

# CHARTER TOWNSHIP OF GARFIELD PLANNING COMMISSION MEETING

Wednesday, July 10, 2024 at 7:00 pm  
Garfield Township Hall  
3848 Veterans Drive  
Traverse City, MI 49684  
Ph: (231) 941-1620

## A G E N D A

### **ORDER OF BUSINESS**

**Call meeting to order**

**Pledge of Allegiance**

**Roll call of Board Members**

#### **1. Public Comment**

##### **Public Comment Guidelines:**

Any person shall be permitted to address a meeting of The Planning Commission, which is required to be open to the public under the provision of the Michigan Open Meetings Act, as amended. (MCLA 15.261, et.seq.) Public Comment shall be carried out in accordance with the following Commission Rules and Procedures: a.) any person wishing to address the Commission is requested to state his or her name and address. b.) No person shall be allowed to speak more than once on the same matter, excluding time needed to answer Commissioner's questions. Where constrained by available time the Chairperson may limit the amount of time each person will be allowed to speak to (3) minutes. 1.) The Chairperson may at his or her own discretion, extend the amount of time any person is allowed to speak. 2.) Whenever a Group wishes to address a Committee, the Chairperson may require that the Group designate a spokesperson; the Chairperson shall control the amount of time the spokesperson shall be allowed to speak when constrained by available time. Note: If you are here for a Public Hearing, please hold your comments until that Public Hearing time.

#### **2. Review and Approval of the Agenda – Conflict of Interest**

#### **3. Minutes – June 26, 2024**

#### **4. Correspondence**

#### **5. Reports**

- a. Township Board
- b. Planning Commissioners
  - i. Zoning Board of Appeals
  - ii. Parks and Recreation Commission
  - iii. Joint Planning Commission
- c. Staff Report

**6. Unfinished Business**

- a. PD 2024-47 – Potter's Home Retreat B&B Special Use Permit – Findings of Fact
- b. PD 2024-51 – Tower North Wireless Comm. Facility Special Use Permit – Update

**7. New Business**

**8. Public Comment**

**9. Other Business**

**10. Items for Next Agenda – July 24, 2024**

- a. Zoning Ordinance Updates – R-3 District, Signs, and Vacation Home Rentals
- b. City of Traverse City Master Plan – Review

**11. Adjournment**

**Joe Robertson, Secretary  
Garfield Township Planning Commission  
3848 Veterans Drive  
Traverse City, MI 49684**

The Garfield Township Board will provide necessary reasonable auxiliary aids and services, such as signers for hearing impaired and audio tapes of printed materials being considered at the meeting to individuals with disabilities upon the provision of reasonable advance notice to the Garfield Township Board. Individuals with disabilities requiring auxiliary aids or services should contact the Garfield Township Board by writing or calling Lanie McManus, Clerk, Ph: (231) 941-1620.

**CHARTER TOWNSHIP OF GARFIELD  
PLANNING COMMISSION MEETING  
June 26, 2024**

**Call Meeting to Order:** Chair McManus called the June 26, 2024 Planning Commission meeting to order at 7:00pm at the Garfield Township Hall.

**Pledge of Allegiance**

The Pledge of Allegiance was recited by all in attendance.

**Roll Call of Commission Members:**

Present: Joe Robertson, Pat Cline, Chris DeGood, Robert Fudge and Joe McManus

Absent and Excused: Molly Agostinelli and John Racine

Staff Present: Planning Director John Sych and Deputy Planning Director Steve Hannon

**1. Public Comment (7:01)**

None

**2. Review and Approval of the Agenda – Conflict of Interest (7:01)**

Staff asked to add item 9c under Other Business - Two Brothers Café and Dog Park.

*Cline moved and Robertson seconded to approve the agenda as amended.*

*Yeas: Cline, Robertson, Fudge, DeGood, McManus*

*Nays: None*

**3. Minutes (7:02)**

**a. June 12, 2024 Regular Meeting with Township Board**

*Fudge moved and Robertson seconded to approve the June 12, 2024 Regular Meeting minutes as presented.*

*Yeas: Fudge, Robertson, DeGood, Cline, McManus*

*Nays: None*

**4. Correspondence (7:03)**

Staff stated that a recent communication indicated that earthwork is being done at the site of the Flats of Carriage Commons on LaFranier and there is correspondence from MaryAnne MacIntosh regarding a proposed development for Brookside Commons. Sych asked for feedback on the MacIntosh proposal and requested to add item 9d under Other Business – Brookside Commons Proposed Development.

*DeGood moved and Fudge seconded to add item 9d under Other Business – Brookside Commons Proposed Development.*

*Yeas: DeGood, Fudge, Cline, Robertson, McManus*  
*Nays: None*

**5. Reports (7:03)**

**Township Board Report**

Hannon indicated that there was no Board meeting this week.

**Planning Commissioners**

**i. Zoning Board of Appeals**

Fudge reported that there was no ZBA meeting.

**ii. Parks and Recreation Commission**

DeGood reported that there was no Parks & Recreation meeting.

**iii. Joint Planning Commission**

McManus stated that the next meeting will be held in July.

**Staff Report**

Hannon stated that since there was no board meeting this week, the Master Plan adoption would be taken up at the next board meeting.

**6. Unfinished Business**

**a. PD 2024-44 – Zoning Ordinance Updates – R-3 – Signs and Vacation Home Rentals (7:06)**

Sych stated that the goal for housing in the Master Plan is to “Provide a balance of housing choices with a variety of housing types.” To implement this goal, some changes are proposed by staff. A Triplex and Quadplex would be allowed by right in the R-3 district. “Dwelling, Multiple Family” would be redefined for anything requiring a Special Use Permit in R-3. A minimum Lot Size of 12,000 square feet for a Triplex and 16,000 square feet for a Quadplex would be required. Commissioners asked to add a provision which indicates that these types of homes would be served by public sewer. Commissioners also discussed density as it related to the change in the R-3 district.

Staff suggests that Commissioners could consider reviewing the current sign ordinance, proposing amendments, and asking for legal review of the ordinance with the proposed changes. Commissioners agreed.

Hannon mentioned that there are several resources available to communities looking to update their sign ordinances in the wake of these court cases. Commissioners mentioned signs on public property or in a right of way.

A House Bill was introduced earlier this year in the Michigan legislature which pertains to short term rentals and may likely be approved. The proposed bill would create a database of short-term rentals, charge a 6% excise tax and allow local units of government authority to regulate short

terms rentals in their community. The State would also monitor hosting platforms. House Bill 5438 defines a short-term rental and Section 3 of that bill states that short term rentals cannot be totally banned in a municipality. Garfield Township bans all short term rental activity now, but to comply with the House Bill, short term rentals could be allowed in the C-G General Commercial, C-P Planned Shopping Center and C-H Highway Commercial. Short term rentals could be licensed and be driven by a police power ordinance which would work in tandem with the zoning. Staff will move forward with drafting an ordinance.

7. **New Business (7:45)**

None

8. **Public Comment (7:46)**

None

9. **Other Business (8:46)**

a. **PD 2024-42 – Potter’s Home Retreat B&B Special Use Permit – Follow-Up**

Staff drafted a timeline of the entire application and did a site visit of the proposed Bed and Breakfast. Staff found that the lower level of the house does not meet the current building code since it lacks adequate ingress and egress. There is also no connection between the upper and lower levels making it basically a duplex, instead of an owner-occupied bed and breakfast. The site also needed to meet standards for a home occupation. Commissioners discussed what would need to happen on the site for it to be a bed and breakfast.

