

1 **Profile Reconciling the FGDC *United States***
2 ***Thoroughfare, Landmark, and Postal***
3 ***Address Data Standard* and the NENA *Next***
4 ***Generation 9-1-1 (NG9-1-1) Civic Location***
5 ***Data Exchange Format (CLDXF) Standard***
6 ***(Provisional Draft)***

7 **Provisional Draft: Under review by NENA (version 3/17/2010)**

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9 1. Summary

10 A profile provides, for a particular application of a base standard, either a restricted subset of
11 the standard, or a limited extension of a standard that does not contradict the base standard,
12 or both (ISO 19106).

13 This profile reconciles two address data standards:

- 14 1. The U.S. Federal Geographic Data Committee (FGDC) *United States Thoroughfare,*
15 *Landmark, and Postal Address Data Standard,* and
- 16 2. The National Emergency Number Association (NENA) *Next Generation 9-1-1*
17 *(NG9-1-1) Civic Location Data Exchange Format (CLDXF) Standard.*

18 Because they were drafted for different purposes, the standards differ in certain details. This
19 profile is intended to facilitate and standardize the conversion of address records from FGDC
20 conformance to CLDXF conformance and vice versa. Specifically the profile:

- 21 1. States the equivalencies between FGDC and CLDXF elements, and notes any
22 discrepancies in definition or construction (Section 7)
- 23 2. States which FGDC parts, classes, elements, attributes and values are excluded from
24 the CLDXF (Section 8).
- 25 3. Provides detailed instructions for converting FGDC address elements to their CLDXF
26 equivalents, and vice versa (Section 9).
- 27 4. Briefly describes two tests for conformance to the profile (Section 10).

28 **2. Background, Purpose, Authorship, and Provisional** 29 **Status of this Profile**

30 **FGDC Standard.** The U.S. Federal Geographic Data Committee (FGDC) *United States*
31 *Thoroughfare, Landmark, and Postal Address Data Standard* has been created to provide
32 one standard that meets the diverse address data management requirements for local
33 address administration, postal and package delivery, emergency response (and navigation
34 generally), administrative recordkeeping, and address data aggregation.

35 **NENA Standard.** The National Emergency Number Association (NENA) *Next Generation*
36 *9-1-1 (NG9-1-1) Civic Location Data Exchange Format (CLDXF) Standard* supports the
37 exchange of United States civic location address information about 9-1-1 calls.

38 **Need to Reconcile the Standards.** Because they were drafted for different purposes, the
39 standards differ in certain details. Address administrators and 9-1-1 administrators often have
40 reason to exchange address records. This profile is intended to facilitate and standardize the
41 conversion of address records from FGDC conformance to CLDXF conformance and vice
42 versa. Specifically the profile:

- 43 1. States the equivalencies between FGDC and CLDXF elements, and notes any
44 discrepancies in definition or construction (Section 7)
- 45 2. States which FGDC parts, classes, elements, attributes and values are excluded from
46 the CLDXF (Section 8).
- 47 3. Provides detailed instructions for converting FGDC address elements to their CLDXF
48 equivalents, and vice versa (Section 9).
- 49 4. Briefly describes two tests for conformance to the profile (Section 10).

50 Address data records that conform to either base standard shall, when altered according to
51 the procedures described in Section 9.1 or 9.2 of this profile, yield address data records that
52 conform to the other base standard.

53 **Authorship.** This profile was drafted jointly by the working groups that created the two base
54 standards.

55 **Provisional Status.** Because neither base standard has yet been formally adopted, this
56 profile is presented provisionally. Upon adoption of both base standards, the profile (revised
57 to incorporate any pertinent changes made during the review and adoption process) will be
58 formally recognized as a normative profile of the two base standards.

59 **3. Normative Reference to Base Standards**

60 This profile reconciles two base standards:

- 61 1. U.S. Federal Geographic Data Committee. "United States Street, Landmark, and
62 Postal Address Data Standard." Final draft, January 23, 2010 (prepared by the Address
63 Standard Working Group under the sponsorship of the United States Federal
64 Geographic Data Committee). The FGDC will post the draft for public review in late
65 March 2010.
- 66 2. National Emergency Number Association. "NENA Next Generation 9-1-1 (NG9-1-1)
67 Civic Location Data Exchange Format (CLDXF) Standard." NENA Joint Data Technical/
68 PSAP Operations & Next Generation Integration Committees, Next Generation Data
69 Development Working Group (NGDD). Draft, as approved by the Working Group on
70 March 17, 2010.

71 The NENA standard is the United States profile of the IETF Presence Information Data
72 Format Location Object (PIDF-LO), which is defined by:

- 73 • Internet Engineering Task Force, Network Working Group. "Revised Civic Location
74 Format for Presence Information Data Format Location Object (PIDF-LO)." Request for
75 Comment 5139. Thomson, M. and J. Winterbottom, February 2008. (Posted at:
76 <http://www.ietf.org/rfc/rfc5139.txt>).
- 77 • Internet Engineering Task Force, Network Working Group. "Location Types Registry."
78 Request for Comment 4589. H. Schulzrinne and H. Tschofenig, July 2006. (Posted at:
79 <http://www.ietf.org/rfc/rfc4589.txt>).
- 80 • Internet Engineering Task Force, Network Working Group. "A Presence-based
81 GEOPRIV Location Object Format." Request for Comment 4119. J. Peterson,
82 December 2005. (Posted at: <http://www.ietf.org/rfc/rfc4119.txt>).

