



# Incorporating Location Core Services with Traditional GIS Validation

HGAC Geographic Data Workgroup  
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The next  
generation  
is **NOW!**

# Introductions



Lauren DiGiovanni, MS, GISP, ENP

*Client Success Manager*

Lauren.DiGiovanni@mbakerintl.com



Brian Dunkle

*Business Development Manager*

Brian.Dunkle@mbakerintl.com

# Agenda

- Why This Matters
- Traditional GIS
- Enter Location Core Services
- Location Platform
- Indoor-Mapping – The Next Frontier
- Looking Ahead – Collaboration and Standards

# Why This Matters

- The evolution of GIS in public safety
- The growing need for precision in location intelligence
- NG9-1-1 demands
  - Spatial call routing
  - Validation



# Traditional GIS

- Address Points, Road Centerlines and Boundaries
- Common challenges
  - Data silos
  - Manual workflows
  - Inconsistent schemas
- Importance of NENA standards

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

**Abstract:** This document defines the GIS data information, formats, requirements, and related information used in NENA Next Generation 9-1-1 (NG9-1-1) Core Services (NGCS).



NENA Standard for NG9-1-1 GIS Data Model

NENA-STA-006.2a-2022

DSC Approval: July 12, 2022

PRC Approval: September 15, 2022

NENA Board of Directors Approval: September 21, 2022

ANSI Approved: September 23, 2022

Next Scheduled Review Date: September 23, 2025

Prepared by:

National Emergency Number Association (NENA) Data Structures Committee, NG9-1-1 GIS Data Model Working Group



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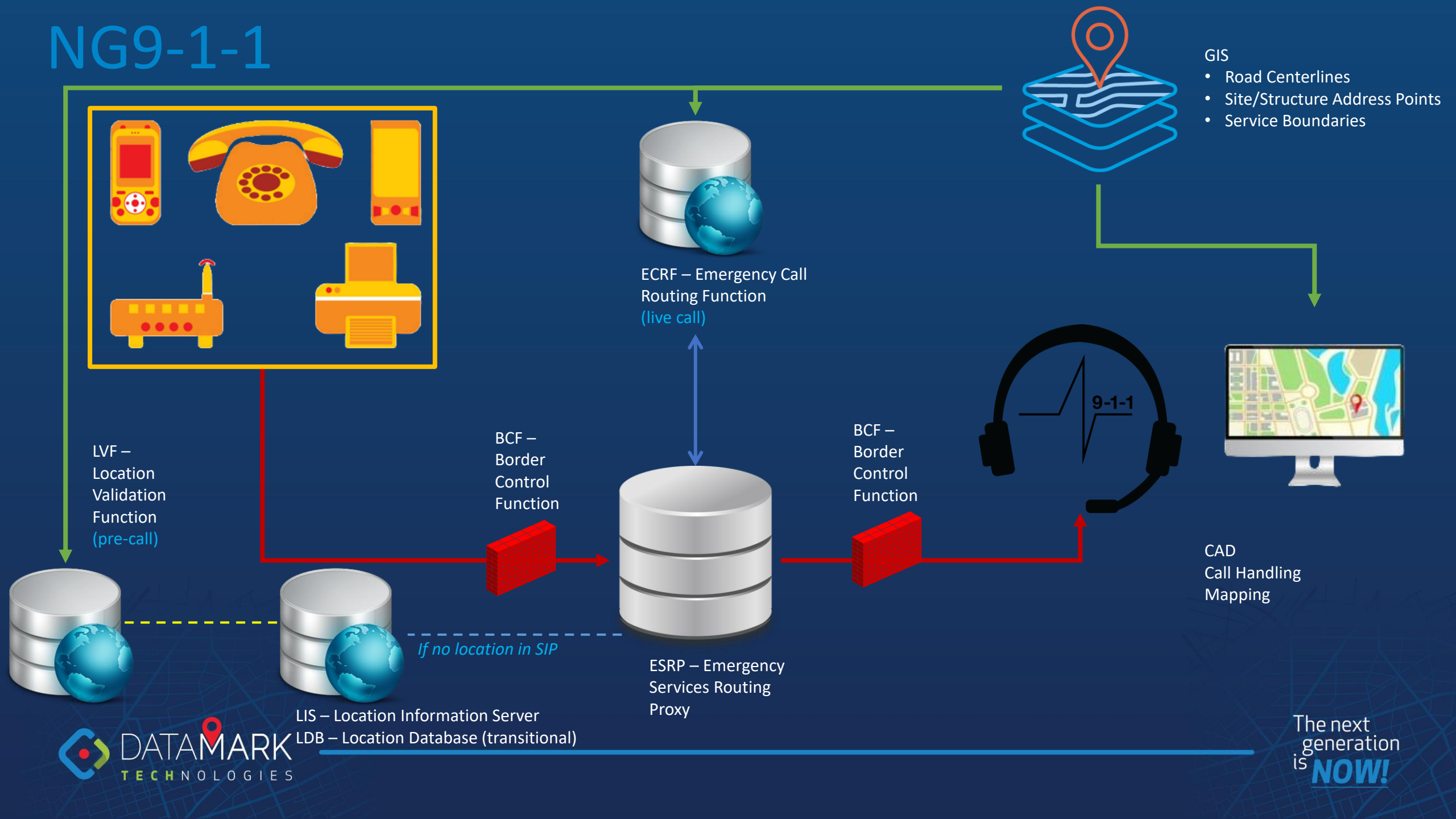
# Enter Location Core Services