Owner Brandy Wasilewski spoke and asked commissioners if she could live on site in her RV while remodels are being completed on her home. She also indicated that she would work quickly to rectify the situation. Commissioners discussed how best to handle the application and decided that staff should draft findings of fact for commissioner review.

*DeGood moved and Robertson seconded TO direct staff to prepare Findings of Fact for application SUP-2024-01, submitted by Brandy Christina Waslawski for a Special Use Permit for a bed and breakfast establishment on Parcel #05-036-025-40 at 492 West Potter Road, for the Planning Commission Regular Meeting on July 10, 2024.*

*Yeas: DeGood, Robertson, Fudge, Cline, McManus*

*Nays: None*

b. **PD 2024-43 – City of Traverse City Master Plan Review – Introduction (7:15)**

Staff indicated that the Traverse City Master plan could be accessed online and asked commissioners to review the Master Plan to discuss at the next study session.

**c. Two Brothers Café and Dog Park**

Sych stated that the applicants proposed two phases of the project. The indoor phase would be built first, and then the outdoor phase could be added. Staff is concerned that if phase one is allowed, then the applicant may draw the conclusion that phase two would be automatically accepted. Staff also has concerns that a comprehensive development plan for the Cherryland Center has not been submitted yet. Commissioners discussed the proposal and decided against allowing for the indoor phase one at this time until a comprehensive development plan could be reviewed

**d. Brookside Commons Proposed Development**

Sych stated that when Brookside Commons was approved, there were specific uses approved for this site which did not include a drive through use. MacIntosh is proposing a Biggby Coffee shop with a drive through and housing units above it. A major amendment to the PUD could allow for a drive-through. Commissioners discussed the PUD and were hesitant to allow for a drive through at that location.

**10. Items for Next Agenda – July 10, 2024 (8:22)**

**a. Tower North Wireless Communication Facility Special Use Permit – Update**


Commissioners discussed the application and asked for information on a nearby tower as it pertained to height and location near buildings.

**11. Adjournment**

*Fudge moved to adjourn the meeting at 8:47pm.*

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Joe Robertson, Secretary  
Garfield Township Planning  
Commission  
3848 Veterans Drive  
Traverse City, MI 49684

 <b>Charter Township of Garfield</b> <b>Planning Department Report No. 2024-46</b>			
Prepared:	July 2, 2024	Pages:	2
Meeting:	July 9, 2024 Township Board	Attachments:	<input type="checkbox"/>
Subject:	Planning Department Monthly Report – July 2024		

**PURPOSE:**

Staff provides a monthly report to the Township Board on activities of the Planning Department and the Planning Commission. The presentation of this report also provides a venue for the Township Board to have a dialog with staff about any of the activities or planning-related issues facing the Township.

**DEVELOPMENTS:**

The Planning Commission is currently conducting the following development review activity:

***The Potter’s Home Retreat Bed and Breakfast – Special Use Permit Review***

- *Location:* 492 W Potter Road, north side of Potter Road, west of intersection with Garfield Road
- *Development Description:* Proposed bed and breakfast with space for up to 6 guests
- *Status:* After a public hearing at their 6/12/2024 meeting, the Planning Commission tabled the application and requested additional information to review at the 6/26/2024 study session. Upon reviewing the additional information, Commissioners directed staff to prepare Findings of Fact for their 7/10/2024 meeting.

***TowerNorth Wireless Communication Facility – Special Use Permit Review***

- *Location:* 2767 Zimmerman Road, west side of Zimmerman Road, north of Silver Lake Road intersection
- *Development Description:* Proposed monopole wireless communication facility (cell tower)
- *Status:* The Planning Commission tabled the application at their 6/12/2024 meeting and requested more information on the application.

***TJ Maxx at Bison Hollow PUD – Planning Commission Sign Review***

- *Location:* 3301 N US 31 South, west side of US 31, north of intersection with Marketplace Circle
- *Development Description:* Proposed wall sign, 128.6 square feet in size, for TJ Maxx
- *Status:* The Planning Commission denied the application for a larger than permitted sign at their 6/12/2024 meeting.

***Two Brothers Dog Park Café and Taphouse – Conceptual Review***

- *Location:* 1776 S Garfield Avenue, part of Cherryland Center (part of former Younkers building)
- *Development Description:* Proposed membership-based business with bar/restaurant and dog park
- *Status:* The Planning Commission reviewed the concept for this proposal at their 6/12/2024 meeting and indicated a comprehensive development plan for Cherryland Center is required before formal consideration of a site plan for this project.

The Planning Department is also currently conducting the following administrative development review activity:

***Soils & Structures, Inc.***

- *Location:* 1411 Trade Centre Drive, south of Hammond Road, east of LaFranier Road
- *Development Description:* Proposed building addition and parking lot expansion
- *Status:* Approved with conditions

***Northern Floor and Tile***

- *Location:* 670 Eta Lane, east of US 31, north of Rennie School Road
- *Development Description:* Proposed building addition
- *Status:* Staff sent comments to applicants, awaiting response

**PLANNING:**

Other Planning Department activities include the following:


- At their 3/27/2024 joint meeting with the Planning Commission, the Township Board voted to release the draft Master Plan for distribution for a 63-day review period as required by the Michigan Planning Enabling Act (MPEA). The required 63-day review period ended on 5/29/2024. No comments on the draft Master Plan were received during this review period.
- The Planning Commission held a public hearing on the Master Plan at their 6/12/2024 meeting. The Planning Commission then adopted the Master Plan and recommended adoption to the Township Board. The Master Plan is on the Township Board meeting agenda for 7/9/2024.
- The draft Master Plan and other information on the Master Plan adoption process is available on the Township website at the following link: <https://www.garfield-twp.com/masterplan.asp/>
- At their 6/26/2024 study session, the Planning Commission and Staff discussed several potential amendments to the Zoning Ordinance, including updates to the R-3 zoning district, updating the sign regulations section, and addressing vacation home rentals in response to proposed legislation.
- Staff are facilitating conversation with the three primary property owners of the Cherryland Center as they prepare an updated comprehensive development plan as required by the Zoning Ordinance for a planned shopping center. The current plan was last updated in 1998.
- Staff was recently featured in an interview in the “Michigan Planner,” a bi-monthly magazine of the Michigan Association of Planning (MAP).

**STAFF:**

John Sych, AICP, Planning Director  
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 <b>Charter Township of Garfield</b> <b>Planning Department Report No. 2024-47</b>			
Prepared:	July 3, 2024	Pages:	10
Meeting:	July 10, 2024 Planning Commission	Attachments:	<input checked="" type="checkbox"/>
Subject:	Potter’s Home Retreat Bed & Breakfast Special Use Permit – Findings of Fact		
File No.	SUP-2024-01	Parcel No.	05-036-025-40
Applicant/Owner:	Brandy Christina Waslawski		

**BRIEF OVERVIEW:**

- 492 West Potter Road – north side of Potter Road west of Garfield Road
- Approximately 2 acres in area
- Existing single-family residence
- A-Agricultural zoning district

**PURPOSE OF APPLICATION:**

This application is requesting a Special Use Permit (SUP) for use of an existing single-family residence at 492 West Potter Road as a Bed & Breakfast Establishment. According to the applicant, the proposed bed and breakfast “is intended to serve anywhere from 1 to 6 guests per stay!” Bed & Breakfast Establishments are permitted via SUP in the A-Agricultural zoning district.