83 **4. Maintenance Authority for the Profile**

84 The Census Bureau will maintain this profile under the auspices of its duties as theme lead for
85 the FGDC Subcommittee on Cultural and Demographic Data (SCDD), ensuring that the
86 profile is revisited on the 5-year schedule as stipulated, or updating and revising as
87 necessary.

88 The Census Bureau will seek assistance as needed from the NENA Joint Data
89 Technical/PSAP Operations & Next Generation Integration Committees, Next Generation
90 Data Development Working Group (NGDD) to ensure that the profile is changed as needed to
91 reflect the two base standards.

92 Direct any questions to:

- 93 1. Census: Chief, Geography Division, U.S. Bureau of the Census.
- 94 2. NENA: (Email): CommLeadership@nena.org or, (Phone:) 800-332-3911 or, (Mail:)
95 National Emergency Number Association, 4350 North Fairfax Drive, Suite 750,
96 Arlington, VA 22203-1695

97 **5. Applicable Context of the Profile**

98 This profile sets forth the relationship between the two base standards, and describes how to
99 alter address records that conform to one base standard so that they conform to the other.

100 **6. Community of Interest for the Profile**

101 This profile will be of interest to address administrators, 9-1-1 administrators, and others
102 interested in the relation between the base standards or in altering address records that
103 conform to one base standard so that they conform to the other.

104 **7. Discrepancies, Reconciliation, and Comparability of** 105 **Data Elements in the FGDC Address Standard and the** 106 **NENA NG9-1-1 CLDXF Standard**

107 **7.0 Introduction**

108 Section 7 lists each FGDC address data element name, followed by the name of the
109 equivalent NENA NG 9-1-1 CLDXF element name. For each pair, it gives:

- 110 • Discrepancies, if any.
- 111 • Examples of the element in FGDC and CLDXF form.
- 112 • How the discrepancies can be reconciled
- 113 • How the two elements differ, if at all, in definition and construction.

114 Section 9 describes procedures for converting FGDC elements to their CLDXF equivalents,
115 and vice versa.

116 **7.1 Country, State, Place Name, and Postal Code Elements**

117 **7.1.1 [Country Name](#) / Country**

- 118 • **FGDC/NENA Discrepancy:** FGDC recognizes ISO 3166-1 short English names only.
119 NENA recognizes ISO 3166-1 two-letter country abbreviations only.
- 120 • **Example: FGDC:** Canada; **CLDXF:** CA
- 121 • **Reconciliation:** Follow ISO 3166-1 mapping of names to abbreviations.
- 122 • **FGDC-NENA Comparability:** Identical, if abbreviations are mapped to short English
123 names.

124 **7.1.2 [State Name](#) / State**

- 125 • **FGDC-NENA Discrepancy:** FGDC recognizes state names spelled out in full, as well
126 as the two-letter state abbreviations. NENA permits the state abbreviations only.
- 127 • **Example: FGDC:** VA or Virginia; **CLDXF:** VA

- 128 • **Reconciliation:** Map names to abbreviations as given USPS Publication 28, Appendix
129 B.
- 130 • **FGDC-NENA Comparability:** Identical, if abbreviations are mapped to names.

131 7.1.3 [Place Name](#) / County

- 132 • **Discrepancy:** The FGDC [Place Name](#) element includes county, municipality,
133 unincorporated community, and postal community names. The NENA standard
134 separates them into different elements. FGDC [Place Names](#) may be differentiated by
135 the [Place Name Type](#) attribute. A county name would have a [Place Name Type](#) =
136 "County".
- 137 • **Example: FGDC:** Winston (= [Place Name](#)); **CLDXF:** Winston
- 138 • **Reconciliation:** Within the FGDC standard, use the [Place Name Type](#) attribute to
139 identify county names.
- 140 • **FGDC-NENA Comparability:** Identical, if FGDC [Place Names](#) have a [Place Name](#)
141 [Type](#) of "County".

142 7.1.4 [Place Name](#) / Municipality

- 143 • **Discrepancy:** The FGDC [Place Name](#) element includes county, municipality,
144 unincorporated community, and postal community names. The NENA standard
145 separates them into different elements. FGDC [Place Names](#) may be differentiated by
146 the [Place Name Type](#) attribute. A municipality name would have a [Place Name Type](#) =
147 "Municipal".
- 148 • **Example: FGDC:** Haleyville (= [Place Name](#)); **CLDXF:** Haleyville
- 149 • **Reconciliation:** Within the FGDC standard, use the [Place Name Type](#) attribute to
150 identify municipality names.
- 151 • **FGDC-NENA Comparability:** Identical, if FGDC [Place Names](#) have a [Place Name](#)
152 [Type](#) of "Municipal".

