Thinking outside the sphere

Review of Petition for Special Exception to LaPorte County Board of Zoning Appeals: New Tower at 344 W 1000 N, LaPorte, Indiana 46350

July 14, 2026

Gene and Ruth Hugley (lessor) and Iron Mountain Towers LLC (Lessee) propose a 440 foot guyed tower, at 344 W 1000 N, LaPorte, Indiana 46350 for a Special Exception to the LaPorte County Board of Zoning Appeals. It would be a new structure. This 30 acre lot is zoned "A". 344 W 1000 N, LaPorte, Indiana 46350 is owned by Gene and Ruth Hugley and has a residence and barn near Galena Road. The tower will be set back roughly 600 feet from Galena Road.

Summary

The applicant has presented an application to the Board of Zoning Appeals. Isotrope was hired by the applicant to support the application before the Board of Zoning Appeals. This report will summarize the review of the application materials.

This is an application for a new tower, the application includes the primary tenant which is a microwave relay at the top (445' level). This microwave relay will use 2 highly directional 8' dishes (Andrew model USX8-11W, 3 dB beamwidth 0.9 degrees) and is designed to operate at 10.8 GHz and the dishes will point generally due East and West. The Radios used will be SAF Tehinka MXM mounted on the tower near the dishes, and operating at a total Transmit Power of 1.6 watts.

Several cellular arrays are shown on the tower plans but those are an example of a potential future colocation on the tower. When cellular carriers are interested in colocation on this site, they will be required to execute a lease with Iron Mountain and obtain all the necessary permits for their operation, likely as an Eligible Facilities Request.

Review of LaPorte Zoning Ordinance standards:

Section 14, Subsection c of the LaPorte Zoning Ordinance lays out the guidelines for approval of a Wireless Facility in LaPorte County. We will review these guidelines and compliance of the application below, with Isotrope responses in **Bold**:

(c) Wireless Communication Facilities and Services

(1) Purpose and Intent. The regulations of this Section are intended to conform to federal laws and administrative rules governing facilities needed to operate wireless communication systems and

to set forth procedures and standards for review and approval for the location of such facilities within the county or city.

a. It is the intent to reasonably regulate the location and design of such facilities to retain the integrity of neighborhoods and the character, property values and aesthetic quality of the county or city. **N/A**

b. Given the increase in the number of wireless communication facilities requested as a result of the new technology and the Federal Telecommunications Act of 1996, it is the policy that all users should collocate attached wireless communication facilities and wireless communication towers, where practicable. Collocation is proposed in order to assure the most economic use of land and to prevent the proliferation of duplicative structures. **Application compliant.**

c. In recognition of the concern that technological advances may render certain wireless communication facilities obsolete or unnecessary in the future, requirements are set forth for the removal of unused or unnecessary facilities in a timely manner and provide security for removal. **Grant condition (bond).**

(2) Zoning Districts and Approval Process for Wireless Communication Facilities. Wireless Communication Facilities may be located, as follows: [**Table not duplicated herein, but Special Exception is requested for this application, as per the table**]

(3) Application Requirements - Collocation. The following information shall be provided with the application, in addition to other site plan submittal requirements for an attached wireless communication facility collocated on an existing structure:

a. The name, address and phone number of the person to contact for engineering, maintenance and other notice purposes. This information shall be continuously updated during all times the facility is on the premises. **Application compliant.**

b. The owner and/or operator of the existing tower or structure. **Application compliant.**

c. Legal description of the parent tract and leased parcel (if applicable). **Application compliant.**

d. Elevation drawings and construction details of all existing and proposed wireless communication facilities, including accessory structures and equipment shelters. **Application compliant.**

e. The reason or purpose for the wireless communication facility with specific reference to the provider's coverage, capacity and/or quality needs, goals and objectives. **Application compliant.**

f. Identification of the entities providing the backhaul network for the tower described in the application and other cellular sites owned or operated by the applicant in the county or city. **Application compliant.**

g. The structural capacity and whether it can accommodate the facility, as proposed or modified. **Application compliant.**

h. Limits and type of fencing, the method of screening and location and type of illumination. **Application compliant.**

i. A description of compliance with this section and all applicable federal, state or local laws. **Application compliant.**

j. A description of performance guarantee to be posted upon issuance of a building permit to ensure removal of the facility if it is abandoned or is no longer needed. **Application compliant.**