*Zoomed-in aerial image of the subject property (property lines highlighted in blue):*



*Zoomed-out aerial image of the subject property (property lines highlighted in blue):*



#### **APPLICATION TIMELINE:**

This application has been reviewed at the following meetings:

- **May 8, 2024 Planning Commission (Introduction)** – The Planning Commission asked questions of the applicant and scheduled a public hearing for the June 12, 2024 regular meeting.
- **June 12, 2024 Planning Commission (Public Hearing)** – Commissioners received written public comments speaking against the applicant regarding this application. Commissioners asked Staff to review the history of this site and this application and address the relevant concerns raised in the public comment. The Planning Commission did not ask Staff to prepare Findings of Fact.
- **June 26, 2024 Planning Commission (Follow-Up)** – Commissioners reviewed information from Staff regarding the site history and concerns raised during public comment.
- **July 10, 2024 Planning Commission (Findings of Fact)**

#### **SITE TIMELINE:**

The following is a timeline of information relating to the site and application. This timeline was originally presented to the Planning Commission at the June 26, 2024 study session.

- **April 15, 2019** – Warranty deed recorded at Grand Traverse County Register of Deeds conveying the property to the current applicant as the new owner.
- **August 21, 2023** – Letter sent to applicant from Township Assessor regarding the listing of the site on VRBO and Airbnb for short-term rentals.
- **August 22, 2023** – Letter of Information sent to applicant from Township Zoning Administrator describing the violation of the unauthorized vacation home rental.
- **October 11, 2023** – Second letter sent to applicant from Township Assessor regarding the listing of the site on VRBO and Airbnb for short-term rentals and explaining that this type of rental makes the property ineligible for the Principal Residence Exemption under state law.

- **October 19, 2023** – Notes from Township Assessor (from a phone conversation) indicate that the applicant is “working with planning / zoning to create B&B at this location.” Also notes that the applicant put “on hold” the online listings for renting the property until getting required approval. Township Assessor checked this by attempting to book the property through the listings to confirm if they were “on hold.”
- **March 26, 2024** – Date of application.
- **April 3, 2024** – Application processed, and application fee receipt sent to the applicant.
- **May 8, 2024** – Introduction of special use permit application to the Planning Commission.
- **May 24, 2024** – Notes from Township Assessor indicate receipt of complaint about a short-term rental, forwarded to Zoning Administrator.
- **May 28, 2024** – Notes from Township Assessor indicate a business being operated at this location, Love Clean MI LLC. According to LARA (Michigan Department of Licensing and Regulatory Affairs), this has been in business since 2016.
- **June 10, 2024** – Notes from Township Assessing Department indicating that Principal Residence Exemption (PRE) needs to be denied due to running of a B&B so she can reapply for the correct percentage of PRE.
- **June 12, 2024** – Letter sent to applicant from Township Assessing Department including a Notice of Denial of Principal Residence Exemption for the tax year 2024.
- **June 12, 2024** – Public hearing on special use permit application at Planning Commission meeting. Written comments were submitted to the Planning Commission from neighbors at 438 Potter Road West speaking out against the application and noting the business being run from this location.
- **June 13, 2024** – Second Notice of Violation letter sent to the applicant from the Township Zoning Administrator indicating receipt of complaints regarding use of the property for short-term rental.
- **June 17, 2024** – Township Staff (Deputy Planning Director, Zoning Administrator, and Building Official) made a site visit to the property. Staff noted the following observations:
  - As stated in the application, the applicant intends to rent out the upper level of the house and reside in the lower level. Staff were invited into the property and noted that the lower level does not currently meet the building code for residential dwellings. Issues needing to be addressed include the lack of smoke detectors and carbon monoxide detectors, and inadequate ingress / egress.
  - There is also no connection between the upper level and lower level of the house without going outside. Staff is of the understanding that this would be considered a duplex based on the definitions in the Zoning Ordinance and is not permitted within the A-Agricultural zoning district.
  - Regarding the business referenced in the May 28, 2024 notes from the Township Assessor, the applicant indicated that she uses a vehicle as a mobile office and drives to different job sites, that a manager occasionally stops at the house and may drop off materials, and that otherwise employees are not brought to the house. Staff indicated that any business that may qualify as a home occupation would need to meet the Zoning Ordinance standards for a home occupation. These standards are listed in Section 612 of the Zoning Ordinance and include a limit of 25% of the floor area of one story of the dwelling devoted to the home occupation, no outdoor activities in connection with the home occupation, and that the “essential character of a lot or structure in terms of use or appearance will not be changed to the slightest degree by the establishment of a home occupation or its activities.”

**DEFINITIONS FROM ZONING ORDINANCE:**

The following definitions are included in Article 2 of the Zoning Ordinance:

- **Bed and Breakfast:** A private residence that offers sleeping accommodations to transient tenants, is the innkeeper's residence in which the innkeeper resides while renting the rooms to transient tenants and serves breakfast at no extra cost to its transient tenants.
- **Vacation Home Rental:** A commercial use of a residential dwelling where the dwelling is rented or sold for any term less than thirty (30) consecutive days.

Staff offer the following comments on the three components of the definition for “Bed and Breakfast” as they relate to this application:

- **Offers sleeping accommodations to transient tenants** – The application indicates the upper level of the structure is offered for the bed and breakfast, including sleeping accommodations for transient tenant guests of the bed and breakfast.
- **Is the innkeeper's residence in which the innkeeper resides while renting the rooms to transient tenants** – The application indicates that the upper level of the structure is offered for the bed and breakfast operation, with the applicant living on the lower level. However, as noted above during the site visit to the property, the lower level does not currently meet the building code for residential dwellings. There is also no connection between the upper level and lower level of the house without going outside, which would be considered a duplex based on definitions in the Zoning Ordinance and is not permitted within the A-Agricultural zoning district. Further, at the Planning Commission June 26, 2024 study session meeting during an update on this application, the applicant's comments indicated that there had been stairs in this house connecting the upper and lower levels, but which the applicant removed in preparation for renting out rooms. In searching the building file records for this site, no building permits were found for the removal of the stairs.
- **Serves breakfast at no extra cost to its transient tenants** – The application indicates that a private kitchen area is offered in both living spaces, including the upper level intended for use as a bed and breakfast. No information in the application specifically addresses serving breakfast at no extra cost to transient tenants.

Staff are of the opinion that, based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast. The second component of the definition is not met based on the current condition of the structure. The structure could potentially be made compatible if it met building code requirements including adequate ingress and egress, smoke detectors, and carbon monoxide detectors. It would also need a direct connection between the lower level and upper level so that the entire house functions as a single-family home and not a duplex. However, it appears that it was the applicant's intent to divide these into two separate spaces by removing the stairs connecting them.

**SITE DESIGN AND ZONING COMPLIANCE OVERVIEW:**

In approving any special use permit pursuant to Section 423, the Planning Commission may impose such reasonable standards, conditions, or requirements, in addition to or that supersede any standard specified in this ordinance, as it may deem necessary to protect the public interest and welfare. Such additional standards may include, but need not be limited to:

- a) Financing
- b) Availability of adequate public facilities or services
- c) Dedication of land
- d) Reservation of land
- e) Creation of special assessment districts
- f) Creation of restrictive covenants or easements
- g) Special setbacks
- h) Yard requirements
- i) Increased screening or landscaping requirements
- j) Area requirements
- k) Development phasing; or
- l) Standards pertaining to traffic, circulation, noise, lighting, hours of operation, protection of environmentally sensitive areas, and similar characteristics.