153 7.1.5 [Place Name](#) / Unincorporated Community

- 154 • **Discrepancy:** The FGDC [Place Name](#) element includes county, municipality,
155 unincorporated community, and postal community names. The NENA standard
156 separates them into different elements. FGDC [Place Names](#) may be differentiated by
157 the [Place Name Type](#) attribute. An unincorporated community name would have a
158 [Place Name Type](#) = "Community".
- 159 • **Example: FGDC:** Manhattan (= [Place Name](#)); **CLDXF:** Manhattan
- 160 • **Reconciliation:** Within the FGDC standard, use the [Place Name Type](#) attribute to
161 identify unincorporated community names.
- 162 • **FGDC-NENA Comparability:** Identical, if FGDC [Place Names](#) have a [Place Name](#)
163 [Type](#) of "Community".

164 7.1.6 [Place Name](#) / Postal Community Name

- 165 • **Discrepancy:** The FGDC [Place Name](#) element includes county, municipality,
166 unincorporated community, and postal community names. The NENA standard
167 separates them into different elements. FGDC [Place Names](#) may be differentiated by
168 the [Place Name Type](#) attribute. An postal community name would have a [Place Name](#)
169 [Type](#) = "USPS".
- 170 • **Example: FGDC:** Stanton (= [Place Name](#)); **CLDXF:** Stanton
- 171 • **Reconciliation:** Within the FGDC standard, use the [Place Name Type](#) attribute to
172 identify postal community names.
- 173 • **FGDC-NENA Comparability:** Identical, if FGDC [Place Names](#) have a [Place Name](#)
174 [Type](#) of "USPS".

175 7.1.7 [Zip Code](#), [Zip Plus 4](#) / Postal Code

- 176 • **Discrepancy:** None.
- 177 • **Example: FGDC:** 99901; **CLDXF:** 99901
- 178 • **FGDC-NENA Comparability:** Identical.

179 7.2 Street Name Elements

180 7.2.1 [Street Name Pre Modifier](#) / Street pre-modifier

- 181 • **Discrepancy:** None.
- 182 • **Example: FGDC:** "Old" in Old North First Street; **CLDXF:** "Old" in Old North First
183 Street
- 184 • **FGDC-NENA Comparability:** Identical.

185 7.2.2 [Street Name Pre Directional](#) / Leading street direction

- 186 • **Discrepancy:** NENA NG9-1-1 requires abbreviations as given USPS Publication 28
187 Appendix B; FGDC requires words spelled in full.
- 188 • **Example: FGDC:** "North" in North Fairfax Drive ; **CLDXF:** "N" in N Fairfax Drive
- 189 • **Reconciliation:** Map USPS abbreviations to words.
- 190 • **FGDC-NENA Comparability:** Identical, if abbreviations are mapped to words.

191 7.2.3 [Street Name Pre Type](#) / Street Pretype (proposed)

- 192 • **Discrepancies:**
 - 193 1. The NENA standard recognizes the Street Suffix abbreviations given in USPS
194 Publication 28 Appendix C1 for Street Pretypes, in addition to the words spelled
195 out in full. The FGDC standard requires words spelled in full.
 - 196 2. In the FGDC standard, prepositional phrases that separate the [Street Name Pre](#)

197 [Type](#) from the street name (Boulevard of the Allies; Alameda de las Pulgas) are
198 classed as a [Separator Element](#). In the NENA standard they are included in the
199 pretype field, and separated from the pretype word by a pipe ("|") symbol:
200 Avenue | of the.

- 201 • **Examples:**
 - 202 1. **FGDC:** "Avenue" in Avenue A; **CLDXF:** "Ave" in Ave A; or "Avenue" in Avenue A
 - 203 2. **FGDC:** "Boulevard" in Boulevard of the Allies; **CLDXF:** "Boulevard | of the" in
204 Boulevard of the Allies

- 205 • **Reconciliation:**
 - 206 1. Map words to USPS abbreviations.
 - 207 2. In moving street names from the FGDC to the NENA standard, include any
208 [Separator Element](#) in the pretype field, with a pipe symbol between the pretype
209 word and the prepositional phrase. In moving street names from the NENA
210 standard compliance to FGDC standard compliance, discard any pipe symbol
211 found in the pretype field, and move all text to the right of the pipe into a
212 [Separator Element](#).

- 213 • **FGDC-NENA Comparability:** Identical, if:
 - 214 1. IETF adopts [Street Name Pre Type](#) as proposed by NENA, and
 - 215 2. USPS Street Pretype abbreviations are mapped to words, and
 - 216 3. Prepositional phrases are converted as stated above.

217 7.2.4 [Street Name](#) / Street Name

- 218 • **Discrepancy:** None.
- 219 • **Example:** **FGDC:** "Fairfax" in North Fairfax Avenue; **CLDXF:** "Fairfax" in N Fairfax Ave
- 220 • **FGDC-NENA Comparability:** Identical.

221 7.2.5 [Street Name Post Type](#) / Street suffix

- 222 • **Discrepancy:** None, except that NENA recognizes the abbreviations given in USPS
223 Publication 28 Appendix C1 in addition to the words spelled out in full.
- 224 • **Example:** **FGDC:** "Avenue" in North Fairfax Avenue; **CLDXF:** "Ave" in N Fairfax Ave;
225 or "Avenue" in N Fairfax Avenue
- 226 • **Reconciliation:** Map words to USPS abbreviations.
- 227 • **FGDC-NENA Comparability:** Identical, if abbreviations are mapped to words.

