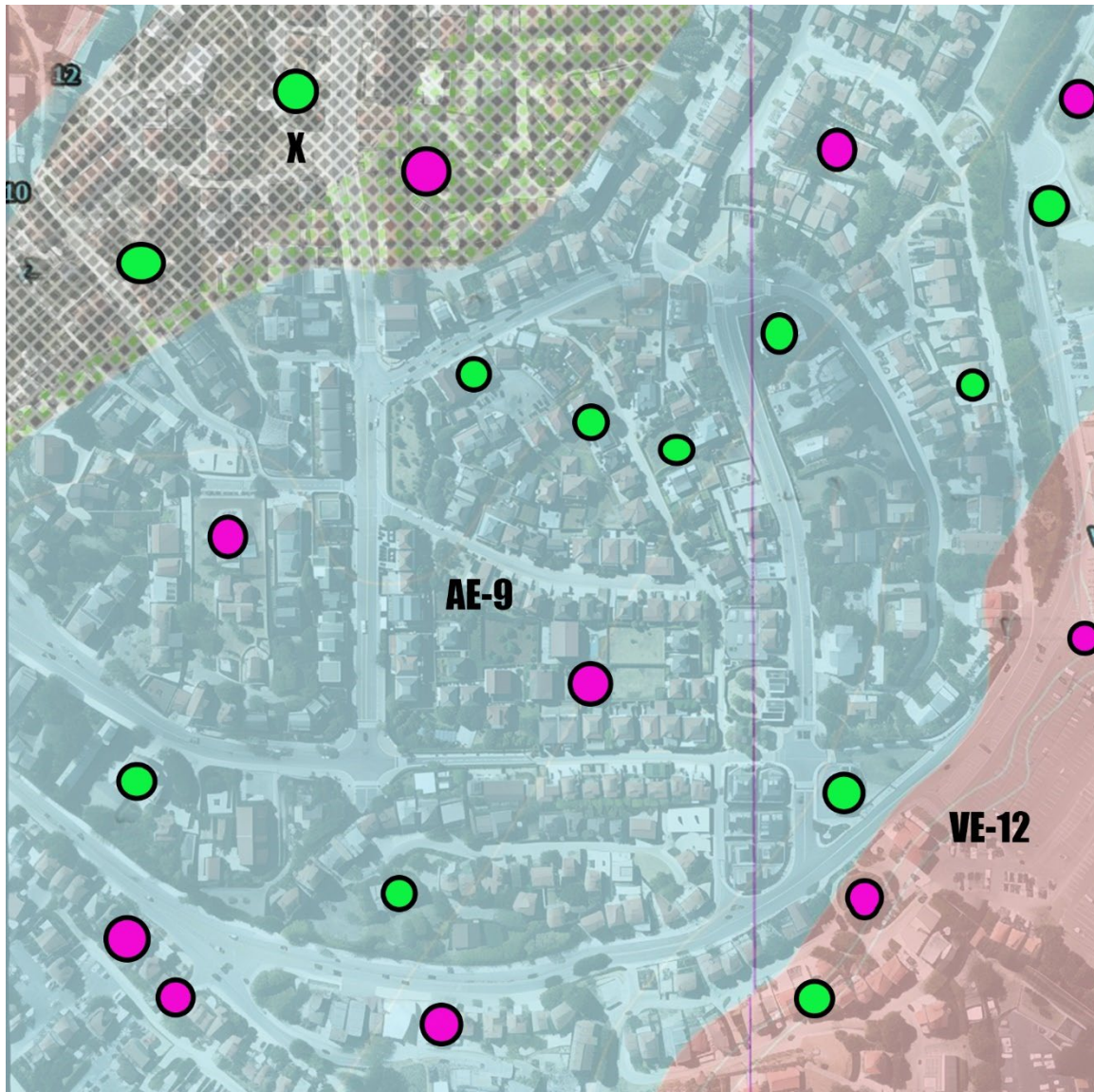


# Analyzing Your NVT using GIS

Ver. 1.2.2 – September 12, 2024  
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[www.NVTresources.org](http://www.NVTresources.org)



## A Quick-Start Guide for the Uninitiated

A step-by-step guide showing one floodplain manager's approach with using GIS to analyze, report and track its list of supposed floodplain violations appearing on FEMA's new National Violations Tracker (NVT). The author is fully responsible for this content, which isn't endorsed by any governmental agency. Anyone is free to duplicate and share this content when in the interest of improved floodplain management. The map appearing on the cover represents a fictional neighborhood created using artificial intelligence.

Acknowledgments: The ESRI® suite of standard applications was utilized to map, analyze, track, and share this data: ArcGIS Pro, Arc Dashboard, ArcGIS Online.

GIS Tech: Template schema available at [www.NVTresources.org](http://www.NVTresources.org), ArcGIS Online and [github.com](https://github.com)

About the author:

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## Revision History

Version	Date	Revision Description
1.0	4/11/2024	Release
1.1	5/3/2023	Minor revisions
1.2	5/17/2024	Minor additions
1.2.1	6/5/2024	Added reference <a href="https://nvtresources.org/">https://nvtresources.org/</a>
1.2.2	9/12/2024	Updated: data security, CRS Exclusion list

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# 1. Introduction

During late 2023, FEMA created within the National Flood Insurance Program (NFIP) its new National Violations Tracker (NVT) by consolidating four separate internal databases of structures within Special Flood Hazard Areas suspected of having floodplain violations. Those separate databases were:

- Minus-rated policy data from PIVOT (formerly known as “submit-for-rate”)
- Letters of Map Change (LOMC)
- CRS Annual Elevation Certificate recertification reviews
- Community Assistance Visit (CAV) & Community Assistance Contact (CAC) findings (more commonly referred to as FEMA audits)

Also created within the NFIP was the CRS Discount Exclusion List (CDEx) within the NFIP’s PIVOT system. While they are somewhat interconnected the exact relationship between the two isn’t clear. What’s presently known is that clearing a property from one list doesn’t automatically clear it from the other.

Upon learning of the NVT's existence, this community discovered some 1,931 structures within its jurisdiction were listed as presumed floodplain violations. The list contains confidential personally identifiable information protected under the federal Privacy Act of 1974. Authorized agencies may request this data from FEMA under their individual Information Sharing Access Agreement (ISAA).

