

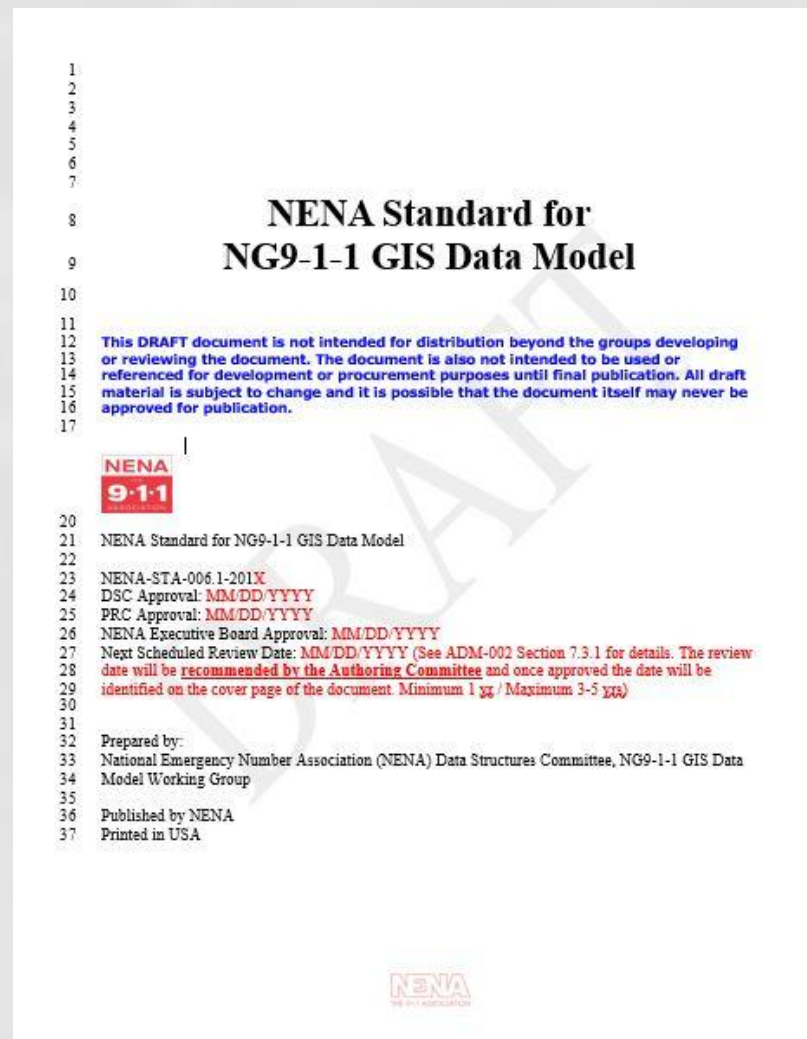
# Everything NENA:

## *GIS Data Standards, the NEAD, and the NG9-1-1 Act of 2017*

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NYS ITS – GIS Program Office   911 Datamaster  
NSGIC liaison to NENA   NENA liaison to NSGIC

# NENA Standard for NG9-1-1 GIS Data Model

- Defines the GIS data layers in a NG9-1-1 System to support:
  - Location Validation
  - Geospatial Call Routing
  - Dispatch Routing
  - Public Safety Mapping Apps
- Required data structure for GIS data exchange in a NG9-1-1 environment
  - May use any internal GIS data model for daily maintenance



# Changes Based on Public Review

- GIS data layers now REQUIRED:
  - Site/Structure Address Points
  - Provisioning Boundary\* (the area of GIS data provisioning responsibility)
- Redefined Data Types (to align with i3)
  - P – Printable ASCII characters
  - E – UTF-8 characters (restricted to character sets designated by the 911 Authority, not including pictographic characters)
  - U – a URI (Uniform Resource Identifier e.g. sip:psap@example.com)
  - D – Date and Time
  - F – Floating numbers
  - N – Non-negative integer

# Changes Based on Public Review

- NENA Globally Unique ID (NGUID) format defined
  - Locally assigned ID + @ + Agency Identifier
  - Agency Identifier must be a registered DNS domain name
  - e.g. RCL12085303@county.tx.us
- “Source of Date” redefined as “Discrepancy Agency ID”
  - Agency that receives Discrepancy Reports for that layer
- Added Validation Left and Validation Right fields
  - Indicates if the address range should be used for civic location validation
- Landmark Name Part Methodology – likely to change
- Many items deferred to version 2