228 7.2.6 [Street Name Post Directional](#) / Trailing street direction

- 229 • **Discrepancy:** NENA requires abbreviations as given USPS Publication 28 Appendix B;
230 FGDC requires words spelled in full.
- 231 • **Example:** **FGDC:** "East" in Seventh St East; **CLDXF:** "E" in Seventh St E;
- 232 • **Reconciliation:** Map words to USPS abbreviations.
- 233 • **FGDC-NENA Comparability:** Identical, if abbreviations are mapped to words.

234 **7.2.7 [Street Name Post Modifier](#) / Street post-modifier**

- 235 • **Discrepancy:** None.
- 236 • **Example: FGDC:** "Extended" in East End Avenue Extended; **CLDXF:** "Extended" in
237 East End Avenue Extended
- 238 • **FGDC-NENA Comparability:** Identical.

239 **7.3 Address Number Elements**

240 **7.3.1 [Address Number Prefix](#) / Address Number Prefix (proposed)**

- 241 • **Discrepancy:** None (provided that IETF adopts the element as proposed), except that
242 FGDC [Address Number Prefix](#) includes CLDXF Milepost element (see 7.3.4 below)
- 243 • **Example: FGDC:** "N6W2" in N6W2 3001 Bluemound Road; **CLDXF:** "N6W2" in N6W2
244 3001 Bluemound Road
- 245 • **Reconciliation:** Identical, if Milepost elements are treated separately per 7.3.4 below.

246 **7.3.2 [Address Number](#) / Address Number**

- 247 • **Discrepancy:** None.
- 248 • **Example: FGDC:** "123" in 123 Main Street; **CLDXF:** "123" in 123 Main Street
- 249 • **FGDC-NENA Comparability:** Identical.

250 **7.3.3 [Address Number Suffix](#) / Address Number Suffix**

- 251 • **Discrepancy:** None.
- 252 • **Example: FGDC:** "1/2" in 119 1/2 Elm Street; **CLDXF:** "1/2" in 119 1/2 Elm Street
- 253 • **FGDC-NENA Comparability:** Identical.

254 **7.3.4 [CompleteAddressNumber] / Milepost (proposed)**

- 255 • **Discrepancy:**
 - 256 1. CLDXF defines mileposts as elements that are not parsed. FGDC treats them as
257 [Complete Address Numbers](#), and parses them as follows: "Milepost" (or
258 equivalent term, such as Mile Marker, Kilometer, or Km) = [Address Number](#)
259 [Prefix](#); Milepost number (integer portion) = [Address Number](#); Milepost number
260 (decimal portion, if any, including the decimal point) = [Address Number Suffix](#).
 - 261 2. A milepost number may be included in a CLDXF civic address record if the
262 street name is the same for both (for example: "Milepost 12, 12005 County
263 Road 88"). Under the FGDC standard, these would be treated as two separate
264 address records. The two could be linked using the [Related Address ID](#) attribute
265 and the [Address Relation Type](#) attribute.
- 266 • **Examples:**
 - 267 • **CLDXF:** "Milepost 1303.5" = Milepost, no parsing permitted; **FGDC:** "Milepost

- 268 1303.5" = [Complete Address Number](#), which can be parsed as follows: [Address](#)
269 [Number Prefix](#) = "Milepost"; [Address Number](#) = 1303; [Address Number Suffix](#) =
270 ".5" .
- 271 • **CLDXF**: "Milepost 12, 12005 County Road 88" (one record, indicating that
272 12005 County Road 88 is at Milepost 12); **FGDC**: FGDC standard would treat
273 this as two separate addresses" "Milepost 12, County Road 88" and "12005
274 County Road 88"
 - 275 • **Reconciliation**:
 - 276 1. Within FGDC format, compose milepost numbers into [Complete Address](#)
277 [Numbers](#).
 - 278 2. If a milepost and an address number are given in the same NENA record,
279 separate them into two different FGDC address records. If desired, the two
280 records may be linked using the [Related Address ID](#) attribute and the [Address](#)
281 [Relation Type](#) attribute.
 - 282 • **FGDC-NENA Comparability**: Identical, if FGDC milepost numbers are composed into
283 [Complete Address Numbers](#); and, where NENA records provide both a milepost and an
284 address number, they are separated into two FGDC address records.

285 7.4 Landmark Name Element

286 7.4.1 [Landmark Name](#) / Landmark Name

- 287 • **Discrepancy**: None.
- 288 • **Example**: **FGDC**: Empire State Building; **CLDXF**: Empire State Building
- 289 • **FGDC-NENA Comparability**: Identical.

290 7.5 Subaddress Elements

291 7.5.0 [Subaddress Identifier](#), [Subaddress Type](#), [Subaddress Component Order](#) / Interior 292 (proposed)

- 293 • **Discrepancy**: None. The FGDC [Subaddress Identifier](#) is synonymous with the
294 proposed Interior element, and the FGDC [Subaddress Type](#) is synonymous with the N
295 attribute of the proposed Interior element. The FGDC [Subaddress Component Order](#) is
296 synonymous with the Interior R attribute. The [Subaddress Component Order](#) values
297 "1", "2", and "3" are equivalent to the Interior R values of "B", "A", and null, respectively.
- 298 • **FGDC-NENA Comparability**: Identical.