GIS was quickly determined the best method of sorting, triaging, and assembling the anticipated 20,000-40,000 pages of supporting documentation. The added advantage with GIS was the ability to spatially locate each listing, immediately associate them with related location specific supporting documentation such as: Elevation and Floodproofing Certificates, LOMAs, demolition permits, proper jurisdiction, property records, 1316 Declarations, mobile home parks, flood zones present and past, along with providing a real-time progress dashboard.

As yet, we await guidance from FEMA regarding reporting format requirements. Absent submission guidelines, this community opted to make quarterly secure digital online fully GIS mapped submittals using ESRI's ArcGIS mapping platform. This real-time mapped data submitted to FEMA only include those instances where something new has been determined; the local copy contains the complete dataset. Which record updates are submitted to FEMA involve entering a date in the normally null "Submitted" field.

## **Purpose**

The intent of this publication is to serve as a helpful tool for other communities faced with having to analyze their own NVT data and methods of deploying GIS technology to do so with ease. Also, to share tips learned that others may find useful. It's not intended as a GIS instructional guide and assumes the reader either has such skills or coordinates closely with those who do.

## **Naming Supporting Document Files**

Clearing listed buildings from the NVT, whether compliance has been achieved or the violation never existed, requires a wealth of supporting documentation. GIS allows for

document attachments to each point on a map. One has but to click on a point, which activates an informational pop-up window, with links to any documents attached. Typically, these attachments are pdf documents and photographs.

While a file naming format isn't necessary for GIS purposes, there may come a need to export all the documentation to some other media. If all the attachments to a specific listing begin with the same precursor, it'll be much easier to keep them sorted. In this instance the property parcel number was the precursor to every attachment's file name. It could just as easily have been FEMA's violation number found in the NVT data or some other common identifier.

Additionally, the remainder of the file names were descriptive to easily show their relevance without having to open each file.

- Xxxx\_Property card.pdf
- Xxxx\_FC EC.pdf – finished construction phase elevation certificate
- Xxxx\_FP.pdf – floodproofing certificate
- Xxxx\_PA photo – Property Appraiser's photo
- Xxxx\_PA sketch - Property Appraiser's building usage sketch
- Xxxx\_LOMA – FEMA Letter of Map Amendment
- Xxxx\_No\_Rise\_Certificate – self-explanatory

Note: Your GIS specialist will need to enable the “Attachments” option for your database.

## NVT Data Limitations

Two shortcomings with the NVT data you're provided will hamper your analysis:

1. Date: When the supposed violation was identified isn't included. If an Elevation Certificate for a relatively new structure appears compliant or the lot is vacant, the offending building may have been a previous structure. Your local demolition permitting archives will be key to resolving these issues.
2. Parcels with multiple structures. The street address listed on the NVT frequently doesn't identify a building beyond its street number. Unless you're able to spot an identifier, it may be very difficult to determine to which structure

a supposed 'violation' was attributed. In such instances, these were categorized and reported back to FEMA as "Location Unknown."

## Data Security

It's imperative your GIS staff understand this data must be secured within its own organizational ArcGIS group with access strictly limited to staff with a direct need-to-know. If not, any GIS user within the organization may unwittingly access the data. Unauthorized sharing of personally identifiable NFIP data is a crime. Generalized reports can be created to satisfy the needs of officials and the general public.

It's helpful for your IT folks if you include within your NVT file names the word "Confidential." IT routinely moves files around for server maintenance and responds to public records requests without knowing the contents and security of specific files. Such a heads-up in the file names is an alert that special handling is needed for those files.

It's often not practical for everyone within your organization who'll be handling NVT data to be a signer on the communities ISAA agreement with FEMA, which typically has only five signers. The signers on that agreement are those recognized by FEMA as being able to request confidential NFIP data for their community.

For those tasked with working with the NVT data who aren't ISAA signers, one option is to have them sign the confidentiality agreement on page two of the bright yellow Privacy Act cover page, which has them acknowledge that the indiscriminate release of this information is a crime.

A progress dashboard (shown later) is an excellent way of keeping people generally informed of the ongoing assessment without releasing any personally identifiable information.

**Condominium Associations:** A condominium association's board member calls their local floodplain manager insisting that since the association owns and insures the building's exterior shell the association is entitled to know which, if any, of the units in those buildings are listed on the NVT. Are they so entitled?

A community's Information Sharing Access Agreement (ISAA) with FEMA restricts local officials from disclosing with anyone other than a property owner(s) any personally identifiable information from the NFIP shared by FEMA. Yet it's not always clear what or who constitutes an "owner."

A condo association may own the exterior shell of its buildings but not necessarily the separately insured units within that shell. Are the condo association board members considered "owners" under the ISAA? Who are the "owners" of property held by an LLC, corporation, or a trust?

When it comes to condominium associations, there's good news for floodplain managers... it's strictly between those associations and FEMA. The association would need to become an entity identified and approved via their own Information Sharing Access Agreement (ISAA) with FEMA. The release of any such protected NFIP information would occur between FEMA and the condo association, not between local agencies and the condo association.

As for the other entities - LLC, corporation, trusts – local floodplain managers will need to connect with their legal staff to determine who's an appropriate "owner" eligible to receive the protected information. Some communities conclude any individual board member may be eligible, while other communities want a vote of the entity's board to make the request and designate one of them to sign for it.

Before discussing an NVT listing with a property owner, one community requires a video conference call or in-person visit with the owner presenting acceptable identity as a prerequisite. If anyone else is to be present, that community requires the owner submit a notarized release of confidential information. The owner is free to discuss their confidential NFIP data with anyone, the burden of confidentiality rests solely with the agency in possession of the data. Local or state public disclosure laws have no bearing upon the release of confidential information covered by the Federal Privacy Act.



## GIS Prerequisites

Land Parcel Data: This analysis began with merging the local property appraiser's data – or other local property taxing authority - with that of the NVT. It helps to have all the data fields from both databases fully merged into a single GIS layer so each NVT listing then includes all the property parcel data. Un-needed fields can be hidden. Should that hidden data later prove necessary, it'll be much easier to make it visual again than trying to restore it.

