

# Proposal to add a conformance clause to each part of the FGDC Address Standard

## A. Summary

This proposal aims to:

1. Add a general statement regarding conformance to the Standard in the Introduction section.
2. Add a conformance clause to each Part (Content, Classification, Data Quality, and Exchange) that includes requirements necessary to claim conformance to that section.

## B. Reasons for recommending proposal

The primary reason for establishing conformance criteria is to encourage and facilitate the consistent use of the standard by clearly stating what is required to claim conformance to individual parts (or the whole) of the FGDC Address Standard. The addition of a conformance clause will allow those responsible for address datasets to understand more easily what is required and, if necessary, how to modify their existing data framework (e.g., content, format, etc.) to align with the standard. In turn, conformance statements made by data providers can help end users make more informed decisions regarding the content, format and exchange of address datasets. Furthermore, data sharing agreements may include legally binding ramifications (i.e., product specifications, directives, mandates, etc.). In this case conformance becomes a matter of compliance, which requires clear criteria to be agreed upon. Enacting this proposal will facilitate those agreements when sharing address data.

## C. Implementing the proposal

1. Add a general statement regarding conformance to the Standard in the Introduction section that includes the reasons for having conformance statements and where to find them throughout the document.
2. Add a conformance clause to each Part (Content, Classification, Data Quality, and Exchange) that includes requirements necessary to claim conformance to that section.

## D. Preliminary conformance clauses by Part

### Part 1: Address Data Content:

To claim conformance to Part 1 of this standard the following conditions shall be met:

1. All elements and attributes present in the dataset shall conform to the description for each respective element or attribute as described in Section 2.  
  
Example: If a field named *Street Name* is present in a dataset, it shall contain only the base portion of the *Complete Street Name*.  
  
Note: The correctness and validity of address data is covered in Part 3: Address Data Quality.
2. All complex elements present in the dataset shall be composed using the syntax described in Section 2.2 for each respective complex element.
3. Every **address** record in the **address** dataset shall include a unique *Address ID*.

Note: This condition is only relevant to datasets that consist solely of address elements and address attributes. Datasets such as voter rolls, emergency incident reports, school enrollment, etc. that may include address information do not require an *Address ID* unless stated in a product specification or other agreement.

4. All applicable conditional elements and attributes shall be present in the dataset.

Example: If the Map Position element is present in the dataset, Address Position and gml:point shall also be present.

Data managers of local address data content fields that differ from Part 1 of this standard may claim conformance to Part 1 under the following conditions:

1. A mapping of local address data fields into the equivalent Address Standard Content elements is constructed.
2. Data in the local fields meet the description of the equivalent Address Standard Content elements.

## Part 2: Address Data Classification

To claim conformance to Part 2 of this standard, for each address record the following conditions shall be met:

1. Every address shall have the correct number of each mandatory item, and none of the prohibited items, for one and only one of the thoroughfare, landmark, or postal address classes or, the record shall be placed in one of the general classes.
2. Every address assigned an Address Classification shall adhere to the address element ordering rules of that address class.

Data managers of local address data classification fields that differ from Part 2 of this standard may claim conformance to Part 2 under the following conditions:

1. A mapping of local address data classification fields into the equivalent Address Standard Classification attributes is constructed.
2. Data in the local fields meet the description of the equivalent Address Standard Classification attributes.

## Part 3: Address Data Quality

*Wording for this section is conditioned on the outcome of discussions regarding the content and structure of Part 3. However, it should include requirements associated with evaluation process generally following the process described in ISO 19157-1 Geographic data quality and ISO 19160-3 Address data quality such as:*

To claim conformance to Part 3 of this standard, the following conditions shall be met:

1. An address data quality evaluation process shall be established that includes the following:
  - Specifying data quality units (scope + data quality elements);
  - Specifying data quality measures;
  - Specifying data quality evaluation procedures and methods;
  - Reporting results of evaluation.

Example:

- Specify data quality units: *Full dataset tested for completeness;*
- Specify data quality measures: *Address Completeness Measure;*
- Specify data quality evaluation procedures and method: *Compare the number of addressable objects with the address information recorded;*
- Report results of evaluation: *Results reported as percent of conformance. Instances of non-conformance are also reported.*

2. The address data shall meet the data quality conformance thresholds established by any relevant product specifications, user agreements, and directives.

**Note 1.** Data quality conformance thresholds acknowledge (implicitly or explicitly) what level of data quality is sufficient (i.e., “good enough”) for a particular business need or use case.

**Note 2.** Directives may be internal such as an address data manager establishing data quality thresholds that meet business needs, or external such as a state directing its counties to meet certain data quality conformance thresholds.

## Part 4: Address Data Exchange

Claiming conformance to Part 4 of this standard is conditioned upon the exchange format agreed to by an address data provider(s) and an address data receiver(s). In the case of machine-readable formats (e.g., XML, JSON) it also requires the capability to generate exchange records, properly tagged for export, and to read imported records into the local database upon receipt. If these capabilities exist, then conformance may be claimed if the conditions below are met.

To claim conformance to Part 4 of this standard, the following conditions shall be met:

1. The address data being exchanged must conform to Parts 1, 2, and 3 of this Standard.
2. An address exchange package shall conform to the relevant file structure or schema rules agreed to by the address data provider(s) and the address data receiver(s).
3. The format agreed to by the address data provider(s) and the address data receiver(s) must allow for the ingest of the address data by the receiver into a format that conforms to Parts 1, 2, and 3 of this Standard.

Example 1. An address data provider and receiver agree that the exchange package must but in XML format and conform to the AddrStd XML Schema in the FGDC Address Standard.

Example 2. . An address data provider and receiver agree that the exchange package must but in pipe delimited text format. Header rows and data elements are validated by checking for proper delimiter placement and type.

Recommendation 1. An address data exchange format should conform to an established standard for that format such as W3C's XML Specification, ISO/IEC or Ecma JSON standards, etc.

4. All address exchange packages shall include, at a minimum, the following metadata information:
  - copyright information;
  - use restrictions;
  - contact info;
  - data lineage info;
  - known data defects;
  - a description of the geographic area that the data represents;
  - variable names and descriptions or a reference to the schema that provides the variable names and descriptions;
  - publication date?
  - metadata date?
  - ground condition date?

Recommendation 2. Metadata information should conform to an established metadata standard such as ISO 19115, North American Profile of ISO 19115, etc.

Examples