299 7.5.1 [Subaddress Element](#) / Building

- 300 • **Discrepancy**: The FGDC standard defines a general-purpose [Subaddress Element](#). It
301 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
302 additional location information, floor, unit, room, and seat elements.
- 303 • **Example**: **FGDC**: "Building 1" in Langston Terrace Housing Complex, Building 1

304 (=SubaddressElement); **CLDXF**: "Building 1" in Langston Terrace Housing Complex,
305 Building 1

306 • **Reconciliation**: To bring an FGDC [Subaddress Element](#) into a NENA-compliant
307 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or
308 seat, and place it in the appropriate NENA element. If it does not fit in any of those
309 NENA elements, then by default it is additional location information.

310 • **FGDC-NENA Comparability**: The NENA Building element is a subset of the FGDC
311 [Subaddress Element](#).

312 7.5.2 [Subaddress Element](#) / Additional location information

313 • **Discrepancy**: The FGDC standard defines a general-purpose [Subaddress Element](#). It
314 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
315 additional location information, floor, unit, room, and seat elements.

316 • **Example: FGDC**: Pediatric Wing; **CLDXF**: Pediatric Wing

317 • **Reconciliation**: To bring an FGDC [Subaddress Element](#) into a NENA-compliant
318 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or
319 seat, and place it in the appropriate NENA element. If it does not fit in any of those
320 NENA elements, then by default it is additional location information.

321 • **FGDC-NENA Comparability**: The NENA Additional location information element is a
322 subset of the FGDC [Subaddress Element](#).

323 7.5.3 [Subaddress Element](#) / Floor

324 • **Discrepancy**: The FGDC standard defines a general-purpose [Subaddress Element](#). It
325 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
326 additional location information, floor, unit, room, and seat elements.

327 • **Example: FGDC**: 5th Floor (=SubaddressElement); **CLDXF**: 5th Floor

328 • **Reconciliation**: To bring an FGDC [Subaddress Element](#) into a NENA-compliant
329 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or
330 seat, and place it in the appropriate NENA element. If it does not fit in any of those
331 NENA elements, then by default it is additional location information.

332 • **FGDC-NENA Comparability**: The NENA Floor element is a subset of the FGDC
333 [Subaddress Element](#).

334 7.5.4 [Subaddress Element](#) / Unit

335 • **Discrepancy**: The FGDC standard defines a general-purpose [Subaddress Element](#). It
336 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
337 additional location information, floor, unit, room, and seat elements.

338 • **Example: FGDC**: Penthouse (=SubaddressElement); **CLDXF**: Penthouse

339 • **Reconciliation**: To bring an FGDC [Subaddress Element](#) into a NENA-compliant
340 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or

341 seat, and place it in the appropriate NENA element. If it does not fit in any of those
342 NENA elements, then by default it is additional location information.

343 • **FGDC-NENA Comparability:** The NENA Unit element is a subset of the FGDC
344 [Subaddress Element](#).

345 7.5.5 [Subaddress Element](#) / Room

346 • **Discrepancy:** The FGDC standard defines a general-purpose [Subaddress Element](#). It
347 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
348 additional location information, floor, unit, room, and seat elements.

349 • **Example: FGDC:** Room 450F (=SubaddressElement); **CLDXF:** Room 450F

350 • **Reconciliation:** To bring an FGDC [Subaddress Element](#) into a NENA-compliant
351 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or
352 seat, and place it in the appropriate NENA element. If it does not fit in any of those
353 NENA elements, then by default it is additional location information.

354 • **FGDC-NENA Comparability:** The NENA Room element is a subset of the FGDC
355 [Subaddress Element](#).

356 7.5.6 [Subaddress Element](#) / Seat

357 • **Discrepancy:** The FGDC standard defines a general-purpose [Subaddress Element](#). It
358 does not provide any way to classify [Subaddress Elements](#) into the NENA building,
359 additional location information, floor, unit, room, and seat elements.

360 • **Example: FGDC:** Cubicle 23 (=SubaddressElement); **CLDXF:** Cubicle 23

361 • **Reconciliation:** To bring an FGDC [Subaddress Element](#) into a NENA-compliant
362 record, determine if the [Subaddress Element](#) identifies a building, floor, unit, room, or
363 seat, and place it in the appropriate NENA element. If it does not fit in any of those
364 NENA elements, then by default it is additional location information.

365 • **FGDC-NENA Comparability:** The NENA Seat element is a subset of the FGDC
366 [Subaddress Element](#).

367 7.6 Address Descriptor

368 7.6.1. [Address Feature Type](#) / Place-type

369 • **Discrepancy:** PLC is restricted to values listed in IETF RFC 4589. FGDC [Address](#)
370 [Feature Type](#) has no restrictions--any values may be defined and used.

371 • **Example: FGDC:** Airport, arena, bank, etc.; **CLDXF:** Airport, arena, bank, etc.

372 • **Reconciliation:** Within this profile, restrict the FGDC domain to values listed in RFC
373 4589. If other values are found in FGDC files, either add those values to the IETF
374 registry, or declare equivalent values within the registry, or omit the values (or decline
375 to enforce the registry).