Flood Certificates: It's critical to have an updated layer that at least indicates such documents exist for any given building. Ideally, the GIS data would have fields already populated with data from the certificates with attached copies of those documents to each GIS point. Absent that luxury, you'll at least need a point placed at locations showing such a document exists for that parcel, so you'll be aware this reference is available and to perform GIS queries; a separate GIS point is needed for each document type.

Type of certificates and permit you'll need to know exist at any given location include:

- Elevation Certificates (finished construction)
- Floodproofing certificates
- LOMAs
- Section 1316 Determinations
- Substantial Damage Determinations
- Demolition permits (not essential, but very useful)
- Active floodplain related code enforcement cases
- Unsafe Buildings list (including resolved cases)

### GIS Layers

- Municipal Boundaries: Will easily identify any out-of-jurisdiction locations incorrectly attributed to your community.
- Historical aerial imagery and any available NOAA post-disaster imagery
- Historic FIRMs

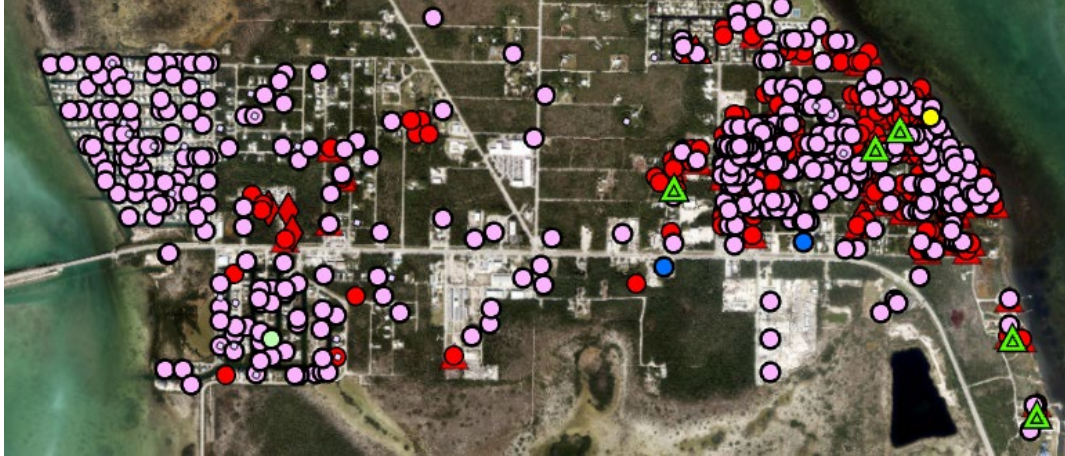


Figure 1 This GIS map example shows spatially located elevation certs, floodproofing certs, LOMAs, substantially damaged buildings, 1316 Declarations.



Auto-plotting points in bulk tends to place them all at the parcel's dead-center. This can cause points to become stacked under each other and hidden from view. It helps to employ an offset, so the points remain within the correct parcel but not under each other.

Expect placement and comparison errors. The decimal degree lat/lon coordinates accompanying the NVT data is accurate down to six decimals. Comparison errors can be minimized by modifying the addresses in the NVT data to better resemble the address format used by your Property Appraiser. For example, if the NVT address is "123 Main Street" but your Appraiser's data shows "123 Main St", before the merge, modify the addresses in your NVT spreadsheet by replacing the word "Street" with "St." etc. and the same for other roadway types.

A very common disconnect occurs with NVT addresses that use the postal city rather than the jurisdiction in which they're physically located. The GIS layer should include columns for both "City" and "Postal\_City" to distinguish between the two.

Mobile home parks present geolocating challenges, as do other properties where multiple structures share a common street address and some subset of location

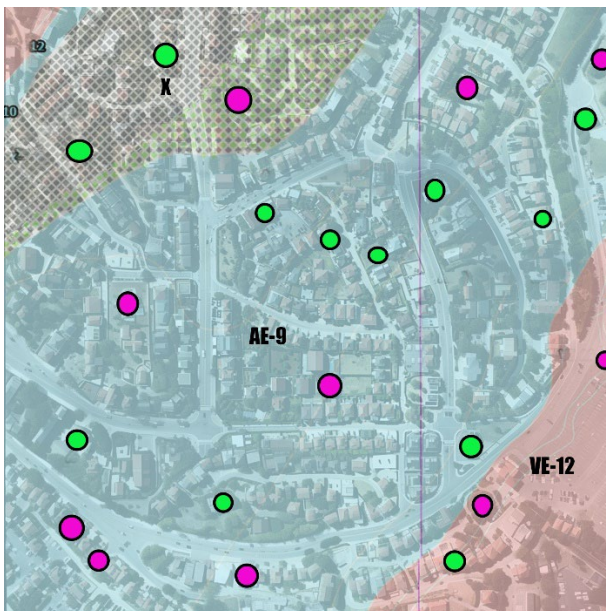
identifier. Mobile home parks are often located within a single parcel. If the lots aren't individually owned, they won't merge properly with taxing databases. In such scenarios, the GIS points may stack atop each other near the park's entrance and need to be manually placed. While the six-decimal lat/lon coordinates may help, their placements will need to be verified.

## 2. Overview

The beginning goal is to bring all the relevant data down to the property parcel level, which by now would have been merged with the NVT data. This will enable queries, such as...” Which parcels have both an NVT listing and a Floodproofing Certificate.”

After checking a series of basic bulk identifiers – out of jurisdiction, pre-FIRM, floodproofed buildings, mobile home parks, demolished buildings etc. – you'll be looking to spot other trends which may help identify groups of similarly situated NVT listings that can be successfully resolved. Years earlier, this community had a series of resolved enclosure inspections, yet many of those locations now reappear on the NVT. Documents from those prior inspections is expected to cure many of the NVT listings. Mapping those prior inspections into GIS greatly eased this review; so too did the mapping of floodplain related code enforcement cases.