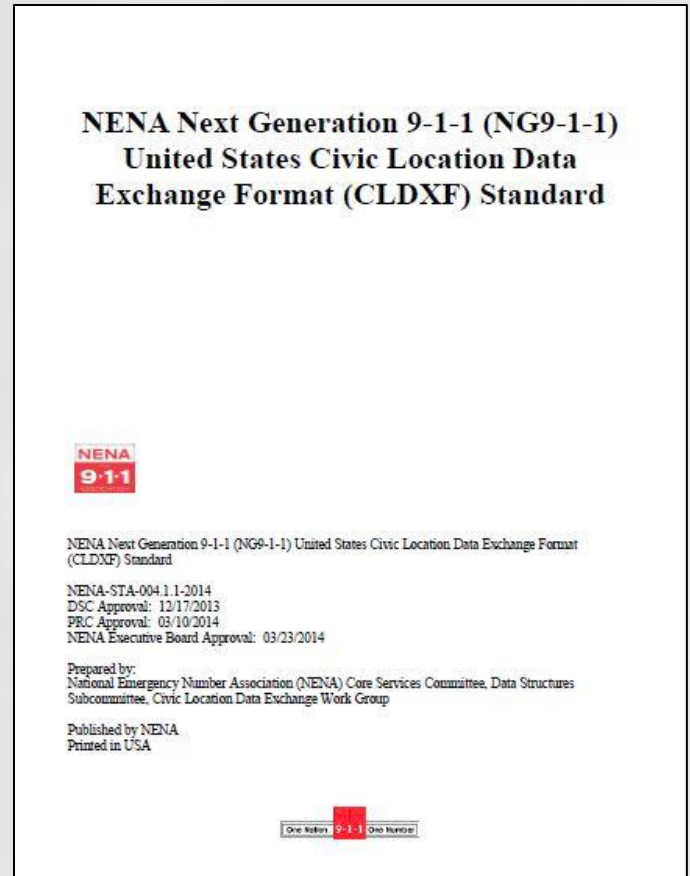
# Status in the NENA Review

## Process

- ✓ Standard completed & submitted to NENA leadership
- ✓ Internal NENA Authoring Committee Review (6/7/12 - 6/22/12)
- ✓ First internal NENA All Committee Review (12/17/14 - 1/30/15)
- ✓ Second internal NENA All Committee Review (6/14/16 - 7/8/16)
- ✓ Public Review (12/12/16 - 2/28/17)
  - **Second Public review (2/24/18-3/30/18)**
    - ✓ Review limited to just the revised text
    - ✓ NENA Workgroup reviews comments & updates document
    - ✓ Standard submitted to NENA leadership for additional public review if necessary
- Revised standard submitted for publication

# United States Civic Location Data Exchange Format (CLDXF) Standard

- Defines the civic location data elements to support NG9-1-1
- Is a profile of IETF PIDF-LO
- Provides a standard XML schema for the exchange of civic address data
- Maps a profile between NENA civic location data elements and FGDC data elements