376 • **FGDC-NENA Comparability:** Identical, if FGDC values are in the IETF registry.

377 **8. Profile Restrictions and Extensions of the FGDC** 378 **address standard and the NENA NG 9-1-1 CLDXF**

379 The FGDC standard accommodates all NENA NG9-1-1 CLDXF data elements. The NENA
380 standard can be reconciled to the FGDC standard with no restrictions or extensions beyond
381 the reconciliation procedures given in Section 7 of this profile.

382 The NENA standard excludes certain parts, classes, elements, and domains of values
383 included in the FGDC standard. Therefore this profile restricts the FGDC standard as
384 described below.

385 **8.1 Relation of FGDC Standard Parts to NG911 CLDXF Standard**

386 **8.1.1 FGDC Content Part** - This profile restricts the FGDC Content Part to those FGDC
387 elements and attributes listed in Section 7 of this profile.

388 **8.1.2 FGDC Classification Part** - This profile excludes the FGDC Classification Part; the
389 NENA NG9-1-1 CLDXF Standard does not classify addresses. Section 8.2 lists the FGDC
390 address classes accommodated within the NENA NG9-1-1 CLDXF.

391 **8.1.3 FGDC Data Quality Part** - This profile excludes the FGDC Data Quality Part; the
392 NG911 CLDXF Standard does not specify data quality tests.

393 **8.1.4 FGDC Exchange Part** - This profile restricts the FGDC Address Data Exchange XSD to
394 those FGDC elements having counterparts in the NENA NG911 CLDXF Standard.

395 **8.2 Relation of FGDC Address Classes to the NENA NG9-1-1 CLDXF** 396 **Standard**

397 The NENA standard does not recognize all of the address classes defined in the FGDC
398 standard. Within this profile, FGDC address classes are included or excluded as follows:

- 399 • **INCLUDED** - [Numbered Thoroughfare Address](#)
- 400 • **EXCLUDED** - [Intersection Address](#) (NENA standard does not permit two street names
401 in one address)
- 402 • **EXCLUDED** - [Two Number Address Range](#) (NENA standard does not permit two
403 address numbers in one address)
- 404 • **EXCLUDED** - [Four Number Address Range](#) (NENA standard does not permit multiple
405 address numbers in one address)
- 406 • **INCLUDED** - [Unnumbered Thoroughfare Address](#)
- 407 • **INCLUDED** - [Landmark Address](#)
- 408 • **INCLUDED** - [Community Address](#)
- 409 • **EXCLUDED** - [USPS Postal Delivery Box](#) (NENA standard does not permit PO Box
410 identifiers in an address)
- 411 • **EXCLUDED** - [USPS Postal Delivery Route](#) (NENA standard does not permit RD, HCR,
412 and other postal route identifiers in an address)
- 413 • **EXCLUDED** - [USPS General Delivery Office](#) (NENA standard does not permit "General
414 Delivery" in any field of an address)
- 415 • **EXCLUDED** - [General Address Class](#) (NENA standard does classify addresses, and it

416 does not accommodate all addresses permitted in the [General Address Class](#))

417 **8.3 Profile Restrictions on FGDC Address Data Elements and Attributes**

418 This profile restricts the FGDC address data elements and attributes to those listed in Section
419 7 of this profile.

420 **8.4 Profile Restrictions on FGDC Domains of Values**

421 The NENA standard restricts two attributes, [Place Name Type](#) and [Address Feature Type](#), to
422 smaller domains of values than permitted in the FGDC standard.

- 423 • **8.4.1 [Place Name Type](#)**: Within this profile, the FGDC [Place Name Type](#) domain is
424 restricted to four values only: County, Municipality, Community, and USPS.
- 425 • **8.4.2 [Address Feature Type](#)**: Within this profile, the FGDC [Address Feature Type](#) is
426 restricted to values found in the IETF Place-type registry (See IETF RFC4589).

427 **8.5 Unique [Address ID](#): Required in the FGDC Standard; Excluded from the** 428 **NENA Standard and This Profile**

429 The FGDC data content part requires that every address record have a unique [Address ID](#).
430 This requirement cannot be imposed in the context of this profile, because the NENA
431 standard is a data exchange standard, not a data content standard. Addresses are not
432 required to be unique in the context of the NG9-1-1 standard, because the NG9-1-1 standard
433 is intended to support exchange of data about 9-1-1 calls, not addresses. The ID of an
434 address associated with a given 9-1-1 call is often unknown and sometimes nonexistent.
435 Therefore, within this profile, the FGDC standard is restricted to exclude the data content
436 requirement for a unique [Address ID](#).

437 **9. Converting Address Data Between FGDC Conformance** 438 **And NENA NG9-1-1 CLDXF Conformance**

439 This section describes the procedures by which address data records that conform to one
440 base standard can be brought into conformance with the other.

441 **9.1 Procedure for Converting FGDC-compliant Address Files into NENA** 442 **NG9-1-1 CLDXF-Compliant Files**

443 **Classes Excluded.** Delete from the file all addresses that are not in the following classes:
444 [Numbered Thoroughfare Address](#), [Unnumbered Thoroughfare Address](#), [Landmark Address](#),
445 [Community Address](#).