**ZONING ORDINANCE STANDARDS FOR BED AND BREAKFAST ESTABLISHMENTS:**

The Zoning Ordinance definition for Bed and Breakfast is listed as “A private residence that offers sleeping accommodations to transient tenants, is the innkeeper’s residence in which the innkeeper resides while renting the rooms to transient tenants and serves breakfast at no extra cost to its transient tenants.” Pursuant to Section 713 of the Zoning Ordinance, the following supplemental use regulations and conditions apply to bed and breakfast establishments:

- (1) *The minimum lot size shall be as pursuant to the District minimum for Single Family Dwellings.*

The minimum lot size in the A-Agricultural district is 43,560 square feet or 1 acre. The subject parcel is approximately 2 acres and therefore exceeds the minimum lot size requirement.

- (2) *Bed & Breakfast establishments shall not be allowed on lots or parcels, including legal nonconforming lots or parcels, which do not meet the established lot size, requirements for the district in which they are allowed.*

In addition to the minimum lot size, parcels in the A-Agricultural zoning district require a minimum width of 110 feet. The mortgage survey provided by the applicant shows the lot width at 171.36 feet, which meets the minimum lot width.

- (3) *No bed and breakfast establishment shall be located closer than one thousand (1,000) feet from another bed and breakfast establishment.*

The nearest bed and breakfast establishment is located at 296 Spring Hill and is more than 4,800 feet away from the subject site.

- (4) *One (1) parking space per rental sleeping room plus one (1) per owner occupant shall be provided.*

The applicant describes in their cover letter that there will be “three bedrooms which will allow two occupants per bedroom totaling six guests.” The sketch plan of the site shows three areas designated for parking. The mortgage survey and aerial imagery show that the house is set back far from West Potter Road and that there appears to be space to park and maneuver within the driveway area. There is also a garage on the lower level for the owners.

- (5) *One (1) non-illuminated wall sign identifying the establishment not to exceed three (3) square feet in area shall be allowed.*

The cover letter indicates that there will not be a wall sign at this time.

- (6) *The establishment is located within a residence which is the principal dwelling unit on the property and shall be owner-occupied at all times.*

As stated in the application, the applicant intends to rent out the upper level of the house and reside in the lower level. Based on Staff observations, for the lower level to be counted as the area used for the main residence, it would need to meet building code requirements including adequate ingress and egress, smoke detectors, and carbon monoxide detectors, and would need a direct connection between the lower and upper levels so the entire house functions as a single-family home and not a duplex.

- (7) *The rental sleeping rooms shall have a minimum size of one hundred (100) square feet for each two (2) occupants with an additional thirty (30) square feet for each occupant to a maximum of four (4) occupants per room.*

The applicant describes in their cover letter that there will be “three bedrooms which will allow two occupants per bedroom totaling six guests” and so each bedroom should be at least 100 square feet. The sketch plans include details for each of the three bedrooms to be used for the bed and breakfast. Bedroom 1 is 150 square feet (15’ x 10’), Bedroom 2 is 154 square feet (14’ x 11’), and the Master Bedroom is 240 square feet (15’ x 16’) including a bathroom measuring about 40 square feet.

- (8) *No more than eight (8) occupants shall be accommodated in any single residence at any one time in the A Agriculture District and R-3 Multiple Family Districts and five (5) occupants in all other permitted Districts.*

The applicant describes in their cover letter that there will be “three bedrooms which will allow two occupants per bedroom totaling six guests.” The parcel is zoned A-Agricultural, which allows for up to eight occupants as stated above.

- (9) *Use or rental of snowmobiles, all-terrain vehicles or similar vehicles, boats and other marine equipment, in conjunction with the operation of the establishment shall be prohibited.*

The applicant’s cover letter does not specifically address this item. The applicant should clearly state in the cover letter or elsewhere that this standard will be met.

- (10) *Special land use approval shall not be granted if the essential character of the lot or structure in terms of traffic generation or appearance will be changed substantially.*

The site is within an agricultural area, surrounded by farmland and single-family homes on large lots. This character lends itself to a bed and breakfast establishment and is not expected to change provided all standards of the Zoning Ordinance can be met. Any home occupation would also need to meet all standards of the Zoning Ordinance as well, including that the “essential character of a lot or structure in terms of use or appearance will not be changed to the slightest degree by the establishment of a home occupation or its activities.” The operation of any business as a home occupation would be reviewed administratively, including any potential violations, and review of a home occupation is not included as part of this application.

(11) *A site plan shall include a floor plan layout of the proposed structure drawn to a scale of not less than 1" = 16' that shows the specific layout of the proposed facility in accord with the provisions of this Zoning Ordinance.*

A mortgage survey at a scale of 1" = 60' was provided. The floor plan sketches of the bedrooms are drawn on graph paper at a 1" = 4' scale, which meets this requirement.

**FINDINGS OF FACT:**

At its June 26, 2024 study session, the Planning Commission unanimously passed a motion directing Staff to prepare Findings of Fact for the application, which are provided below for your consideration:

A special use is permitted only if the applicant demonstrates that:

(1) The proposed use will be consistent with the purpose and intent of the master plan and this Ordinance, including all regulations of the applicable zoning district

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast as described in this Ordinance.
- The area is planned for Agricultural / Rural Land and zoned as A-Agricultural. Allowing the use as proposed in this application would not be compatible with all regulations of the A-Agricultural zoning district, given that the lack of a direct connection between the lower and upper levels would create a duplex, which is not permitted in the A-Agricultural district.
- The proposed bed and breakfast establishment does not meet all the special conditions for bed and breakfast operations listed in Section 713, and as described above in this report.

(2) The proposed use will be designed, constructed, operated and maintained so as to be compatible, harmonious, and appropriate with the existing or planned character and uses of the neighborhood, adjacent properties and the natural environment

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast, especially given the current condition of the structure with the lower level not meeting the building code requirements and the lack of a direct connection between the lower level and upper level.
- The proposed use as presented in the application would not be compatible with adjacent properties, given that the lack of a direct connection between the lower and upper levels would create a duplex, which is not permitted in the A-Agricultural district.

(3) The proposed use will not be detrimental, hazardous or disturbing to existing or future adjacent uses or to the public welfare by reason of excessive traffic, noise, dust, gas, smoke, vibration, odor, glare, visual clutter, electrical or electromagnetic interference

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast, especially given the current condition of the structure with the lower level not meeting the building code requirements and the lack of a direct connection between the lower level and upper level.
- Allowing the use as proposed in this application could be hazardous to adjacent uses, given that the lack of a direct connection between the lower and upper levels would create a duplex, which is not permitted in the A-Agricultural district.

(4) Potential adverse effects arising from the proposed use on the neighborhood and adjacent properties will be minimized through the provision of adequate parking, the placement of buildings, structures and entrances, as well as the provision and location of screening, fencing, landscaping, buffers or setbacks

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast, especially given the current condition of the structure with the lower level not meeting the building code requirements and the lack of a direct connection between the lower level and upper level.
- Allowing the use as proposed in this application could create potential adverse effects, given that the lack of a direct connection between the lower and upper levels would create a duplex, which is not permitted in the A-Agricultural district.

(5) The proposed use will retain as many natural features of the property as practicable, particularly where the natural features assist in preserving the general character of the neighborhood

*The Planning Commission may find this standard to be **MET** for the following reasons:*

- The proposed bed and breakfast operation will not disturb any natural features.