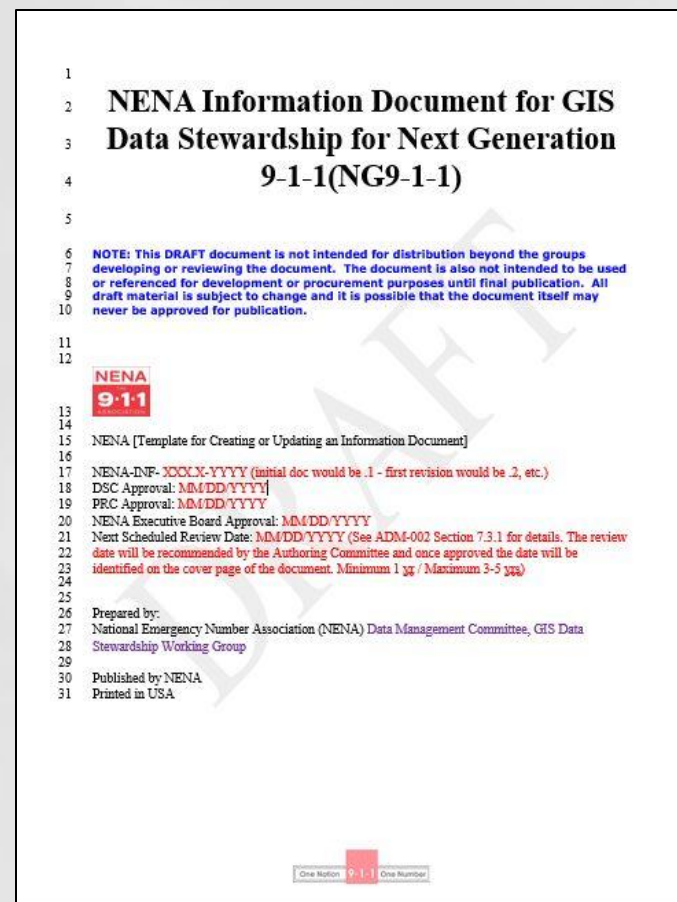


# Coming Up Next: Version 2!

- Narrow scope to expedite review
- Limited to review and update of:
  - Guidance on Buildings
  - Revisit Landmarks & Landmark Name Parts
  - Formatting of sub-address elements
  - Guidance on Place Names
- Weekly meetings on Wednesday afternoons
- Initial meeting tentatively March 7
- Members needed! Sign up now at:  
<http://www.nena.org/?page=DataStructures>

# NENA Information Document for GIS Data Stewardship for NG9-1-1

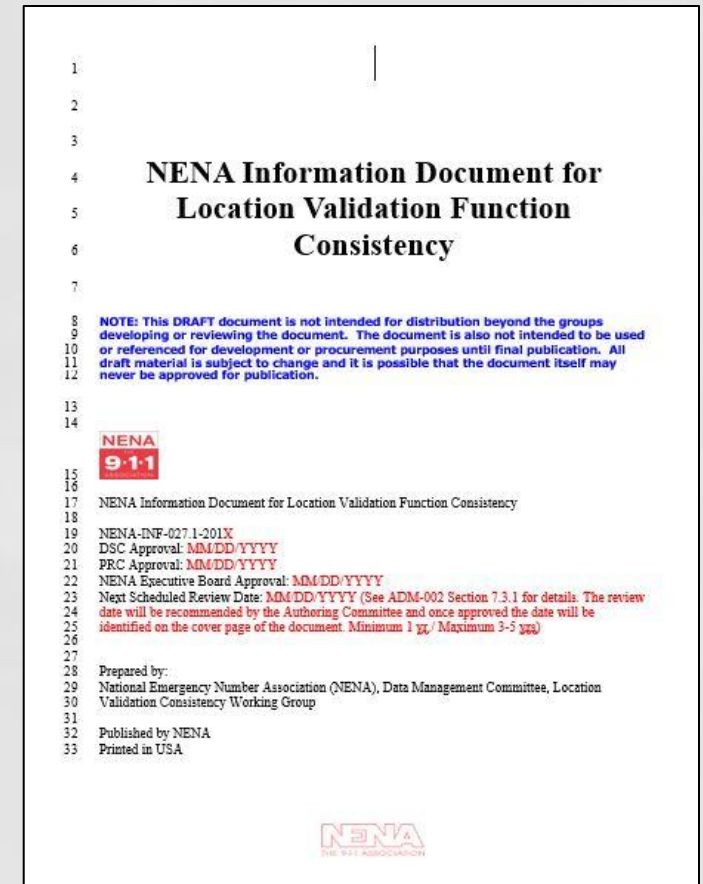
- Provide guidance on 'how' to create and maintain GIS data for NG 9-1-1 processes and functionality
  - Boundary Polygons (required for v1)
    - PSAP
    - Law
    - Fire
    - EMS
  - Road Centerlines (required for v2)
- GIS Data Stewardship
  - Jurisdictional boundary concerns and implications
  - Completeness and timeliness of data
  - Guidelines for gap/overlap detection
  - NG9-1-1 Discrepancy and Error Reporting
  - Roadmap for process improvement
- **In workgroup pre-release review**





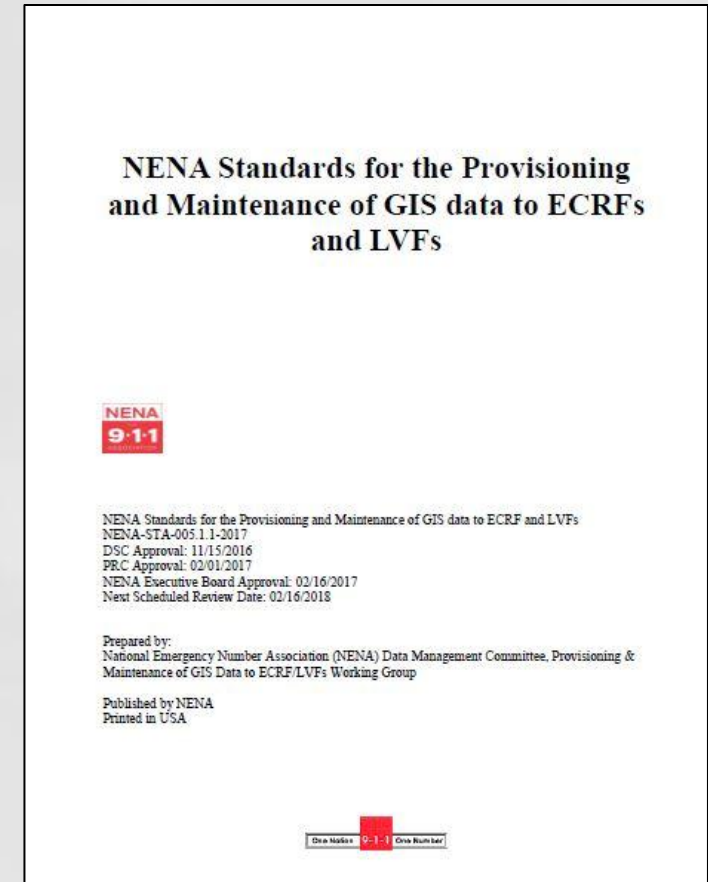
# NENA Information Document for Location Validation Function