(4) Application Requirements for New Wireless Communication Tower. The following information shall be provided with the application to construct any new wireless communication tower, in addition to the submittal requirements in subsection (3) above:

a. A description of performance guarantee to be posted at the time of receiving a permit for the facility to ensure removal of the facility when it is abandoned or is no longer needed. The applicant shall demonstrate that funds will be available to the county or city for removal of any structure used for wireless communication in an amount which reasonably reflects the cost of removal of the facility and restoration of the property or structure upon which the facility is located or placed. Adequate funds shall also be provided to cover the county or city's administrative costs in the event that the applicant or its successor does not remove the Wireless Communication Facility in a timely manner. **Grant condition (bond).**

b. Inventory all existing towers, antennas, or sites approved for towers that are within three (3) miles of the proposed site, including specific information about the location, height, and design of each tower. **Application compliant.**

c. In recognition of the policy to promote collocation, a written agreement, transferable to all successors and assigns, that the operator shall make space available on the facility for collocation. **Application compliant.**

d. A description of the suitability of the use of existing towers, other structures or alternative technology not requiring the use of towers or structures to provide the services to be provided through the use of the proposed new tower. **Application compliant.**

e. Prior to issuing an improvement location permit, a signed certification by a professional structural engineer licensed by the State of Indiana shall be provided to the county or city that describes the manner in which the proposed structure will fall in the event of damage, accident or injury (i.e. "fall zone"), and that the designated setback area shall accommodate the structure in the event it falls or breaks and will provide a reasonable buffer in the event the structure fails. **Application compliant.**

f. The La Porte Airport Authority Board and the Michigan City Board of Aviation Commissioners shall be given written notice at least 60 days prior to the hearing that a permit has been filed requesting the approval of a new wireless communication tower. **Application compliant.**

g. A determination of no hazard letter issued by the FAA shall demonstrate that lighting is not required prior to approval of the special exception. If construction, and or use of the telecommunications requires FAA or Indiana Department of Aviation approval or review, then a final decision must be provided before the Board of Zoning Appeals may conduct any public hearing on a request for special exception. **Application compliant.**

(5) Design Standards Applicable to All Facilities. All wireless communication facilities shall be constructed and maintained in accordance with the following standards:

a. Facilities shall be located and designed to be harmonious with the surrounding areas. **Application compliant.**

b. Minimum six (6) foot tall fencing shall be provided for protection of the tower and associated equipment and for security from children and other persons who may otherwise access the facilities. A brick wall may be substituted for the required fencing. **Application compliant.**

c. Landscaping shall be provided to screen the structure base, accessory buildings and enclosure from adjacent uses and public rights-of-way. **Application compliant.**

d. Accessory buildings shall be a maximum of 1 4 feet high and shall be set back in accordance with the requirements for principal buildings in the respective zoning district. **Application compliant.**

e. All attached wireless communication facilities proposed on the roof of a building shall be designed, constructed and maintained to be architecturally compatible with the principal building. The height of the wireless communication facilities shall not exceed the maximum height of the district plus the allowable exceptions to the height limits contained in Section 15.02. The equipment enclosure may be located within the principal building or may be an accessory building. If proposed as an accessory building, it shall conform to all district requirements for principal buildings, including yard setbacks. **Not applicable to this application.**

f. The requirements of the Federal Aviation Administration, local airport and Federal Communication Commission shall be noted. **Application compliant.**

g. If an antenna is installed on a structure other than a tower, the antenna and supporting electrical and mechanical equipment must be of a neutral color that is identical to, or closely compatible with, the color of the supporting structure so as to make the antenna and related equipment as visually unobtrusive as possible. **Not applicable to this application.**