(6) Adequate public and private infrastructure and services such as streets, water and sewage facilities, drainage structures, police and fire protection, and schools, already exist or will be provided without excessive additional requirements at public cost

*The Planning Commission may find this standard to be **MET** for the following reasons:*

- No major impacts on infrastructure or services would be anticipated based on this application.

(7) The establishment, maintenance, or operation of the proposed use shall not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast; thus, the proposed could potentially be detrimental or endanger public health, safety, or welfare.
- The applicant retains the ability to apply for other uses permitted on the site in the A-Agricultural zoning district.



(8) The public interest and welfare supporting the proposed use shall be sufficient to outweigh individual interests that are adversely affected by the establishment of the proposed use

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast.
- Allowing the use as described in the application could potentially create adverse impacts on public interest and welfare.
- The applicant retains the ability to apply for other uses permitted on the site in the A-Agricultural zoning district.

(9) Adequate measures shall be taken to provide ingress and egress so designed as to minimize traffic hazards and to minimize traffic congestion on the public roads

*The Planning Commission may find this standard to be **MET** for the following reasons:*

- With a maximum of six (6) occupants, the proposed bed and breakfast establishment would not be expected to noticeably impact traffic on nearby public roads.

(10) Adequate measures shall be taken to provide vehicular and pedestrian traffic within the site, and in relation to streets and sidewalks servicing the site in a safe and convenient manner; and

*The Planning Commission may find this standard to be **MET** for the following reasons:*

- The sketch plan of the site shows three areas designated for parking.
- The mortgage survey and aerial imagery show that the house is set back far from West Potter Road and that there appears to be space to park and maneuver within the driveway area.
- No impacts on vehicular or pedestrian safety are anticipated.

(11) The proposed use shall not impede the orderly development and improvement of surrounding property for uses permitted within the zoning district.

*The Planning Commission may find this standard to be **NOT MET** for the following reasons:*

- Although bed and breakfast operations can be compatible with agricultural and rural land uses as seen in the area surrounding this site, the standards of the Zoning Ordinance must be met including definitions, supplemental use regulations, and the approval criteria for special use permits.
- Based on the information provided in the application and on the site visit to the property, the use of the property as described in the application does not meet the definition of a bed and breakfast and thus may potentially impede the development and improvement of surrounding property.

**ACTION REQUESTED:**

This application is being brought before the Planning Commission at this meeting to consider the Findings of Fact for this application. If the Planning Commission has determined that the above listed Findings of Fact is sufficient, then the following motion is offered for consideration:

MOTION THAT the Findings of Fact for application SUP-2024-01, as presented in Planning Department Report 2024-47 and being made a part of this motion, BE ADOPTED.

If the Planning Commission determines the Findings of Fact to be sufficient, then the following motion to recommend denial of the application is offered for consideration:

MOTION THAT application SUP-2024-01, submitted by Brandy Christina Waslawski for a Special Use Permit for a bed and breakfast establishment on Parcel #05-036-025-40 at 492 West Potter Road, BE DENIED for the reasons listed below and those described in this report which indicate that the use of the property as described in the application does not meet the definition of a bed and breakfast:

1. The lower level of the house, which is proposed as the innkeeper's residence in the application, does not meet the building code requirements including adequate ingress and egress, smoke detectors, and carbon monoxide detectors.
2. There is no staircase or any other direct connection between the lower and upper levels, which is required so the entire house would function as a single-family home and not a duplex.

Any additional information the Planning Commission deems necessary should be added to this motion.

**Attachments:**

1. Cover Letter from Applicant dated April 24, 2024
2. Special Use Permit Application dated March 26, 2024
3. Supplemental Use Regulations for Bed and Breakfast
4. Floor Plan Sketches
5. Mortgage Survey dated April 25, 2024
6. Letter sent to applicant from Township Assessor dated August 21, 2023
7. Letter of Information sent to applicant from Township Zoning Administrator dated August 22, 2023
8. Second letter sent to applicant from Township Assessor dated October 11, 2023
9. Notes from Township Assessor and Assessing Department dated October 19, 2023; May 24, 2024; May 28, 2024; and June 10, 2024
10. Letter sent to applicant from Township Assessing Department dated June 12, 2024
11. Second Notice of Violation letter sent to the applicant from the Township Zoning Administrator dated June 13, 2024

To Whom It May Concern:

The Potter's Home Retreat Bed And Breakfast is intended to serve anywhere from 1 to 6 guests per stay! The main level of the home will include three bedrooms which will allow two occupants per bedroom totaling six guests. Separated to the lower level is where myself, my husband, and my child will reside in two separate bedrooms. Both living spaces include their own private restrooms and kitchen area. There is no common/ joining area for my family and the Bed and Breakfast guests.

The Potter's Home Retreat Bed And Breakfast will not be utilizing a wall sign at this time.

Thank you for your consideration.

Brandy Waslawski

4/24/24

The Potter's Home Bed and Breakfast



# Charter Township of Garfield

## Grand Traverse County

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

### SPECIAL USE PERMIT (SUP) APPLICATION

#### ASSISTANCE

This application must be completed in full. An incomplete or improperly prepared application will not be accepted and will result in processing delays. Before submitting an application, it is recommended that you contact the Planning and/or Zoning Department to arrange an appointment to discuss your proposed application. Time is often saved by these preliminary discussions. For additional information or assistance in completing this development application, please contact the Planning Department at (231) 941-1620.

#### ACTION REQUESTED

- New Special Use Permit
- Major Amendment
- Minor Amendment
- Administrative Amendment

#### PROJECT / DEVELOPMENT NAME

The Potter's Home Retreat Bed And Breakfast

#### APPLICANT INFORMATION

Name:

Brandy Christina Waslawski

Address:

492 Potter Rd West Traverse City, MI 49696

Phone Number:

231-944-8983

Email:

pottershomeretreat@gmail.com

#### AGENT INFORMATION

Name:

Address:

Phone Number:

Email:

#### OWNER INFORMATION

Name:

'Same as above'

Address:

Phone Number:

Email:

**CONTACT PERSON**

Please select one person to be contact person for all correspondence and questions:

Applicant:

Brandy Waslawski

Agent:

Owner:

**PROPERTY INFORMATION**

Property Address:

492 Potter Rd. W. TC MI 49696

Property Identification Number:

Legal Description:

Zoning District:

Master Plan Future Land Use Designation:

Area of Property (acres or square feet):

3.5 acres

Existing Use(s):

Proposed Use(s):

Bed And Breakfast

**PROJECT TIMELINE**

Estimated Start Date:

June 2024

Estimated Completion Date:

On going

**REQUIRED SUBMITTAL ITEMS**

A complete application for a Special Use Permit consists of the following:

Application Form:

- One original signed application
- One digital copy of the application (PDF only)

Application Fee:

Fees are established by resolution of the Garfield Township Board and are set out in the current Fee Schedule as listed on the Planning Department page of the Township website (<http://www.garfield-twp.com>). Please make check out to Charter Township of Garfield.

- Fee

Escrow Fee:

Additional fees may be required if a review by independent professional help is deemed necessary by the Township. If required, such additional fees must be placed in escrow by the applicant in accordance with the escrow policies of the Township and prior to any further processing of this application. Any unused escrow funds shall be returned to the applicant. Please complete an Escrow and Review (ER) Application form.

