View this newsletter on MDOT's Ancillary Structures Website

E-NEWSLETTER UPDATE

FALL 2023

Ancillary Structures Program

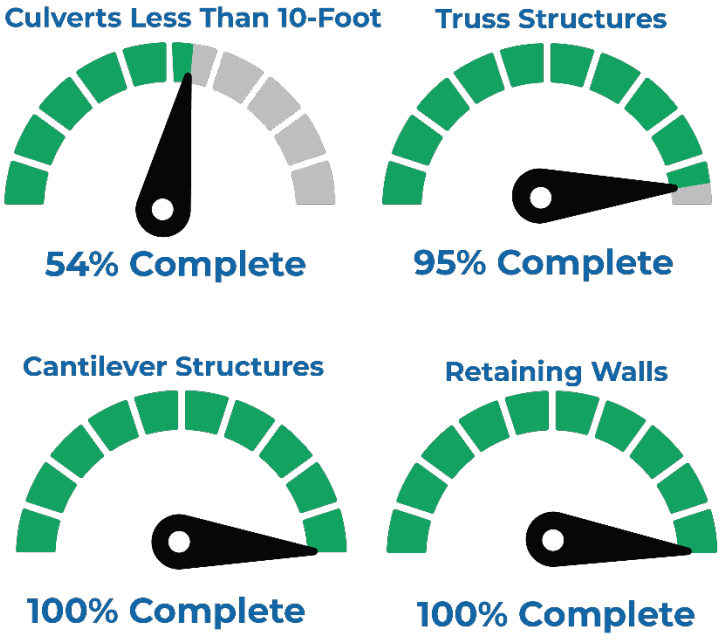
Michigan Department of Transportation's (MDOT) Ancillary Structures Program performs comprehensive asset management of **16 ancillary structure types** critical to maintaining safe and efficient public roadway operations. The program and its partners work together, driving efficiency and providing real-time asset condition data to region staff regarding ancillary structure inventory, inspection, and maintenance priorities throughout the state of Michigan.

Ancillary Asset Structure Types

- Culverts Less Than 10-Foot Span
- Retaining Walls
- Cantilever Sign Support Structures
- Truss Sign Support Structures
- Embedded Steel Poles
- Embedded Wood Poles
- Spun Concrete Poles
- Environmental Sensor Station Towers
- Steel Strain Poles
- Noise Barrier Walls
- Dynamic Message Signs
- Frangible Poles
- Non-Frangible Poles
- High Mast Lighting Towers
- Communication Towers
- Mast Arms

PROGRAM ACCOMPLISHMENTS

Priority Assets Inspected To Date



Other Assets Inspected to Date*:

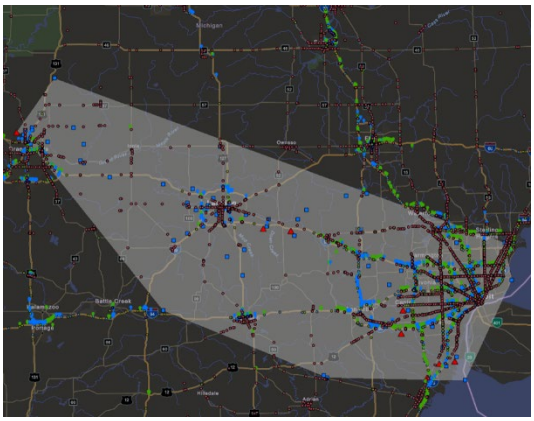
Embedded Poles (Wood & Steel)	100%
Spun Concrete Poles	26%
Steel Strain Poles	20%
Noise Walls	31%
Mast Arms	65%
Dynamic Message Sign (DMS) Support Structures	12%
Frangible Pole Structures	26%
Non-Frangible Pole Structures	17%
High Mast Lighting Towers (HMLT)	22%
Communication Towers	25%
Environmental Station (ESS) Towers	25%

***As of October 09, 2023**

TECHNOLOGY UPDATES

Throughout the summer, MDOT's Program Management Consultant (PMC), HNTB, investigated the use of **Unmanned Aerial Vehicles (UAV)**, or drones, to assist with inspections of communication towers and high mast lighting towers that usually require special equipment on-site and certified inspectors to climb the asset itself.

With the use of UAVs, inspections may be completed more efficiently by capturing an in-depth, accurate assessment of the entire asset with high-resolution images and videos. This innovation **improves safety and reduces the time** required to complete an inspection.



In late August, extreme weather hit southeast Michigan and caused concern for damage to asset structures susceptible to damage at high winds. With the **program's online technology supported by ArcGIS**, HNTB helped MDOT extract information from public databases and overlaid it with the program's inventory database. This produced a **detailed and sortable impact map** with the list of the potentially affected assets shown.

With this information, MDOT was able to prioritize its post-event inspection efforts and send support to the assets that had higher concerns for safety.