(6) Design Standards Applicable to New Towers. In addition to the design standards in subsection (5) above, all wireless communication towers shall be constructed and maintained in accordance with the following standards:

a. Feasible Collocation. Siting or placement of new wireless communications facilities or towers shall be in accordance with the following hierarchy. The order of ranking shall be: (l) co-location first, (2) existing structure or building utilization, (3) new wireless communications facility tower location last. If a new tower is proposed, the applicant must have substantial evidence that a higher ranked alternative is not feasible or available. A permit for the construction and use of a new wireless communication facility shall not be granted until the applicant demonstrates a feasible collocation is not available for the coverage area and capacity needs. **Application compliant.**

b. Tower in County. Any tower located in the unincorporated areas of the county outside of cities shall be separated a minimum of two (2) miles from any existing tower. This separation requirement shall not apply to a tower that is proposed to be located in an M-l or M-2 industrial district. **Application compliant.**

c. Collocation Agreement. All new and modified wireless communication facilities shall be designed and constructed to accommodate collocation, with a written agreement in a format approved by the county or city attorney. Any tower that is 150 feet or taller shall be capable of co-location of at least four (4) additional users. Any tower that is less than 150 feet shall be capable of co-location of at least two (2) additional users. The tower owner shall make space available for collocation of emergency communication equipment if requested by the county or city. **Application compliant.**

d. Height.

1. The maximum height for a new wireless communication tower shall be 199 feet. **Variance requested as part of Special Exception application.**

2. A new wireless communication tower shall be designed at a height that will not require aviation hazard lighting by the FAA. **Variance requested as part of Special Exception application.**

3. Any new tower within the Airport Overlay District shall comply with the height limits of the overlay district, measured relative to the airport elevation. **Not Applicable**

4. The applicant shall demonstrate that the requested height of the new or modified tower and antenna shall be the minimum height necessary for reasonable communication, including additional height to accommodate future collocation where appropriate. **Application compliant.**

e. Tower Setbacks. The wireless communication tower shall be setback from all non-residential property lines a distance at least equal to one-half (1/2) the height of the tower, from all residential property lines a distance at least equal to the height of the tower and from all street right-of-way lines a distance at least equal to the height of the tower. **Application compliant.**

f. Guy Wires. All towers shall be self-supporting and guy wires shall be prohibited. **Application is for a guyed tower, due to height required.**

g. Accessory Structure Setback. Accessory structures must satisfy the minimum zoning district building setback requirements. **Application compliant.**

h. Access. There shall be unobstructed access to the tower, for operation, maintenance, repair and inspection purposes, which may be provided through or over an easement. This access shall have a width and location determined by such factors as: the location of adjacent thoroughfares and traffic and circulation within the site; utilities needed to service the tower and any attendant facilities; the location Of buildings and parking facilities; proximity to residential districts and minimizing disturbance to the natural landscape; and the type of equipment which will need to access the site. **Application compliant.**

i. Soils Report. The tower shall be constructed in accordance with all applicable building codes and shall include the submission of a soils report from a geotechnical engineer, licensed in the State of Indiana. This soils report shall include soil borings and statements confirming the suitability of soil conditions for the proposed use. **Application compliant.**

j. Color. Towers shall be painted a neutral color so as to reduce visual obtrusiveness or be constructed of galvanized steel. **Application compliant.**

k. Lighting. Towers shall not be artificially lighted and shall not exceed a height that requires aviation hazard lighting. **Tower will require lighting, per FAA.**

(7) Collocation

a. Statement of Policy. It is the policy to minimize the overall number of newly established locations for wireless communication facilities and towers throughout the county by encouraging the use of existing structures. If a provider fails or refuses to permit collocation on a facility owned or controlled by it, where collocation is feasible, the result will be that a new and unnecessary additional structure will be required, in contradiction with policy. Collocation shall be required unless an applicant demonstrates that collocation is not feasible. **Application compliant.**

b. Antennas on Existing Towers. An antenna which is attached to an existing tower may be approved by the enforcement official and, to minimize adverse visual impacts associated with the proliferation and clustering of towers, collocation of antennas by more than one carrier on existing towers shall take precedence over the construction of new towers, provided such collation is accomplished in a manner consistent with the following: **Not Applicable**

1. A tower which is modified or reconstructed to accommodate the collocation of an additional antenna shall be of the same tower type as the existing tower, unless the enforcement official allows reconstruction as a monopole. **Not Applicable**