Site Development Plan:

- Ten complete stapled 11"x17" paper sets (Administrative Amendments require one copy)
- Two complete bound 24"x36" paper sets
- One digital set (PDF only)

Written Information:

- Ten paper copies of the Approval Criteria (Administrative Amendments require one copy)
- One digital copy of the Approval Criteria (PDF only)
- Ten paper copies of the Impact Assessment (Administrative Amendments require one copy)
- One digital copy of the Impact Assessment (PDF only)

Digital items to be delivered via email or USB flash drive

SUBMITTAL DEADLINE

Submittal deadlines are listed on the Planning Department page of the Township website (<http://www.garfield-twp.com>). Please note that the listed dates are the deadlines after which submittals will not be considered for the indicated meeting. Any errors or missing information on an application submitted at the deadline will result in a delay in the processing of the application. An earlier submittal is encouraged to avoid possible delays.

WAIVERS

Submittal Waiver:

At the discretion of the Director of Planning, a Site Development Plan may be waived in any of the following cases when it is determined that the submission would serve no useful purpose:

1. The erection or enlargement of an accessory structure;
2. The enlargement of a principal building by less than 20 percent of its existing gross floor area, provided such enlargement will not result in a requirement for additional off-street parking;
3. A change in principal use where such change would not result in an increase in impervious surface area, additional off-street parking, site access, other external site characteristics or a violation of this ordinance.

Data Waiver:

The Director of Planning may waive a particular element of information or data otherwise required for a Site Development Plan upon a finding that the information or data is not necessary to determine compliance with this ordinance or that such information or data would not bear on the decision of the approval authority.

SITE PLAN

Check that your site plan includes all required elements for a Site Development Plan (SDP). Please use the Required Site Plan Elements Checklist below.

APPROVAL CRITERIA

Indicate, on a separate sheet of paper, how the proposed special use will comply with, meet, or facilitate each of the following Approval Criteria from § 423.E of the Zoning Ordinance. The Planning Commission must determine that each of these criteria are satisfied in order to grant approval of a Special Use Permit. A special use is permitted only if the applicant demonstrates that: special use is permitted only if the applicant demonstrates that:

- The proposed use will be consistent with the purpose and intent of the master plan and this ordinance, including all regulations of the applicable zoning district;

- The proposed use will be designed, constructed, operated and maintained so as to be compatible, harmonious and appropriate with the existing or planned character and uses of the neighborhood, adjacent properties and the natural environment;
- The proposed use will not be detrimental, hazardous or disturbing to existing or future adjacent uses or to the public welfare by reason of excessive traffic, noise, dust, gas, smoke, vibration, odor, glare, visual clutter, electrical or electromagnetic interference;
- Potential adverse effects arising from the proposed use on the neighborhood and adjacent properties will be minimized through the provision of adequate parking, the placement of buildings, structures and entrances, as well as the provision and location of screening, fencing, landscaping, buffers or setbacks;
- The proposed use will retain as many natural features of the property as practicable, particularly where the natural features assist in preserving the general character of the neighborhood;
- Adequate public and private infrastructure and services such as streets, water and sewage facilities, drainage structures, police and fire protection, and schools, already exist or will be provided without excessive additional requirements at public cost;
- The establishment, maintenance, or operation of the proposed use shall not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
- The public interest and welfare supporting the proposed use shall be sufficient to outweigh individual interests that are adversely affected by the establishment of the proposed use;
- Adequate measures shall be taken to provide ingress and egress so designed as to minimize traffic hazards and to minimize traffic congestion on the public roads;
- Adequate measures shall be taken to provide vehicular and pedestrian traffic within the site, and in relation to streets and sidewalks servicing the site in a safe and convenient manner; and
- The proposed use shall not impede the orderly development and improvement of surrounding property for uses permitted within the zoning district.

#### IMPACT ASSESSMENT

A written impact statement to include the following information:

- A written illustrative description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.
- Types of uses and other man-made facilities.
- The number of people to be housed, employed, visitors or patrons and vehicular and pedestrian traffic.
- Phasing of the project including ultimate development proposals.
- Natural features which will be retained, removed and/or modified including vegetation, drainage, hillsides, streams wetlands, woodlands, wildlife and water. The description of the areas to be changed shall include their effect on the site and adjacent properties. An aerial photo may be used to delineate the areas of change.
- The method to be used to serve the development with water and sanitary sewer facilities.
- The method to be used to control drainage on the site and from the site. This shall include runoff control during periods of construction.
- If the public sewers are not available to the site, the Applicant shall submit a current approval from the Health Department or other responsible public agency indicating approval of plans for sewage treatment.

- The method to be used to control any increase in effluent discharge to the air or any increase in noise level emanating from the site. Consideration of any nuisance that would be created within the site or external to the site whether by reason of dust, noise, fumes vibration, smoke or lights.
- An indication of how the proposed use conforms with existing and potential development patterns and any adverse effects.
- The proposed density in units per acre for residential developments.
- Name(s) and address(es) of person(s) responsible for preparation of statement.
- Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the County Soil Erosion and Sedimentation office.
- Type, direction, and intensity of outside lighting.
- General description of deed restrictions, if any.

**ADDITIONAL INFORMATION**

If applicable, provide the following further information:

	<u>Yes</u>	<u>No</u>	<u>Not Applicable</u>
<b>A. <u>Sanitary Sewer Service</u></b>			
1. Does project require extension of public sewer line?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Will a community wastewater system be installed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, provide construction plans and specifications			
3. Will on-site disposal be used?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, is it depicted on plan?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
<b>B. <u>Water Service</u></b>			
1. Does project require extension of public water main?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Will a community water supply be installed?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, provide construction plans and specifications			
<b>C. <u>Public utility easements required?</u></b>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If yes, show on plan.			
<b>D. <u>Stormwater Review/Soil Erosion</u></b>			
1. Soil Erosion Plans approved by Soil Erosion Office?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If so, attach approval letter.			
If no, are alternate measures shown?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
2. Stormwater Plans approved by Township Engineer?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
If so, attach approval letter.			
If no, are alternate measures shown?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Note: Alternate measures must be designed and sealed by a registered Engineer.			



E. Roads and Circulation

- |   |                          |                                     |                          |
|---|--------------------------|-------------------------------------|--------------------------|
| 1. Are interior public streets proposed?                                  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| If yes, has Road Commission approved (attach letter)?                     | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Will public streets connect to adjoining properties or future streets? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Are private roads or interior drives proposed?                         | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Will private drives connect to adjoining properties service roads?     | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 5. Has the Road Commission or MDOT approved curb cuts?                    | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| If yes, attach approved permit.   |                          |                                     |                          |

OTHER INFORMATION


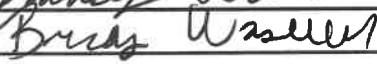
If there is any other information that you think may be useful in the review of this application, please attach it to this application or explain it on a separate page.

REVIEW PROCESS

- Upon submittal of this application, Staff will review the materials submitted and will, within ten (10) working days, forward a determination of completeness to the applicant. If the submission is incomplete or noncompliant with the Zoning Ordinance, it will be returned to the applicant for revision. Once the submission is revised, Staff will again review it for completeness and again forward a determination to the applicant within ten (10) working days. This procedure shall be repeated until a complete submission is received.
- Once the application is deemed to be complete and submitted according to the application deadlines, it will be forwarded to the Planning Commission for review. The Planning Commission will determine if the application is complete and schedule a public hearing.
- Upon holding a public hearing, the Planning Commission may approve, approve with conditions, or deny the proposed special use.
- If approved or approved with conditions, the decision of the Planning Commission shall be incorporated into a written report and decision order.