As you resolve the individual NVT listings, those points will change color, easily



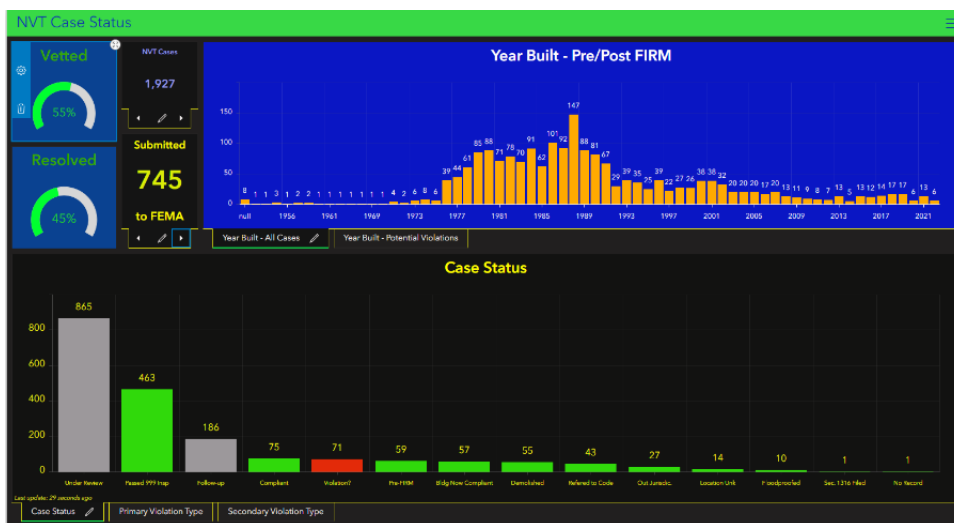
distinguishing between what's finished and which remain. In this example, the green points have been vetted, categorized and/or resolved; with review still needed for the purple NVT points.

Duplicating the NVT layer and filtering it to only show those which remain unfinished [using GIS definition query] makes it much easier to focus on the

tasks at-hand. It's a different visual copy of the same layer, so all your entries in either will be in the same records.

The bulk of your NVT listings will have a “violation source” of “minus-rated;” formerly known as submit-for-rate. A few may show “LOMC” and a related case number, where violations were detected from a Letter of Map Change application.

Creating a related GIS Dashboard provides a real-time progress report useful for keeping others updated and rendering reports to FEMA. Once such a dashboard has been setup, it'll be self-updating as changes are made to your NVT data. More about dashboards later.



## 3. Where to Begin

### Out of Jurisdiction

Once spatially located, these will be the easiest to spot. Categorize accordingly and note the appropriate NFIP community in the “Comments” field. Including that community’s NFIP community number will likely expedite the corrective entry at FEMA.

### Pre-FIRM Buildings

Whether a building is pre- or post-FIRM depends upon the date of the building permit application. However, property tax agencies frequently use as the taxing construction date the year the Certificate of Occupancy was issued. The NVT also uses the taxing agency’s year of completion, which can sometimes incorrectly label a building as post-FIRM, minus-rated and an NVT violation. The same can occur with construction dates close to FIRM updates, where a structure was permitted under an older FIRM but completed after newer FIRMs became effective.

Check all NVT listings showing a construction date within a couple of years after the pre-FIRM date. Where your research shows the permit application was made pre-FIRM, change the year-built date field to the application year, attach dated copies of the building permit application and categorize as “pre-FIRM.”

Exclude any structures with post-FIRM alterations that would have triggered floodplain compliance.

## Floodproofed Buildings

Floodproofed buildings are a common source for buildings being inappropriately listed on the NVT. By their nature, floodproofed buildings have their lowest floors below the Design Flood Elevation (DFE). Typically, there's nothing on the Elevation Certificate noting it was for a building that's been floodproofed. Such Elevation Certificates when viewed absent an accompanying Floodproofing Certificate cause the building to appear non-compliant, minus-rated and an NVT violation.



Attach copies of the Floodproofing Certificates and categorize these as compliant floodproofed structures.

## Mobile Home Parks

Historically, mobile/manufactured homes installed within existing designated mobile home parks or subdivisions were only required to be elevated not less than 36 inches in height above the grade, regardless of Base Flood Elevation (BFE) [44 CFR Section 60.3]. Yet there's nothing on an Elevation Certificate noting that structure was a mobile home, nor did it indicate it was located within a mobile home park. Thus, they may have been viewed as non-compliant, minus-rated and an NVT violation.

Where a mobile/manufactured home was installed under the 36-inch rule, attach a copy of Elevation Certificate (if available), and property taxing records which should indicate its construction type as a mobile home and that it's located within a zoned mobile home park. Attach a dated copy of the mobile home installation permit showing the install occurred prior to any subsequent ordinance change requiring higher elevation.

In years past, it was common for communities to forego the need for an Elevation Certificate on mobile homes where compliance was easily determined with a yardstick. Absent a certificate, property appraiser photographs often show the home is at least three feet above the ground. Including a photograph of the home against a yardstick may help resolve questionable heights, hopefully avoiding the cost of an Elevation Certificate.

## Demolition Permits

Plotting demolition permits in GIS saves considerable research time. Queries such as “Which parcels contain both NVT listings and demolition permits” rapidly helps identify NVT listings where the offending buildings may have already been removed or replaced. Especially if the permitting types distinguished minor demolitions from whole structure demos.

## V-Zone Buildings w/o Flood Vents

In communities governed by ASCE 24, prior to version ASCE 24-14, breakaway walls in “V” type flood zones weren’t required to include flood vents. Elevation Certificates often noted such enclosures as having “zero” ventilated square inches, which was compliant at the time but appeared non-compliant and got listed on the NVT.

Note these as compliant, attaching documentation showing the year built and utilization of breakaway walls.



Flood ventilation requirements for A-zone enclosures didn’t become effective until October 1, 1986 [44 CFR Section 60.3(a)(3)(i)] and may have taken at least a year or two before appearing in local floodplain ordinances. A-zone enclosures constructed without vents before such requirements would be nonconforming yet compliant; unless modifications/repairs to such enclosures occurred after vents became required. Absent any other floodplain compliance issues, such structures should be reported as “Compliant” with removal from the NVT requested. [ASFM “Insider” May 2024, “NFIP Rule Changes and the Concept of Non-Conforming” by Rebecca Quinn, CFM.]