What are Location Core Services?

- ECRF (Emergency Call Routing Function)
- LVF (Location Validation Function)
- LIS/LDB (Location Information Server / Location Database)
- BCF (Border Control Function)
- ESRP (Emergency Services Routing Proxy)



# NG9-1-1



# Location Platform

- Bridges GIS and NGCS
- Streamlines Discrepancy Resolution
- Enhances Data Integrity
- Improves Collaboration
- Reduces Redundancy
- Accelerates Implementation



# VEP

Validate Edit Provision

## VALIDATOR

- Validate and Aggregate GIS, MSAG, and ALI Data
- Identify spatial anomalies and discrepancies within data sets
- Supports GIS industry best practices
- Run quality control checks on-demand

## EDITOR

- Web-based editing (no additional licenses or hardware required)
- Enables users to create, maintain, update, validate, & export GIS data
- Empowers GIS departments with limited resources
- Allows users to validate data in the field

## AGGREGATOR

- Consolidate GIS data from multiple jurisdictions into a single database
- Perform cross-jurisdictional validations
- Identify anomalies and aggregate datasets
- Streamline datasets across platforms (E9-1-1, CAD, etc.)
- Collaborative anomaly management and robust reporting



- Dashboard
- Uploads
- Validate
- Map
- Downloads
- Utilities
  - Search by Soundex
  - Reserved Streets
  - Manage Schemas
- Reports
- Admin

5

TOTAL USERS

110

TOTAL VALIDATIONS RAN

2

OPEN EDIT AND UPLOAD SESSIONS

34

ACTIVE OBSERVATIONS

10/03

NEXT SCHEDULED VALIDATION RUN

-

NEXT SCHEDULED DATA COMPRESSION

## ANOMALY STATISTICS ⓘ

## TOTAL ANOMALY COUNT

TOTAL ANOMALIES

2,047,444 ANOMALIES

## TOTAL ANOMALY COUNT BY FEATURE CLASS

ADDRESS POINT

1,926,237 ANOMALIES

CENTERLINE

103,551 ANOMALIES

LAW

8 ANOMALIES

FIRE

9 ANOMALIES

## USER ACCOUNTS ⓘ

	Name	Geofence Boundary	User Role	Last Login
👤	Demo SysAdmin		System Admin	Just now...
👤	Demo Editor	County C, County B	Editor	46 days ago
👤	Demo Validator	County A	Validator	105 days ago
👤	Demo ReadOnly		Read Only	109 days ago
👤	Demo Observer		Observer	109 days ago

## VALIDATION RESULTS ⓘ

Validation Results	Latest Run	Number of Anomalies	Percentage of Total	+/- Change (Previous Run)
Address House Number And Landmark Should Not Be Empty Simultaneously	09/26/2025	7,058	5%	0 —
Address Point Country Field Outside of Domain	09/26/2025	0	0%	0 —
Address Point State Field Outside of Domain	09/26/2025	0	0%	0 —
Address Point St_PosDir Field Outside of Domain	09/26/2025	0	0%	0 —
Address Point St_PosTyp Field Outside of Domain	09/26/2025	0	0%	0 —
Address Point St_PreDir Field Outside of Domain	09/26/2025	0	0%	0 —
Address Point St_PreSep Field Outside of Domain	09/26/2025	0	0%	0 —
All Address Templates	09/26/2025	0	0%	0 —