PERMISSION TO ENTER SUBJECT PROPERTY

Permission is hereby granted to Garfield Township staff and Planning Commissioners to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

Owner Signature:	
Applicant Signature:	
Agent Signature:	
Date:	3-26-24

OWNER'S AUTHORIZATION

If the applicant is not the registered owner of the lands that is the subject of this application, the owner(s) must complete the authorization set out below.

I/We Brandy Waslawski authorize to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Owner Signature: 

<i>Brandy Waslawski</i>
-------------------------

  
Date: 

<i>3-26-24</i>
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AFFIDAVIT

The undersigned affirms that he/she or they is (are) the owner, or authorized agent of the owner, involved in the application and all of the information submitted in this application, including any supplemental information, is in all respects true and correct. The undersigned further acknowledges that willful misrepresentation of information will terminate this permit application and any permit associated with this document.

Owner Signature: 

<i>Bee Waslawski</i>
----------------------

  
Date: 

<i>3-26-24</i>
----------------

  
Applicant Signature: 

<i>Bee Waslawski</i>
----------------------

  
Date: 

<i>3-26-24</i>
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<b>Required Site Plan Elements Checklist (See § 956 of the Zoning Ordinance)</b> Site Diagram (SD) / Administrative Site Plan (ASP) / Site Development Plan (SDP)	<b>SD</b>	<b>ASP/ SDP</b>
<b>A. Basic Information</b>		
1. Applicant's name, address, telephone number and signature	<input type="checkbox"/>	<input type="checkbox"/>
2. Property owner's name, address, telephone number and signature	<input type="checkbox"/>	<input type="checkbox"/>
3. Proof of property ownership	<input type="checkbox"/>	<input type="checkbox"/>
4. Whether there are any options or liens on the property	<input type="checkbox"/>	<input type="checkbox"/>
5. A signed and notarized statement from the owner of the property that the applicant has the right to act as the owner's agent	<input type="checkbox"/>	<input type="checkbox"/>
6. The address and/or parcel number of the property, complete legal description and dimensions of the property, setback lines, gross and net acreages and frontage	<input type="checkbox"/>	<input type="checkbox"/>
7. A vicinity map showing the area and road network surrounding the property		<input type="checkbox"/>
8. Name, address and phone number of the preparer of the site plan	<input type="checkbox"/>	<input type="checkbox"/>
9. Project title or name of the proposed development	<input type="checkbox"/>	<input type="checkbox"/>
10. Statement of proposed use of land, project completion schedule, any proposed development phasing	<input type="checkbox"/>	<input type="checkbox"/>
11. Land uses and zoning classification on the subject parcel and adjoining parcels	<input type="checkbox"/>	<input type="checkbox"/>
12. Seal of the registered engineer, architect, landscape architect, surveyor, or planner who prepared the plan, as well as their name, address and telephone number		<input type="checkbox"/>
<b>B. Site Plan Information</b>		
1. North arrow, scale, and date of original submittal and last revision	<input type="checkbox"/>	<input type="checkbox"/>
2. Boundary dimensions of natural features		<input type="checkbox"/>
3. Natural features such as woodlots, water bodies, wetlands, high risk erosion areas, slopes over twenty-five percent (25%), beach, drainage, and similar features		<input type="checkbox"/>
4. Proposed alterations to topography and other natural features		<input type="checkbox"/>
5. Existing topographic elevations at two-foot intervals except shown at five-foot intervals where slopes exceed 18%		<input type="checkbox"/>
6. Soil erosion and sediment control measures as required by the Grand Traverse County Soil Erosion Department.	<input type="checkbox"/>	<input type="checkbox"/>
7. The location, height and square footage of existing and proposed main and accessory buildings, and other existing structures		<input type="checkbox"/>
8. Location and specifications for any existing or proposed (above or below ground) storage facilities for any chemicals, salts, flammable materials, or hazardous materials. Include any containment structures or clear zones required by county, state or federal government authorities		<input type="checkbox"/>
9. Proposed finish floor and grade line elevations of any structures <i>*Required only for habitable construction within the floodplain on site diagrams and administrative site plans.</i>	<input type="checkbox"/> *	<input type="checkbox"/>
10. Existing and proposed driveways, including parking areas	<input type="checkbox"/>	<input type="checkbox"/>
11. Neighboring driveways and other vehicular circulation features adjacent to the site		<input type="checkbox"/>
12. A dimensional plan indicating the location, size and number of parking spaces of the on-site parking areas, and shared parking areas	<input type="checkbox"/>	<input type="checkbox"/>
13. Identification and dimensions of service lanes and service parking, snow storage areas, loading and unloading and docks		<input type="checkbox"/>
14. Proposed roads, access easements, sidewalks, bicycle paths, and other vehicular and pedestrian circulation features within and adjacent to the site		<input type="checkbox"/>
15. Location of and dimensions of curb cuts, acceleration, deceleration and passing lanes		<input type="checkbox"/>
16. Location of neighboring structures that are close to the parcel line or pertinent to the proposal		<input type="checkbox"/>
17. Location of water supply lines and/or wells	<input type="checkbox"/>	<input type="checkbox"/>
18. Location of sanitary sewer lines and/or sanitary sewer disposal systems	<input type="checkbox"/>	<input type="checkbox"/>
19. Location, specifications, and access to a water supply in the event of a fire emergency		<input type="checkbox"/>
20. Sealed (2) stormwater plans including the location and design of storm sewers, retention or detention ponds, swales, wastewater lines, clean out locations, connection points and treatment systems		<input type="checkbox"/>
21. A utility plan including the location of all other utilities on the site including but not limited to natural gas, electric, cable TV, telephone and steam		<input type="checkbox"/>
22. A sign plan indicating the location, size and specifications of all signs and advertising features, including cross sections		<input type="checkbox"/>
23. A lighting plan including exterior lighting locations with area of illumination illustrated by point values on a photometric plan, Kelvin rating, as well as the type of fixtures and shielding to be used		<input type="checkbox"/>
24. Proposed location of any open spaces, landscaping and buffering features such as buffer areas, vegetation belts, fences, walls, trash receptacle screening, and other screening features with cross sections shown		<input type="checkbox"/>
25. A Landscape plan and table identifying the species, size of landscape materials, and number proposed, compared to what is required by the Ordinance. All vegetation to be retained on site must also be indicated, as well as, its typical size by general location or range of sizes as appropriate		<input type="checkbox"/>
26. Statements regarding the project impacts on existing infrastructure (including traffic capacity, schools, and existing utilities, and on the natural environment on and adjacent to the site)		<input type="checkbox"/>
27. Changes or modifications required for any applicable regulatory agencies' approvals		<input type="checkbox"/>

## **ARTICLE 7**

### **SUPPLEMENTAL USE REGULATIONS**

#### **SECTION 700            PURPOSE**

This article establishes additional standards, specific standards, exceptions to standards, or alternative standards (e.g., screening, landscaping, and/or design standards) for certain uses, structures, and facilities which may be permitted by a zoning district. To the extent that there is a conflict between a standard in another article of this ordinance and a standard in this article, the standard in this article governs unless otherwise indicated.

The purpose of this article is to provide supplemental standards for individual uses in order to protect surrounding property values and uses, to protect the public health, safety, and general welfare, and to implement the master plan.