2. An existing tower may be modified or rebuilt to a taller height, not to exceed 15 feet over the tower's existing height, to accommodate the collocation of an additional antenna with approval by

the enforcement official. A height increase of more than 15 feet shall require approval by the Board of Zoning Appeals. **Not Applicable**

c. Antennas Mounted on Structures or Rooftops. Wireless communication antennas placed on the roofs of buildings may be approved by the enforcement official, if the principal use is a conforming use and the building is a conforming structure. The antenna shall not exceed the height of its supporting structure by more than 12 feet. **Not Applicable**

d. Antennas Mounted on Utility Structures. Wireless communication antennas attached to utility structures such as water towers or electrical transmission line towers may be approved by the enforcement official. The equipment cabinet or structure used in association with antennas shall be located in accordance with the Ordinance requirements for accessory structures. **Not Applicable**

(8) Variances. The Board of Zoning Appeals may consider a variance from the standards of this Section, based upon a finding that one or more of the following factors exist, as appropriate for the type of variance requested:

A. Location. The applicant must demonstrate that a location within a district or location in accordance with the standards of this Section cannot reasonably meet the coverage or capacity needs of the applicant. **Location Variance not requested.**

b. Tower Setback. The applicant has provided engineering information documenting that the tower is self-collapsing and that the setback designated area would accommodate the structure should it fall or break and would provide a reasonable buffer in the event the structure fails. **Setback Variance not requested.**

c. Height. The height requested is due to signal interference due to topography, tall buildings, masses of trees, or other obstructions, or would reduce the number of towers to the benefit of the cities and county. The granting of the variance would not have a negative impact on any public use airport. **Height Variance requested, the proposal is FAA approved.**

d. Mitigation. The applicant has proposed means to mitigate any negative impacts through provision for future collocation, if found to be appropriate by the county or city and special design of the facility and site. **Application compliant.**

e. Design. The wireless communication and accessory facilities shall be designed to be compatible with the existing character of the proposed site, neighborhood and general area such as a steeple, bell tower, or similar form. **Not Applicable**

(9) Removal. Wireless communication facilities shall be removed by the owner if the facility is no longer in use. The facilities must be removed within a year of the end of use. A performance guarantee shall be provided to the county or city at the time of receiving an improvement location permit for the facility to ensure removal of the facility when it is abandoned or is no longer needed. The applicant shall demonstrate that funds will be available to the county or city for removal of any

structure used for wireless communication in an amount which reasonably reflects the cost of removal of the facility and restoration of the property or structure upon which the facility is located or placed. Adequate funds shall also be provided to cover the county or city's administrative costs in the event that the applicant or its successor does not remove the Wireless Communication Facility in a timely manner **Grant condition (bond).**

The above process and conditions in the LaPorte Zoning Ordinance align for the most part with the Telecommunications Act of 1996, which essentially states that in order for an application to be granted, an applicant must prove several items:

1. There exists a “gap” or a “need” for the applicant to address
2. The chosen site location is the best location to address that “gap” or “need”
3. The proposed height is the minimum height needed to address the “gap” or “need”
4. The application complies with FCC rules with respect to EME/RF Safety.

If all 4 of these conditions are met, under the Telecommunications Act, the application ***must*** be granted.

This application includes a search ring and 2 path studies to demonstrate that this service and client has an unmet need for a “relay” for their microwave network in a very specific part of LaPorte County, to connect Southside Chicago with South Bend. ***This is the “gap” or “need” that is required*** **to be addressed.**

The applicant has identified the nearest existing towers:

- 2.1 Miles NNW, FCC 1052738 is a 197’ Self-Support Lattice Tower
- 2.48 Miles E, FCC 1272276 is a 199’ Monopole

These are also the only towers within 3 moles of the proposed facility. As demonstrated on the provided path study, neither of these towers has sufficient height to clear the earth curvature and terrain with Fresnel zone clearance to either endpoint. Southside Chicago would be obstructed by Lake Michigan and South Bend would be obstructed by the intervening terrain and foliage. Neither of these towers are less than 2 miles from the proposed location which is required by the LaPorte ordinance. There are a number of “raw land” parcels along the area of the search ring. Within the application documentation is a parcel-by-parcel review of this area, ***identifying the target location as the best location for this proposal.***