## DATA READINESS ⓘ

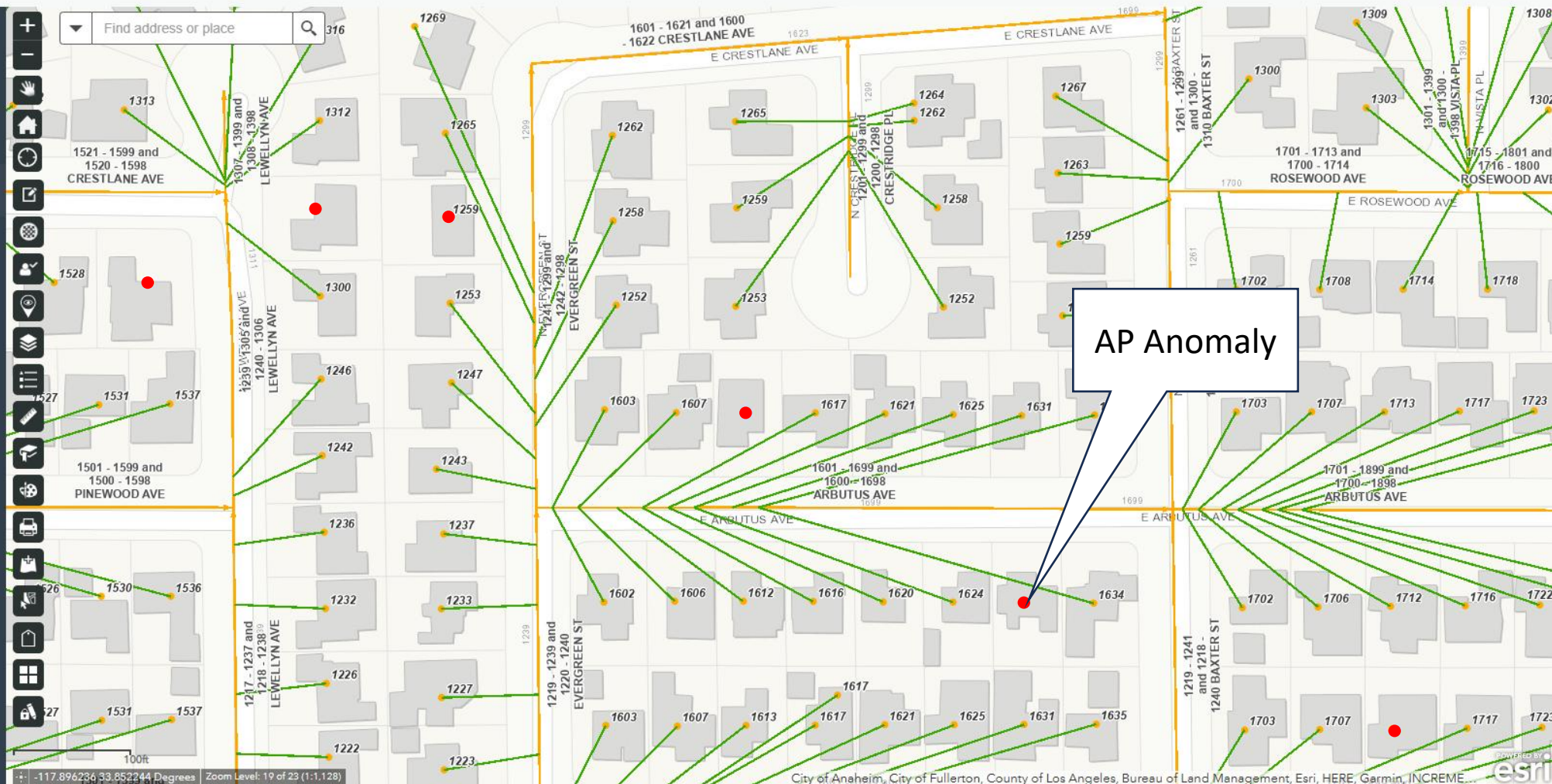
## TOTAL RECOMMENDED FIELDS POPULATED

TOTAL RECORDS POPULATED

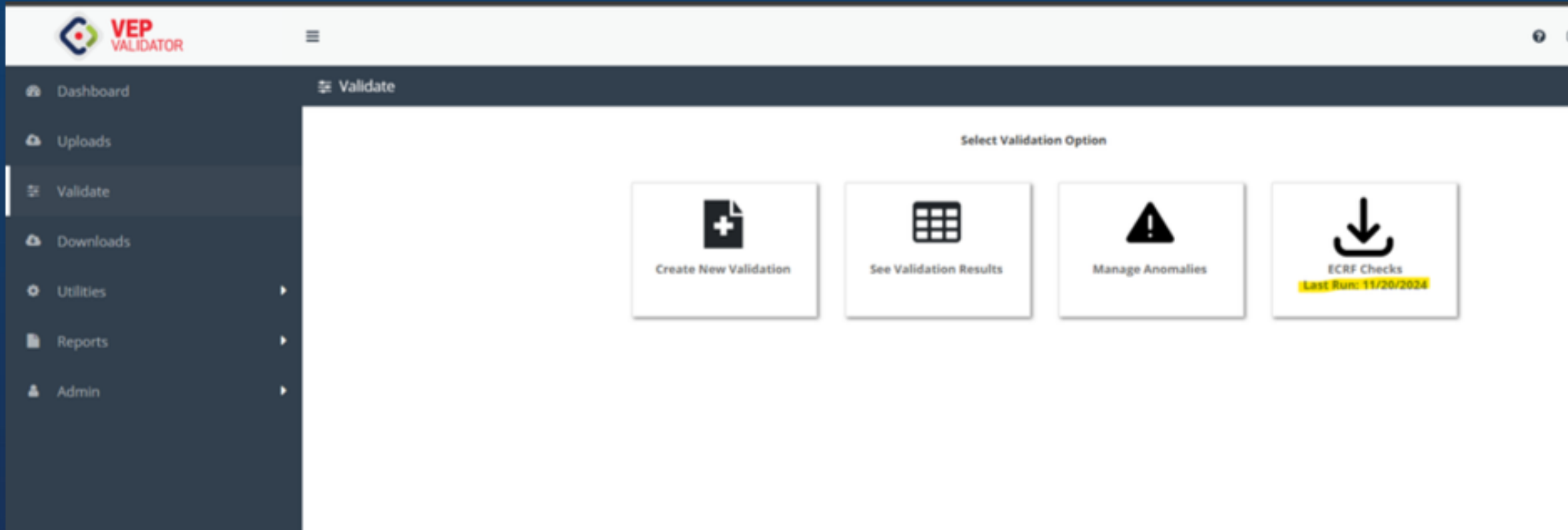
6,492 OF 157,391 - 4.1% RECORDS PASSING

## RECOMMENDED FIELDS POPULATED BY FEATURE CLASS

🟢	ADDRESS POINT	0 OF 147,616 - 0%
🟠	CENTERLINE	6,491 OF 9,771 - 66.4%
🟡	LAW	0 OF 1 - 0%
🟢	FIRE	0 OF 1 - 0%
🟢	EMS	0 OF 1 - 0%








# Indoor-Mapping – The Next Frontier

- Why indoor mapping matters: 80% of incidents happen indoors
- Challenges: outdated or missing floorplans, lack of spatial awareness
- Use cases: schools, public buildings, emergency response





# INSIDE



Search for indoor data

LD

Home

My Location

Map Tools

Send Data

Download


Virtual View

