLDXF\) Standard, NENA-STA-004.2-202Y](#) (DRAFT)

**Associated reference document:** [Moving Data between Datasets Compliant with FGDC Address and NENA CLDXF Standards, NENA-REF-007.1-202Y](#) (DRAFT)

**Deadline for comments: Tuesday, December 11, 2020**

## CLDXF v2 NAMED LOCATION ELEMENTS AND DEFINITIONS

(See CLDXFv2 public review draft, Section 2.5, pp. 40-63)

**SITE** - The name of an exterior area which is publicly known and unique within a given place. A site may contain one or more structures and/or sub-sites. (Sec 2.5.2)

**SUBSITE** - The name of a sub-area within a larger area specified either by site name, by a thoroughfare address, or both. (Sec 2.5.3)

**STRUCTURE** - A built feature which has a vertical dimension, including both conventional buildings which have walls, doors, and a roof, and other kinds of infrastructure such as cell towers, transformer stations, fuel tanks, and so on. (Sec 2.5.4)

**WING** - A designated part of a structure which spans one or many floors, typically including more than one unit or room and representing a significant portion of the structure floor area. (Sec 2.5.5)

**UNIT PRE TYPE** - Part of the complete unit identifier that precedes the Unit Value and indicates the kind of unit. (Sec 2.5.7)

**UNIT VALUE** - Part of the complete unit identifier that uniquely identifies a particular unit. (Sec 2.5.8)

**Note on the definition of "Unit" (Sec 2.5.6):** "A unit is typically a group or suite of rooms within a structure that are under common ownership or tenancy and do not have a separately assigned street address....

Distinct occupancy, control or use is the key characteristic of a unit. Physical configuration is also important. If a space is physically configured as a collection of rooms which also individually need to be identified, then the space should be classified as a unit even if it is not labelled as such.

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**FLOOR** - The standardized identifier for a story or level within a structure, wing, or unit. (Sec 2.5.9)

**ROOM** - A single, distinctly identified, enclosed space within a structure. (Sec 2.5.10)

**SECTION** - An identified, unenclosed area within a structure, wing, unit, or room. (Sec 2.5.11)

**ROW** - An identified linear feature, such as a linear arrangement of seats, workstations, equipment, or storage, within a structure, wing, unit or room. (Sec 2.5.12)

**SEAT** - An identified seat, desk, workstation, or similar precise location within a structure, wing, unit, room, section, or row. (Sec 2.5.13)

**ADDITIONAL LOCATION INFORMATION** - Additional location information that does not meet the definition of a *Site*, *SubSite*, *Structure*, *Wing*, *unit*, *Room*, *Section*, *Row*, *Seat* or *Floor*. (Sec 2.5.14)