- **Consistency** A LVF is a NG9-1-1 functional element that is a LoST protocol server where civic location information is validated against the 'authoritative' GIS database.
- 'Valid' vs. 'Invalid' vs. 'Unchecked'
- A civic address is considered valid if it can be located within the database uniquely, is suitable to provide an accurate route for an emergency call and adequate and specific enough to direct responders to the right location.
- **Due for Public Review soon**



# NENA Standards for the Provisioning and Maintenance of GIS data to ECRF

- Defines operational processes & procedures necessary to support the i3 Emergency Call Routing Function and Location Validation Function.
- Data
  - Authoritative GIS Data Sources
  - Required GIS Datasets
  - Optional GIS Datasets for ECRF/LVFs
  - Data Ownership, Distribution, and Sharing
  - GIS Data Standards (WGS84, EPSG::4979)
  - Recommendations & Tradeoffs
  - QA/QC Recommendations (ref NENA 71-501)
- Provisioning Roles and Responsibilities
- **Adopted 2 / 16 / 2017**



# National Emergency Address Database (NEAD)

- NEAD, LLC established by 'CTIA-The Wireless Association' (representing NENA, APCO, and 4x Tier 1 Carriers) who design / implement the NEAD.
- The NEAD stores the physical addresses of WiFi and Bluetooth beacons to determine the 'dispatchable' location of the beacon itself.
- A 'dispatchable' (per FCC 15-9) location is a street address with a floor, room number, or other subaddress information.
- FCC's 11/2017 ruling approves of the NEAD Privacy and Security Plan without any requirement for access to the NEAD to conduct pre-validation of addresses. That the ruling addressed NSGIC's comments.  
<https://ecfsapi.fcc.gov/file/1114271096727/FCC-17-150A1.pdf>
- Two parts: NEAD (database) and NEAM (administration, data provisioning management, validation).

# National Emergency Address Database (NEAD) - continued -

- The initial NEAD design has been finalized. *Batch processing still needed.*
- Planning is underway for educational outreach.
- The placement of NEAD related info into the ALI record has been finalized for trial purposes. No new fields involved!
- Z axis (height) measurements are being tested in the Test Bed for certain vendors, *but geocoding will not be passed on to PSAP.*
- *West establishes 'business relationship' before allowing access.*
- *Discrepancy process not developed yet (will likely follow ALI/MSAG process).*
- *No current plans for web service support.*
- *Data NOT proprietary but there is no mechanism to piece-part out subsets.*
- NEAD functionality testing will continue for the next few months *and is expected to be operational in late 2018.*

# Next Generation 9-1-1 Act of 2017

- Senators Nelson (D-FL) and Klobuchar (D-MN) released draft legislation February 28, 2017
- Makes transition to NG9-1-1 a national priority
- Major goals:
  - 9-1-1 grant program
  - Adherence to technical standards
  - Cybersecurity and training
  - Increasing responsibilities of the National 9-1-1 Office
- NENA shared with NSGIC and encouraged our review

# Next Generation 9-1-1 Act of 2017

- NSGIC provided comments to add “GIS data”:
  - to the definition of NG9-1-1 systems
  - as a NG9-1-1 component needing sufficient resources
- Comments submitted June 19, 2017
- Shared with NENA, iCERT, NASNA, and URISA
- Identical bills introduced:
  - S.2061 - November 2, 2017
  - HR.4572 - December 18, 2017
- Includes GIS language in resource statement
- Both referred to Committee

# Questions?

*Want more NG9-1-1 news?  
Please join us at the NG9-1-1 Committee Meeting  
8-9pm Wednesday evening in Bryce!*