Collapse

+

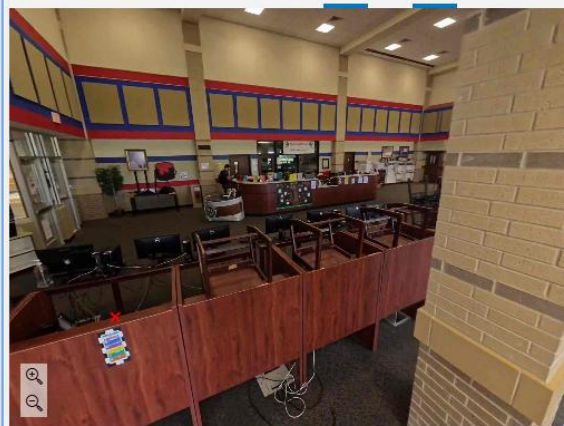
-

3D



100 ft

Virtual View



Floors Selector

Royal High School: Main Building

1 2

Feature Information

1 of 4

Rooms	
globalid	{D9773597-BCE8-4162-BCB0-758FA8A56EB7}
objectid	19707
unit_id	TX.Houston.RoyalHigh.Main.L1.U403
use_type	Accessible Spaces
name	L100
name_long	Library
level_id	TX.Houston.RoyalHigh.Main.L1

Floors Statistics

Assets Rooms

Total Assets Quantity

Site Statistics

1 Sites	1 Buildings	318 Rooms
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# Looking Ahead

- The role of working groups like GDW in shaping regional GIS practices
- Opportunities for shared indoor mapping initiatives
- Encouraging feedback and open dialogue

# Q&A