## **A-Zone Buildings w/o Flood Vents**

Some structures built in “V” type flood zones constructed standard breakaway wall enclosures without flood vents. When later remapped into type “A” flood zones, those buildings incorrectly appeared noncompliant as their enclosures lacked flood vents. Yet permitting research shows they were compliant when built and thus shouldn’t have been listed on the NVT.

During the late 1990s, some confusion existed regarding flood ventilation of enclosures within type “A” flood zones. It was perceived that either flood vents or breakaway walls would suffice. As a result, a number of A-zone structures were built with breakaway walls in lieu of flood vents. Years later, the lack of flood vents made the A-zone enclosures appear noncompliant, unaware that the original construction included breakaway walls.

## **Active Code Enforcement Cases**

Where floodplain violations have triggered local code enforcement cases that remain active, attach copies of the charging documents that describe the floodplain violation(s) and note these NVT listings as pending resolution in the courts.

## **Unsafe Buildings**

A spreadsheet of current and resolved unsafe buildings is a good source of discovering:

- NVT listed structures already posted as unsafe or condemned.
- Unsafe conditions which have been cured, likely also corrected any existing floodplain violations.

## **NVT Points with Elevation Certificates**

Another good source for clearing inappropriate NVT listing are those for which you have Elevation Certificates. Look for those with building permit application dates prior to Design Flood Elevation (DFE) requirements but completed after DFE became the



standard. Note these as compliant structures to which the DFE didn't apply. As always, attach the relevant documentation.

ECs showing compliant relatively new structures are prime indicators an offending building may have been demolished. Check the permitting history for demo permits.

## Section 1316 Declarations

This particular community had some 40 active Section 1316 Declarations, but only one appeared on the NVT. It's believed 1316's shouldn't appear on the NVT as they're not eligible for flood insurance through the NFIP. It's believed the one 1316 appearing on that NVT was a declaration not properly reported to or recorded by FEMA.

Update: As of March 30, 2024, FEMA advised such declarations should not presently appear on a community's NVT, but that policy is subject to change.

## Wildlife Reserves

US Government owned property isn't subject to local floodplain requirements. During the early mapping years, large swaths of federally owned lands were excluded from mapped FIRMs as not being within a Special Flood Hazard Area (SFHA). It appears federal wildlife reserves may have been presumed federally owned lands and thus excluded from flood maps. However, such reserves can and often do contain privately owned property. Yet, if when built, those areas weren't within the mapped SFHA then those structures wouldn't have been subject to floodplain regulations and are thus pre-FIRM.

Subsequent FIRMs likely incorporated such areas into the SFHA, which would give existing structures within those areas a different pre-FIRM date. Absent any post-FIRM alterations to the buildings which would have triggered floodplain compliance, these structures should be identified as "pre-FIRM." Include comments explaining the different FIRM date and attach copies of:

- FIRM panels in which those areas were excluded from the SFHA.

- Panels of subsequent FIRMs documenting the pre-FIRM date for those structures.
- Copies of permits documenting pre-FIRM construction.
- Permitting history showing an absence of post-FIRM floodplain triggering permits.

## Violations

Where your research shows the likelihood of a floodplain violation, categorizing it as such will give your community a better perspective of how the NVT should look.

Further categorizing the type of potential violations – inadequate flood ventilation, unpermitted enclosure, occupancy, etc. – will better define the scope of the problem.



When encountering duplicate NVT listings for the same building, check the NFIP “Violation ID” number. If they’re the same, you have an accidental duplicate and need to delete one. If they’re different, report them separately as there are two separate NVT listings for this building.

## Status Categories

Passed 999 Insp*: Passed an earlier floodplain inspection during the former enclosure compliance inspection program.
Follow-up needed: A review of available data couldn't resolve the matter.
Violation?: Upon review, available data suggests the likelihood of floodplain violation(s).
Pre-FIRM: Structure and improvements were permitted prior to [pre-FIRM date].
Building Now Compliant: Structure has since brought into compliance after follow-up.
Demolished: The suspected offending structure has been demolished.
Referred to Code: Those with active code compliance cases pending.
Compliant: Structure appears floodplain compliant. Nature of the complaint unidentifiable.
Out of Jurisdiction: Located in some jurisdiction other than Unincorporated Monroe County.
Location Unk: NVT data isn't descriptive enough to identify the location/structure.
Floodproofed: Non-residential structures that were floodproofed, where Elevation Certificates alone inappropriately suggests a violation.
Sec. 1316 Filed: A Section 1316 Declaration already be in-place.
Variance Issued, floodplain
No Record: No record of any structures on this parcel.
Permitting Error: Non-floodplain compliant permit issued.

## 4. Research

### Property Tax Records

Property tax records can contain a wealth of information helpful when evaluating NVT listings. Such online records are subject to change as taxing updates occur, making the previous information more difficult to collect, so save it when you see it. Most taxing authorities keep decades of archived records available upon request.

Parcel numbers, year built, lot/block numbers, permitting history, sketches and photos are the quickest method of triaging NVT listings. Remain mindful that over time, with parcel unifications, building rotations and the like, parcel numbers and addresses

could have changed. Historical aerial imagery layers in GIS accompanied by historical FIRM overlays quickly show what structures existed when and the relevant FIRM at the time.

Some NVT listings may only show a block and lot number for an address; absent subdivision information just the block/lot number isn't very useful. Yet with the versatility of GIS, you're able to identify all legal descriptions containing that same block/lot number, greatly narrowing the possibilities.

It's recommended to obtain copies of three items from each property record and attach them to each NVT point.:

- Property card
- Building photos (full size)
- Building sketches (full size)

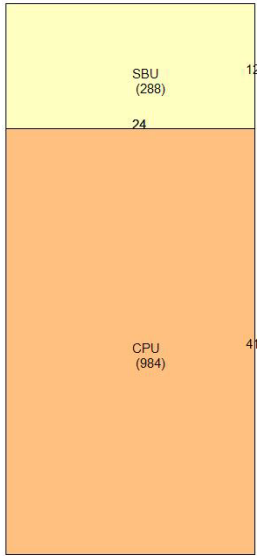
Note: While photos and sketches often appear on property cards, they're small and difficult to read. It's worth the extra effort to enlarge and save those parts separately.



Your GIS specialist can usually create a field with a URL link for each NVT listing that takes you directly to the property appraiser's online record for that parcel. This can be a huge time saver if you've a lot of listings to research.