446 **Elements and Attributes Excluded.** From those addresses that remain, delete all elements
447 and attributes except the following: [Address Number Prefix](#), [Address Number](#), [Address](#)
448 [Number Suffix](#); [Street Name Pre Modifier](#), [Street Name Pre Directional](#), [Street Name Pre](#)
449 [Type](#), [Separator Element](#) (only if found in a [Complete Street Name](#)), [Street Name](#), [Street](#)
450 [Name Post Type](#), [Street Name Post Directional](#), [Street Name Post Modifier](#); [Landmark Name](#);

451 [Subaddress Element\(s\)](#), [Subaddress Component Order](#); [Place Name\(s\)](#), [Place Name Type](#);
452 [State Name](#), [Zip Code](#); [Zip Plus 4](#); [Country Name](#); [Address Feature Type](#).

453 **Place Names Excluded.** Delete all [Place Names](#) with [Place Name Types](#) other than: County,
454 Municipality, USPS, or Community.

455 **For Each Remaining Element and Attribute in Each Address Record:**

- 456 1. [Country Name](#) - Replace [Country Name](#) with its ISO 3166-1 two-letter abbreviation.
457 Copy to the CLDXF Country element.
- 458 2. [State Name](#) - If any [State Names](#) are spelled out in full, replace them with their
459 equivalent two-letter USPS or ANSI abbreviations. Copy to the CLDXF State element.
- 460 3. County [Place Names](#) - Select all [Place Names](#) whose [Place Name Type](#) is "County".
461 Copy to the CLDXF County element.
- 462 4. Municipality [Place Names](#) - Select all [Place Names](#) whose [Place Name Type](#) is
463 "Municipality". Copy to the CLDXF Municipality element.
- 464 5. Community [Place Names](#) - Select all [Place Names](#) whose [Place Name Type](#) is
465 "Community". Copy to the CLDXF Unincorporated Community element.
- 466 6. USPS [Place Names](#) - Select all [Place Names](#) whose [Place Name Type](#) is "USPS".
467 Copy to the CLDXF Postal Community Name element.
- 468 7. [Zip Code](#) and [Zip Plus 4](#) - (If [Zip Plus 4](#) is given, concatenate it with the [Zip Code](#)
469 value.) Copy to the CLDXF Postal Code element.
- 470 8. [Street Name Pre Modifier](#) - Copy to the CLDXF Street pre-modifier element.
- 471 9. [Street Name Pre Directional](#) - Convert the directional word to its abbreviation as given
472 in USPS Publication 28 Appendix B. Copy to the CLDXF Leading street direction
473 element.
- 474 10. [Street Name Pre Type](#) - If any [Complete Street Name](#) includes a [Separator Element](#)
475 (i.e., a prepositional phrase following a [Street Name Pre Type](#)), concatenate the [Street](#)
476 [Name Pre Type](#) with the [Separator Element](#), placing pipe symbol ("|") between them. If
477 desired, pretype words may be converted to their abbreviations (if any) given in USPS
478 Publication 28 Appendix C.1. Copy to the CLDXF Street pretype element.
- 479 11. [Street Name](#) - Copy to the CLDXF Street name element.
- 480 12. [Street Name Post Type](#) - If desired, convert posttype words to their abbreviations (if
481 any) given in USPS Publication 28 Appendix C.1. Copy to the CLDXF element.
- 482 13. [Street Name Post Directional](#) - Convert the directional word to its abbreviation as given
483 in USPS Publication 28 Appendix B. Copy to the CLDXF Trailing street direction
484 element.
- 485 14. [Street Name Post Modifier](#) - Copy to the CLDXF Street Post-modifier element.
- 486 15. [Address Number Prefix](#) - Exclude any values that are "Milepost" or an equivalent term,
487 and their associated [Address Numbers](#) and [Address Number Suffixes](#). Copy all others
488 to the CLDXF Address number prefix element.
- 489 16. [Address Number](#) - Copy to the CLDXF Address number element.
- 490 17. [Address Number Suffix](#) - Copy to the CLDXF Address number suffix element.
- 491 18. Milepost Number - Determine if any of the [Address Number Prefixes](#) are "Milepost" or
492 equivalent terms. Concatenate with the corresponding [Address Number](#) and (if
493 present) [Address Number Suffix](#). Copy to CLDXF Milepost element.
- 494 19. [Landmark Name](#) - Copy to the CLDXF Landmark name element.
- 495 20. [Subaddress Element](#) - Determine whether the [Subaddress Element](#) corresponds to a

496 CLDXF Building, Additional location information, Floor, Unit, Room, or Seat element.
497 Copy to the appropriate CLDXF element. [Note: If the Interior element is adopted, then
498 the [Subaddress Identifier](#) will be copied to the Interior element, the [Subaddress Type](#)
499 will be copied to the Interior N attribute, and the [Subaddress Component Order](#) will be
500 copied to the INT R attribute.]
501 21. [Address Feature Type](#) - Exclude all values not found the IETF Place-type registry
502 defined in IETF RFC 4589. Copy to the CLDXF Place-type element.