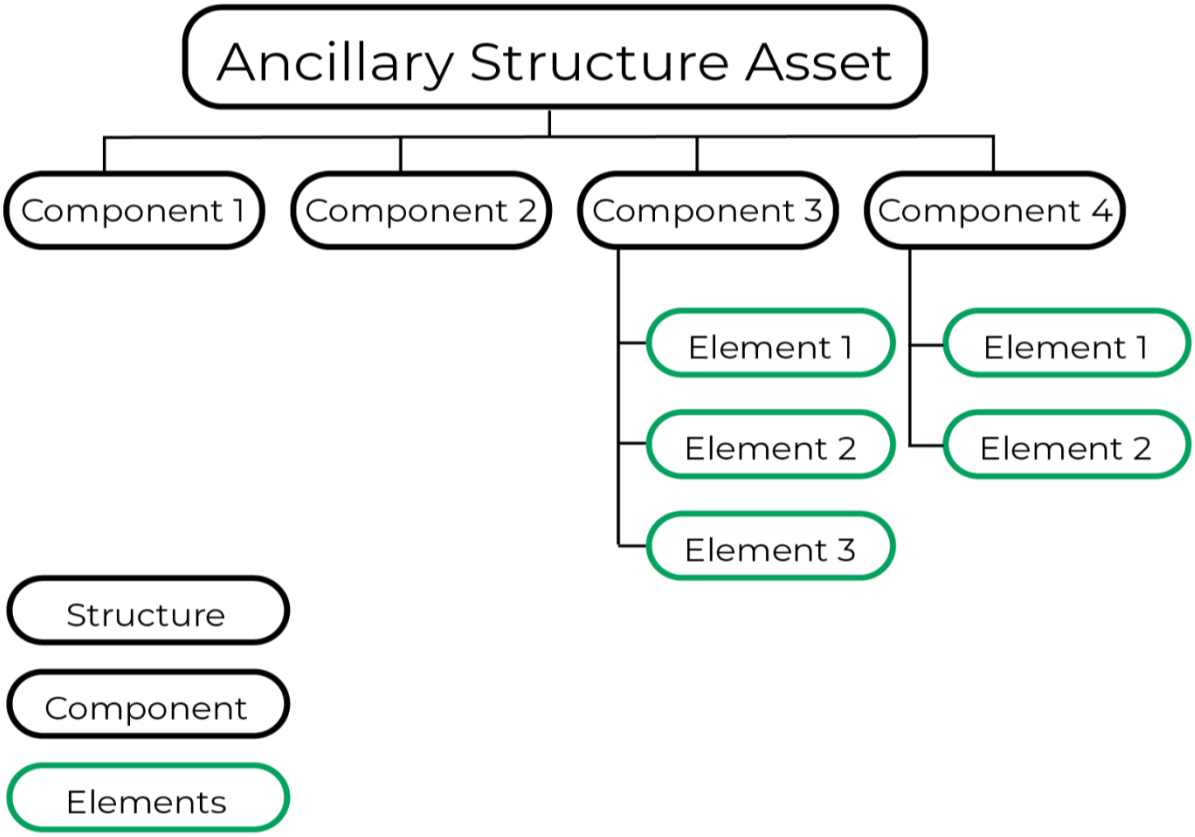
INSPECTION TRAINING

The Ancillary Structures Program developed and maintains a training certification system to provide to staff and inspectors. **On-the-job inspection training** is required for incoming inspectors before deployment into the field. The training is supported by **nine custom online training modules** for ancillary structures asset inspection processes.

- Two introductory modules are **required by all inspectors** for introduction to the MDOT Ancillary Structures Program and training in working with the program's use of mobile applications to collect inventory and inspection results using **ESRI's FieldMaps** application.
- The remaining seven training modules are tailored to specific inspection processes and lifecycle management objectives for **each ancillary structure asset type**.
- More than **500 hours** of training completed in 2022 and more than **300 hours** year to date in 2023 with more than **100 people** trained.

MIASIM UPDATES

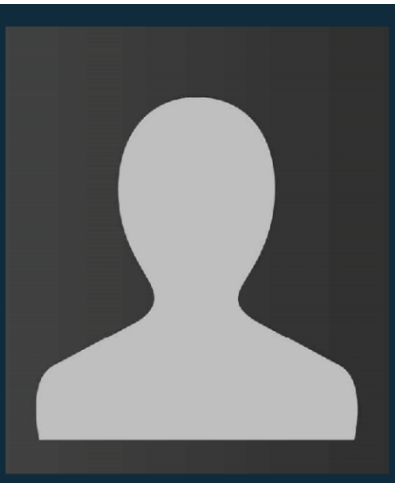
The **Michigan Ancillary Structures Inspection Manual (MiASIM)** was updated in September 2023. There were a number of updates made throughout the manual. Most are related to a new element added for three different asset types: embedded steel and wood poles, steel strain poles, and mast arms. An **element** is an individual piece of a component and multiple components make up an asset.



The September MiASIM Update contains a **complete summary** of all revisions at the beginning and highlighted revisions throughout the manual.

View the Manual & Updates

PROGRAM SPOTLIGHTS



Evan Young, PE is the assistant program manager for the Ancillary Structures Program at MDOT. He supports the program through oversight and development of the rating system, inspection guidelines, asset management strategy, shop drawing approvals, and design standard and guide updates for the 16 ancillary structure types in the state. Evan started as an intern at MDOT nine years ago and previously served as the MDOT Metro Region Bridge Program Engineer.

Terry Johnson, PE is the new PMC program manager for the MDOT Ancillary Structures Services Group at HNTB in Michigan. He oversees a team of seasoned professionals to deliver innovative asset management strategies through field inspection services, data collection/technology, planning, and design. Terry has been at HNTB for 13 years and previously served as one of the operations leaders for the Construction Services group in western Michigan.

Visit MDOT's Ancillary Structures Website

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