GIS Technical note: 'https://URL={}'.format(!parcel#field!)

Property Card	RI_Num
<a href="https://qpublic.schneidercorp.co">https://qpublic.schneidercorp.co</a>	94

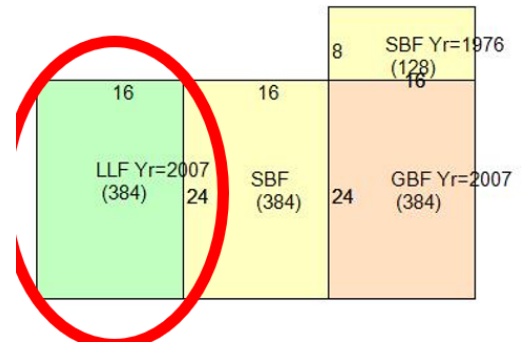


Building sketches from taxing agencies are a good reference for quickly triaging NVT listings. In this example, the ground level has an open carport area (CPU, orange), and is accompanied by at 288-sf utility enclosure (SBU, yellow).

Since the enclosure is less than the current maximum of 299-sf, the NVT concern is likely related to inadequate flood ventilation.


In this post-FIRM example, there are four separate enclosures at ground level: Garage, tan; two utility enclosures, yellow; living space, green.

Depending upon the year of construction compared to the floodplain ordinances in effect at the time, four enclosures of this size may have been permissible; yet habitable space wouldn't have been permissible. The follow-up necessitates an archives search to learn what was permitted and when.



## Permitting Archives

While permitting archives are useful to show what work was permitted, they're equally as useful to show what wasn't permitted. A pre-FIRM NVT listing might be cleared by showing no post-FIRM alterations had been permitted. Conversely, a property appraiser's sketch showing a post-FIRM enclosure may show unpermitted enlargement and occupancy in need of follow-up.



**QUICK TIP**  
Elevation Certificates were first introduced during Oct. 1981. It also doubled as a floodproofing certificate.

Certain permits issued after initial construction should draw immediate attention and saving of those documents:

- Enclosures
- Additions
- Demolitions
- Major renovations

Enclosure permits compared to property appraiser building sketches are quick indicators it has/hasn't been further enlarged, or usage of the enclosure may have changed.

Permits for additions may have included construction of a new enclosure or removal of a noncompliant one.

Demolition permits may have been issued to achieve floodplain compliance or removal of a previous offending structure, especially in disaster prone areas.

Major renovations may indicate a Substantial Improvement did/didn't occur, possibly including the removal of a noncompliant enclosure.

*Note: If you're fortunate, a parcel history may also include past floodplain related code compliance cases. Documentation from such cases can help clear NVT listings by showing they were previously brought into compliance.*

## Google Street View / Cyclomedia

Google Street View is a highly efficient method of quickly checking locations, mindful that images from smaller streets can be several years old. Screen captures, especially historical views, are useful to show changes over time compared to permitting.

However, those Street View images can easily be more than a decade old. Cyclomedia is a company offering much the same service for a fee, but with greater resolution, more angles and images often less than a year old.

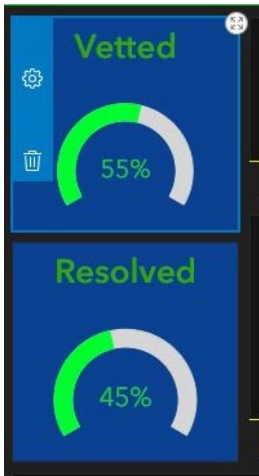
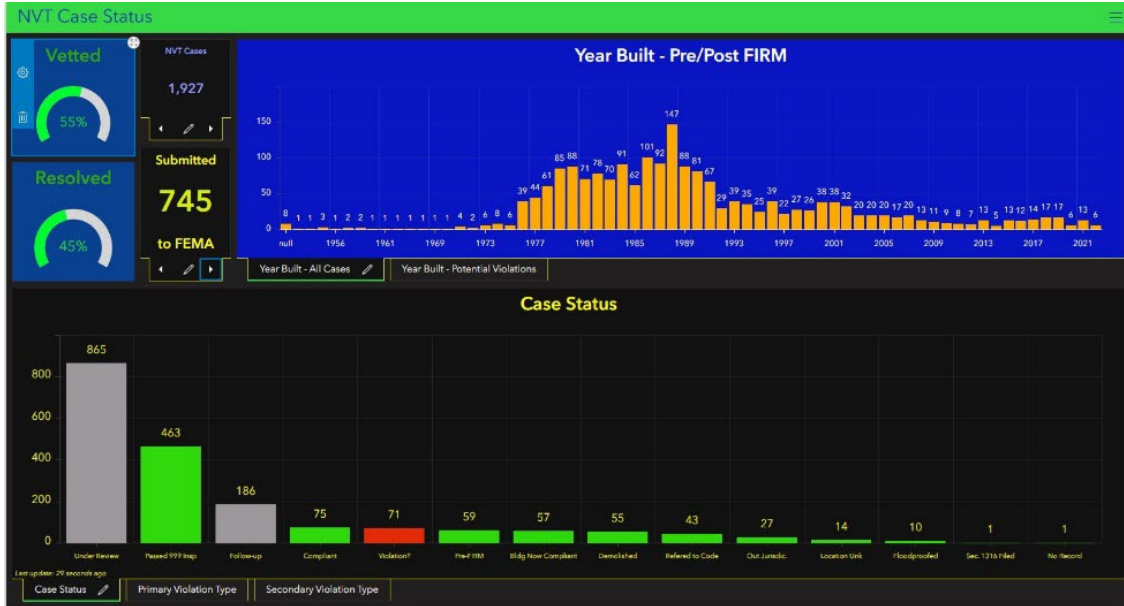
## Real Estate Listings

Even if a property has sold, the real estate listings often remain and showcase the entire interior areas which can help clear an NVT listing or suggest that further follow-up is necessary. Scenery visible through windows can be a good indicator of finished enclosures at-grade.

# 5. ArcGIS Dashboard

## Big Picture at a Glance

Once a dashboard has been setup, it's updated in real-time as your GIS data entries are made. A combination of gauges, indicators and charts can be customized to your needs. Related sub-charts become visible when clicking on the sub-tabs immediately beneath some of the charts.