The two provided path studies demonstrate that without the requested height, the path from this location to both endpoints will not have sufficient clearance from intervening obstacles, ***thus the proposed height is the minimum necessary.***

The only RF sources/antennas proposed on the tower through this application are the 8’ microwave dishes mounted at the top of the tower. These dishes will transmit a highly directional signal toward the horizon, the resulting RF energy reaching the ground will be orders of magnitude below the FCC standard for the General Public limitation. The tower will be available for colocation, so as above, those potential future tenants will be required to demonstrate continued compliance with the FCC rules prior to installation. ***Therefore, this proposal complies with the FCC rules regarding RF exposure and safety.***

Conclusion:

Above, we have reviewed all available information about this application, and we have reviewed the hearing video from the initial hearing. We look forward discussing this application during the continued hearing on July 21, 2026.

Michael Lawton

Michael K Lawton

Work Experience:

Recent Municipal Wireless engagements:

- Bow, NH – engaged by town Telecommunications Committee to develop a townwide wireless plan (2024)
- Cape Cod Commission – engaged by Commission as Wireless expert to review 9 applications (2024, continuing)
- Ipswich, MA – engaged by Planning Board to review applications (Q3 2024)
- Agawam, MA – engaged by ZBA to review 3 applications (Q3 2024, Q4 2025 and Q1 2026)
- New Braintree, MA – engaged by ZBA to review application (withdrawn Q1 2025)
- Acton, MA – engaged by Planning Board to review 3 applications (May 2025, continuing)
- Harvard, MA – ProBono work on Town Public Safety system upgrade (Q1 2025, continuing)
- Sturbridge, MA – engaged by Planning Board to review application (withdrawn March 2025)
- Austerlitz/Spencertown, NY – engaged by residents to support opposition to tower application (April/May 2025)
- Greenfield, MA – engaged by ZBA to review application (Q2 2025)
- Lenox, MA – engaged by ZBA to review application (Q3 2025) and engaged by Town to support RFP for town Public Safety tower (Q2 2026)
- Dudley, MA – engaged by Planning Board to review application (Q3 2025)
- Sudbury, MA – engaged by Planner and Planning Board to write Wireless Bylaw revision (Q4 2025-Q2 2026)
- Orange, MA – engaged by Water District to develop RFP/RFB for town owned tower to wireless (Q3 and Q4 2025)
- Woodstock, CT – engaged by residents to support opposition to tower application (Q3 2025)
- Lincoln, MA – engaged by Select Board to review multiple small cell applications (2024, continuing)
- Concord, MA – engaged by Umbrella Arts to advise on Verizon installation in historic Emerson School (2025, continuing)
- Washington, CT – engaged by Steep Rock Assoc to advise on Connecticut Siting Council docket for new tower (2025, continuing)
- Ohio – engaged by Tower Developer to support tower application (Q2 2026)
- Northborough, MA – engaged by Planning Board to review new tower application (Q2 2026)
- Nahant, MA – engaged by Planning Board to review EFR and draft EFR language for Town Bylaws (Q1-Q2 2026)
- State of Vermont – engaged as Expert witness and Technical support to Public Utility Commission on Wireless matters (Q2 2026, continuing)
- Hamilton, MA – engaged by Planning Board to review Tower Application (Q2 2026)

DISH Wireless/Boost Mobile **July 2020-November 2023**

Market General Manager – New England

- Full responsibility for building and managing deployment and RF engineering team building DISH's OpenRAN 5G network in New England from initial RF design through construction and integration.
- Sub-markets within New England contributed significant pops to DISH's 20% and 70% coverage achievements from 1500+ site total build plan
- Hire, coach and manage entire team responsible for New England market buildout. Meet timeline and quality goals, leverage strategic partnerships and vendors.
- End-to-end oversight of all network projects, tools and solutions for New England market from initial network planning to on-air and optimization
- Establish and manage two offices, one FSL and one 3PL, 50+ team members and $400M+ in build cost and equipment
- Development and management of process/tools/teams for 5G rollout for Dish Wireless as first market leader hired.
- Primary technical developer for DISH national training for new RF Engineers