503 **9.2 Procedure for Converting NENA NG9-1-1 CLDXF-compliant Address** 504 **Files into FGDC-Compliant Files**

505 [Address I Ds](#) and [Address Authority](#). Note that, upon import to an FGDC-compliant file, each
506 address record MUST have a unique [Address ID](#). An [Address Authority](#) is also strongly
507 recommended. These elements will not be found in the NENA NG9-1-1 CLDXF address
508 record.

509 **For Each Element and Attribute in Each Address Record:**

- 510 1. **Country** - Replace the ISO 3166-1 two-letter country name abbreviation with the ISO
511 3166-1 short English version of the country name. Copy to the FGDC [Country Name](#)
512 element.
- 513 2. **State** - Copy to the FGDC [State Name](#) element.
- 514 3. **County** - Copy to the FGDC [Place Name](#) element, and, if desired, assign a [Place](#)
515 [Name Type](#) = "County".
- 516 4. **Municipality** - Copy to the FGDC [Place Name](#) element, and, if desired, assign a [Place](#)
517 [Name Type](#) = "Municipality".
- 518 5. **Unincorporated Community** - Copy to the FGDC [Place Name](#) element, and, if
519 desired, assign a [Place Name Type](#) = "Community".
- 520 6. **Postal Community Name** - Copy to the FGDC [Place Name](#) element, and, if desired,
521 assign a [Place Name Type](#) = "USPS".
- 522 7. **Postal Code** - Determine if the record includes a five-digit or a nine-digit ZIPCode.
523 Copy the first five digits to the FGDC [Zip Code](#), and the sixth through the ninth digits (if
524 present) to the FGDC [Zip Plus 4](#) element
- 525 8. **Street premodifier** - Copy to the FGDC [Street Name Pre Modifier](#) element.
- 526 9. **Leading street direction** - Convert the abbreviation to the complete directional word
527 as given in as given in USPS Publication 28 Appendix B. Copy to the FGDC [Street](#)
528 [Name Pre Directional](#) element.
- 529 10. **Street pretype** - Determine if any street pretype values include pipe symbols. If so,
530 copy all text to the right of the pipe symbol ("|") into the FGDC [Separator Element](#).
531 Then, for all street pretype values (including text the left of any pipe symbols),
532 determine if any of them are abbreviations given in USPS Publication 28 Appendix
533 C.1.. Convert any abbreviations to the complete word as given in USPS Publication 28
534 Appendix C.1. Copy to the FGDC [Street Name Pre Type](#) element.
- 535 11. **Street name** - Copy to the FGDC [Street Name](#) element.
- 536 12. **Street suffix** - Determine if any values are abbreviations given in USPS Publication 28
537 Appendix C.1.. Convert any abbreviations to the complete word as given in USPS
538 Publication 28 Appendix C.1. Copy to the FGDC [Street Name Post Type](#) element.
- 539 13. **Trailing street direction** - Convert the abbreviation to the complete directional word

- 540 as given in USPS Publication 28 Appendix B. Copy to the FGDC [Street Name Post](#)
541 [Directional](#) element.
- 542 14. **Street postmodifier** - Copy to the FGDC [Street Name Post Modifier](#) element.
543 15. **Address number prefix** - Copy to the FGDC [Address Number Prefix](#) element.
544 16. **Address number** - Copy to the FGDC [Address Number](#) element.
545 17. **Address number suffix** - Copy to the FGDC [Address Number Suffix](#) element.
546 18. **Milepost** - Parse into [Address Number Prefix](#), [Address Number](#), and (if found)
547 [Address Number Suffix](#). Copy the values to their respective FGDC elements. If the
548 NENA record includes both a milepost and an address number, place them in two
549 records, each with the same street name elements, place names, state, and ZIP Code.
550 If desired, link them using the FGDC [Related Address ID](#) attribute and [Address](#)
551 [Relation Type](#) attribute.
- 552 19. **Landmark name** - Copy to the FGDC [Landmark Name](#) element.
553 20. **Interior (if adopted)** - Copy the Interior element to the FGDC [Subaddress Identifier](#).
554 Copy the Interior "N" attribute to the FGDC [Subaddress Type](#) element. Copy the
555 Interior "R" attribute to the FGDC [Subaddress Component Order](#) element.
- 556 21. **Building** - Copy to the FGDC [Subaddress Component Order](#) attribute.
557 22. **Additional location information** - Copy to the FGDC [Subaddress Element](#).
558 23. **Floor** - Copy to the FGDC [Subaddress Element](#).
559 24. **Unit** - Copy to the FGDC [Subaddress Element](#).
560 25. **Room** - Copy to the FGDC [Subaddress Element](#).
561 26. **Seat** - Copy to the FGDC [Subaddress Element](#).
562 27. **Place-type** - Copy to the FGDC [Address Feature Type](#) attribute.

563 10. Conformance Requirements for This Profile

564 Conformance is presumed for any set of address data records that conforms to either base
565 standard. Conformance can be confirmed by either of two tests:

- 566 1. Address data records that conform to the FGDC standard shall, when altered
567 according to the procedures defined in Section 9.1 of this profile, yield address data
568 records that conform to the NENA NG9-1-1 CLDXF standard.
- 569 2. Address data records that conform to the NENA NG9-1-1 CLDXF standard shall, when
570 altered according to the procedures defined in Section 9.2 of this profile, yield address
571 data records that conform to the FGDC standard.