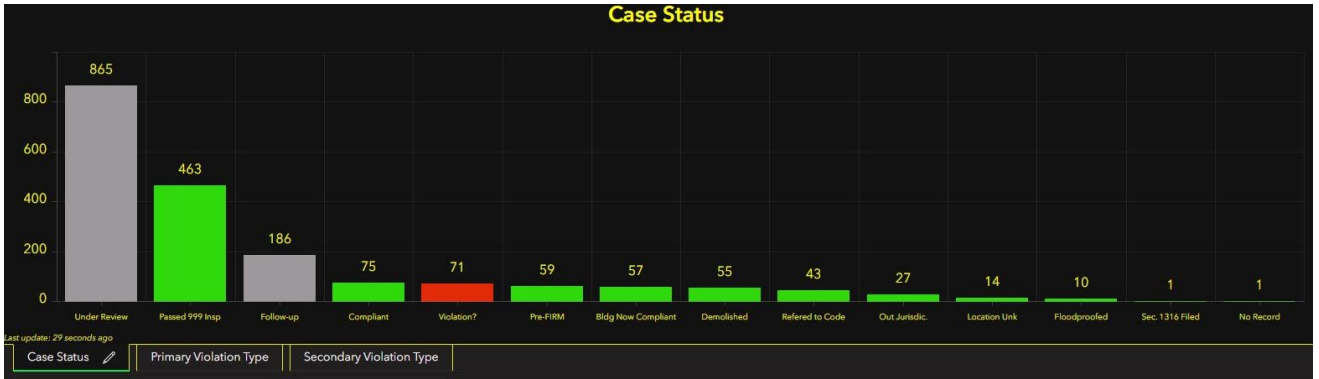


The “Vetted” and “Resolved” gauges are handy progress meters.

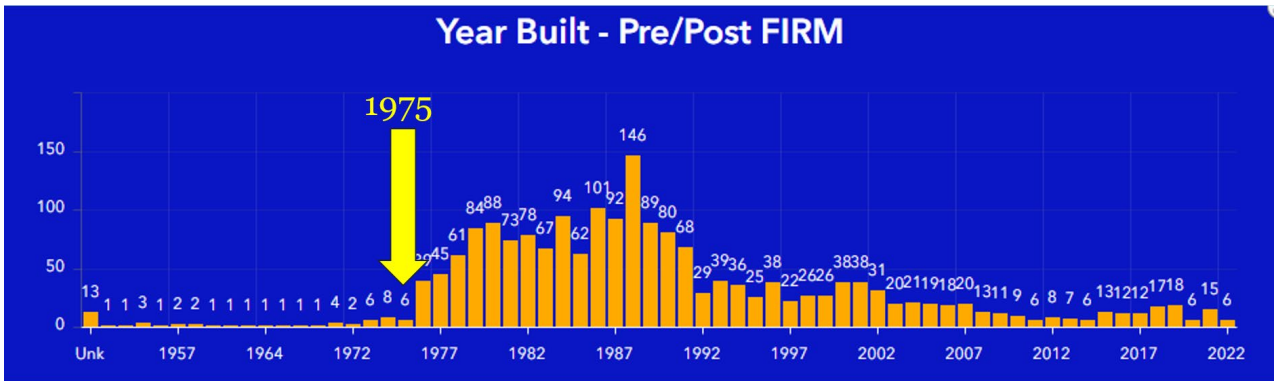
This pair of gauges shows triaging of the NVT listings is more than halfway done (55%). Of those reviewed so far, there was enough information to categorize 45% of the likely resolutions.



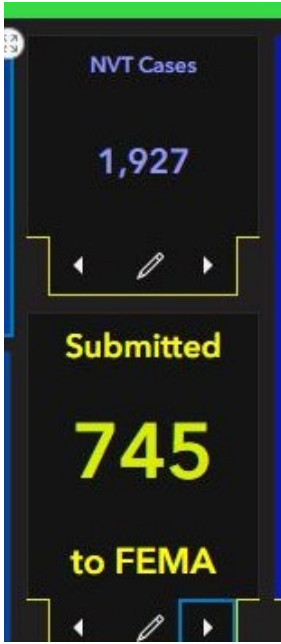
So far, only 10% need will require follow-up efforts.



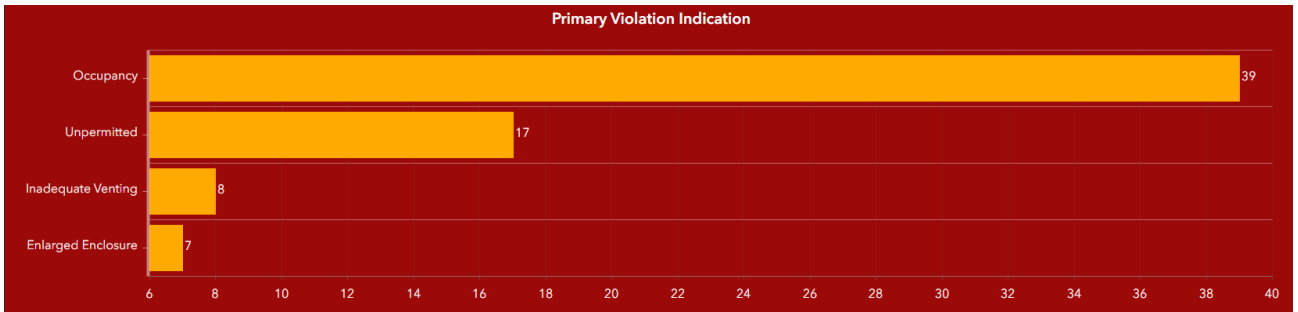
The case status chart shows individual counts of each status category. (see Status Categories)



The year-built chart uses the property appraiser’s construction date (Certificate of Occupancy date) to age the NVT structures. The default pre-FIRM date (12/31/1974) for many communities is indicated by the yellow arrow. Initially these ‘violation’ listings for 1975 and 1976 were much higher, yet research disclosed a number of those completed buildings involved pre-FIRM permits and thus were deemed compliant.



These indicators simply show the number of NVT listings followed by the number of resolutions submitted to FEMA to date.