Sigfox **March 2016-July 2020**

Director of IOT Network Design, Engineering, Deployment and Operations, USA

- Full responsibility for Technical team designing, deploying, maintaining and operating the Sigfox USA network
- Outdoor network built out to cover over 70% of US population with Sigfox service
- Lead US technical resource for Sales to support customer growth and new use cases/devices in US
- End-to-end oversight of all network projects, tools and solutions
- Managing a geographically diverse team working across US
- Development and management of process/tools/teams for customer deployments (essentially Turnkey deployments) at large indoor and outdoor venues such as all MGM hotels/casinos in Las Vegas and elsewhere, Wynn hotels/casinos and Disney's parks in Orlando to provide IOT connectivity and support unique use cases and applications for security and maintenance.
- Initiative to change the US tower deployment ecosystem to fit the IOT budget and schedule agility needs

- Responsible for all technical training of all Sigfox US staff
- Tracking and driving improvement in all Customer SLA for Sigfox US

SAI Communications (SAI) January 2012-March 2016

Manager of Engineering

- Full responsibility for RF engineering team, including LTE Overlay design, scoping, RFDS creation, drive testing, DAS survey, design and commissioning, MPE studies and measurements, RF safety plans.
- Develop and expand DAS line of business, including business development, design (iBwave) oversight and review, integration and optimization of systems from small, passive only systems to large Enterprise, health care, concert venues (including ODAS and IDAS) and indoor and sports arenas. OEMs designed and installed include Spidercloud, Corning Mobile Access, TE/Commscope, JMA/Teko, Solid, ADRF and Deltanode.
- Growth and oversight of technical team designing and managing DAS deployments for several customers throughout NE from VA to NH. Large (hospitals and concert venues) and small (retail and enterprise) turnkey installations from design through build, commissioning and optimization.
- RF Safety Compliance project, including measurements, studies, mitigation (signage and barrier installation) and PM
- Industry expert on RF Siting and RF Safety issues called to testify at many Zoning, Planning, Permitting, public and Connecticut Siting Council hearings on behalf of wireless carriers and tower developers seeking approval to construct (often controversial) wireless facilities. Extensive experience with public speaking, legal testimony and professional customer representation under often difficult circumstances.

Telecom Technology Services (TTS) March 2006- Jan 2012

Director of Engineering

- Full responsibility for P&L and employee management of West and South US areas of operation for services and KAM
- Oversight and technical leadership for turnkey network growth projects in New England (MA, RI, ME, NH, VT, CT), NY and Northern CA.
- Responsibility for leadership of all RFP/RFQ, tender and bid responses within area of responsibility
- Strong record of customer satisfaction, growth and retention throughout areas of responsibility
- Business development, project execution, recruiting, training and team management among responsibilities
- Managed National Model Tuning project for T-Mobile, over 100 models delivered on-time and on-target
- Personally developed innovative engineering services and tools to grow revenue and increase customer base
- Technical oversight of many projects including turnkey optimization for GSM and UMTS, turnkey network design (2G and 3G) and QC, E911 compliance certification, AFP and ACP, model tuning, Greenfield and overlay design and rollout.

LCC International April 1990 – Feb 2006
Senior RF Manager

Customers:

Cingular Wireless/SBC/AT&T Wireless	**T-Mobile**
Metro Mobile (now Verizon)	**McCaw Cellular**
France Telecom (now Orange)	**Fleetcall/Nextel**

Project highlights:
National UMTS Design lead and PM, AT&T Wireless
Nextel New York area RF Manager and NYC Deployment lead
Nextel Los Angeles area RF Manager
Nextel Strategic/Technical advisor for Motorola iDEN product
New England AT&T lead RF consultant, LCC group manager for GSM rollout, Microcell project, IS-136 rollout, 6 to 3 sector conversion
Marseille GSM network design and expansion plan
Phoenix Metro Mobile RF Manager
Portland, OR Lead RF Engineer, AT&T to Ericsson HW conversion

Moffet, Larson & Johnson, PC., Falls Church, Va. March 1987-April 1990

Senior RF Engineer

Volunteer and boards

- Vice Chair of Town of Harvard, MA Zoning Board of Appeals
- Member of IEEE Electromagnetic Compatibility Society
- Past President (2019-2022), Vintage Racer Group

Education

Rensselaer Polytechnic Institute, Electrical Engineering