A sub-chart of potential floodplain violations further categorizes them by apparent cause to help define the scope of follow-up needed.

## 6. The Data

The confidential NVT data provided to communities is rather simple and consists of a spreadsheet with the following:

County	Standardized address	Violation ID	Violation Type	Violation Source	Violation Zone	Street1	Street2	City	St	Zip	Zip Suffix	Latitude	Longitude
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	A1-30	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	A1-30	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted
Redacted	Redacted	Redacted	Low floor	Minus rated	AE	Redacted	Redacted	Redacted	FL	Redacted	Redacted	Redacted	Redacted

Figure 2 Lat/Lon to six decimal points

Identified Date	Mitigated	Elevation Diff	Postfirm Flag	LOMC Casenum	Class rate	Discount	St Code	Comm Code	Init Date
08/02/2022	No	-1	Y		03	35%	12	5129	
08/02/2022	No	-7	Y		03	35%	12	5129	
08/02/2022	No	-3	Y		03	35%	12	5129	
08/02/2022	No	-1	Y		03	35%	12	5129	
08/02/2022	No	-3	Y		03	35%	12	5129	
08/02/2022	No	-7	Y		03	35%	12	5129	
08/02/2022	No	-5	Y		03	35%	12	5129	
08/02/2022	No	-6	Y		03	35%	12	5129	
08/02/2022	No	-5	Y		03	35%	12	5129	
08/02/2022	No	-6	Y		03	35%	12	5129	
08/02/2022	No	-2	Y		03	35%	12	5129	
08/02/2022	No	-4	Y		03	35%	12	5129	
08/02/2022	No	-3	Y		03	35%	12	5129	
08/02/2022	No	-5	Y		03	35%	12	5129	
08/02/2022	No	-5	Y		03	35%	12	5129	

## 7. Recommend NVT Resolutions

There are six status options for a listing in the NVT database. An alleged ‘violation’ is resolved upon one of the following conditions having been met.

We'll be modifying our GIS table to include this field as a recommended resolution,

- Mitigated to meet 44 CFR 60.3 requirements.
- Mitigated to meet more restrictive state requirements.
- Building no longer exists
- Review determined structure not in violation.
- Mitigated to maximum extent possible.
- Removal from NVT

Structures so resolved remain on the NVT, not as violations but as mitigated structures or listing errors. The only instance a structure may be removed from the NVT is when a listing had been incorrectly attributed to the wrong community.

A structure noted as having been “mitigated to the maximum extent possible” likely won’t have its CRS discount restored, as it’s still non-compliant.

## 8. GIS Data Fields

Shape	GIS system file
RECHAR	Parcel ID number
Status	Status of your review. Common status categories are preset (domains in GIS terms), but can be user modified.
Status_Date	Date of your most current status change.
Doc	Yes/No, whether you've finished gathering the documentation for this listing. While you may have resolved the concern, there may still be documents to gather before submission.
Vetted	Date - Blank indicates this listing hasn't yet been triaged. Enter date indicating you've checked this listing. Regardless of the outcome, you'll need to know which have at least been minimally checked vs which haven't.
Resolved	Date - Blank indicates still needs examination. Enter date when you've been able to categorize this listing. Except if categorized for "Follow-up." Selecting “follow-up” means you couldn't categorize it.

PermitNo	Text - Permit # of corrective permit, or if in compliance, permit # showing such compliance.
PermitDate	Date - Above permit was issued.
YRBLT	Date (year only) - Date structure permit was issued or building permit application submitted. If a compliance date is close, enter the application submitted date.
VioType1	Text (dropdown list) - If violation likely, note the most likely type: Occupancy, unpermitted, inadequate ventilation,
VioType2	Text (dropdown list) - Any secondary likely violation type.
VioType3	Text (dropdown list) - Any third-tier likely violation type.
Submitted	Date - Submitted to FEMA. Next future date if reporting periodically. This will allow you to know in which batch this report was - or will be - submitted to FEMA.
Comments	Text - Whatever you like
Standardized_address	Text - GIS Street address
Violation_ID	FEMA's NVT violation number
Violation_Type	FEMA's NVT violation type. Often reported as "Low Floor," meaning below the required minimum elevation.
Violation_Source	FEMA's NVT violation type. Often reported as "Minus Rated" (formally known as "Submit for Rate).
Violation_Zone	Flood zone type at the time the violation was noted.
Street1	FEMA's street address
Street2	FEMA's street address, additional information
City	FEMA's recorded location City. Often incorrect if that community gets it mail delivered from a post office in another community.
Mitigated	Yes/No - Whether FEMA records this structure as having been flood mitigated. Best to filter-out the "Yes" listing to focus on the "No" listings.
Elevation_Diff	Numerical - FEMA's record of how much lower the elevation is below the required minimum.
LOMC_Casenum	If the supposed violation was derived from a LOMC application, that case number will appear here.
LocCor	Yes/No - When the address had to be corrected from what the FEMA provided address showed.
LOCATION	Local Record: Property Appraiser's parcel information.
PHYUNIT	Local Record: Property Appraiser's parcel information.
NAME	Local Record: Property Appraiser's parcel information.
NBRBLDG	Local Record: Property Appraiser's parcel information.
KEYNAME	Local Record: Property Appraiser's parcel information.
CONDO_COMPLEX	Local Record: Property Appraiser's parcel information.
SPECUSE	Local Record: Property Appraiser's parcel information.
BUSNAME	Local Record: Property Appraiser's parcel information.

AW_501FU	Yes/No - If Repetitive Loss records need to be updated with FEMA based upon new information.
Own_phone	Text (local info) - Owner's telephone number
Own_email	Text (local info) - Owner's e-mail address
MH	Yes/No - Mobile Home? Helpful for determining what different elevation standards might have applied.
RL_List	Yes/No - Local note if this structure appears on your Repetitive Loss list.
Attach	Numerical - Number of document attachments to this record.
PreFIRMdate	Date - Helps when different pre=FIRM dates apply.

Note: While the different date fields may seem redundant, especially if you're able to resolve a listing upon first viewing and having to enter the same date in multiple fields, it will be beneficial later as the resolutions become more difficult or remain unresolved.

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