#### **SECTION 701            GENERAL**

Unless specifically exempted, in addition to the supplemental standards of this Ordinance all signs, parking areas, landscaping, lighting and buffering shall comply with the provisions of this Zoning Ordinance.

#### **SECTION 708            ADULT FOSTER CARE, SMALL GROUP HOME**

##### **A. REGULATIONS AND CONDITIONS**

- (1) Facility shall maintain all valid state and local licenses.
- (2) Such facilities shall at all times be maintained in a manner consistent with the character of the surrounding neighborhood.

#### **SECTION 709            ADULT FOSTER CARE, LARGE GROUP HOME**

##### **A. REGULATIONS AND CONDITIONS**

- (1) Facility shall maintain all valid state and local licenses.
- (2) Facility need not be operated within the primary residence of the caregiver.
- (3) Such facilities shall at all times be maintained in a manner consistent with the character of the surrounding neighborhood.

#### **SECTION 710            ADULT FOSTER CARE FACILITY**

##### **A. REGULATIONS AND CONDITIONS**

- (1) Facility shall maintain all valid state and local licenses.
- (2) Facility need not be operated within the primary residence of the caregiver.
- (3) Such facilities shall at all times be maintained in a manner consistent with the character of the surrounding neighborhood.
- (4) Easily accessible open space areas to encourage outdoor interaction and opportunity shall be provided.

#### **SECTION 713            BED AND BREAKFAST**

##### **A. REGULATIONS AND CONDITIONS**

- (1) The minimum lot size shall be as pursuant to the District minimum for Single Family Dwellings.
- (2) Bed & Breakfast establishments shall not be allowed on lots or parcels, including legal non-conforming lots or parcels, which do not meet the established lot size, requirements for the district in which they are allowed.
- (3) No bed and breakfast establishment shall be located closer than one thousand (1,000) feet from

another bed and breakfast establishment.

- (4) One (1) parking space per rental sleeping room plus one (1) per owner occupant shall be provided.
- (5) One (1) non-illuminated wall sign identifying the establishment not to exceed three (3) square feet in area shall be allowed.
- (6) The establishment is located within a residence which is the principal dwelling unit on the property and shall be owner-occupied at all times.
- (7) The rental sleeping rooms shall have a minimum size of one hundred (100) square feet for each two (2) occupants with an additional thirty (30) square feet for each occupant to a maximum of four (4) occupants per room.
- (8) No more than eight (8) occupants shall be accommodated in any single residence at any one time in the A Agriculture District and R-3 Multiple Family Districts and five (5) occupants in all other permitted Districts.
- (9) Use or rental of snowmobiles, all-terrain vehicles or similar vehicles, boats and other marine equipment, in conjunction with the operation of the establishment shall be prohibited.
- (10) Special land use approval shall not be granted if the essential character of the lot or structure in terms of traffic generation or appearance will be changed substantially.
- (11) A site plan shall include a floor plan layout of the proposed structure drawn to a scale of not less than 1" = 16' that shows the specific layout of the proposed facility in accord with the provisions of this Zoning Ordinance.

#### **SECTION 714 BOARDING RESIDENCE**

##### **A. REGULATIONS AND CONDITIONS**

- (1) All residences shall meet all state and local health and safety codes.
- (2) No more than five (5) individuals shall be accommodated in any single residence.
- (3) Such uses shall be carried out in an inconspicuous manner so that the nature of activities related to the residence do not differ significantly from activities related to normal residential uses in the district.

#### **SECTION 716 CAMPGROUND OR TRAVEL TRAILER PARK**

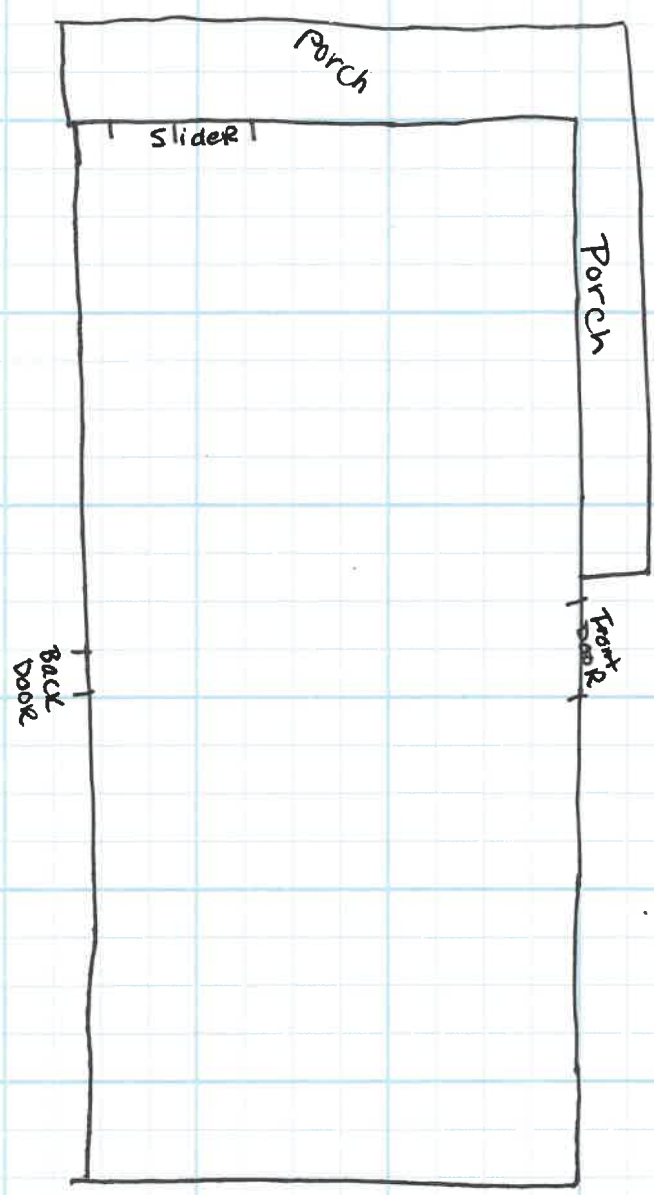
##### **A. REGULATIONS AND CONDITIONS**

Site design and development shall comply with the provisions of Act 368 of the Public Acts of 1978, as amended, and with the following requirements:

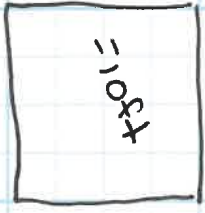
- (1) All state requirements regarding travel trailer parks shall be met.
- (2) No travel trailer park shall be located except with direct access to a major thoroughfare, with a minimum lot width of not less than fifty (50) feet for the portion used for entrance and exit.
- (3) No entrance or exit shall be through a residential district or shall require movement of traffic from the park through a residential district.
- (4) The minimum lot area per park shall be ten (10) acres with a maximum of one hundred (100) acres.
- (5) Spaces in travel parks used by travel trailers and tents shall be rented by the day or week only. Under no circumstance shall an occupant remain in the same trailer park for a period of thirty (30) days or more in a calendar year.
- (6) Management headquarters, recreational facilities, toilets, showers, laundry facilities and other uses and structures customarily incidental to the operation of a travel trailer park may be permitted as accessory uses provided the following conditions can be met:
  - (a) Such establishments and the parking area primarily related to their operations shall not occupy more than ten percent (10%) of the area of the park.
  - (b) Such establishments shall be restricted in their use to occupants of the park.

56L  
27  
1,485.2

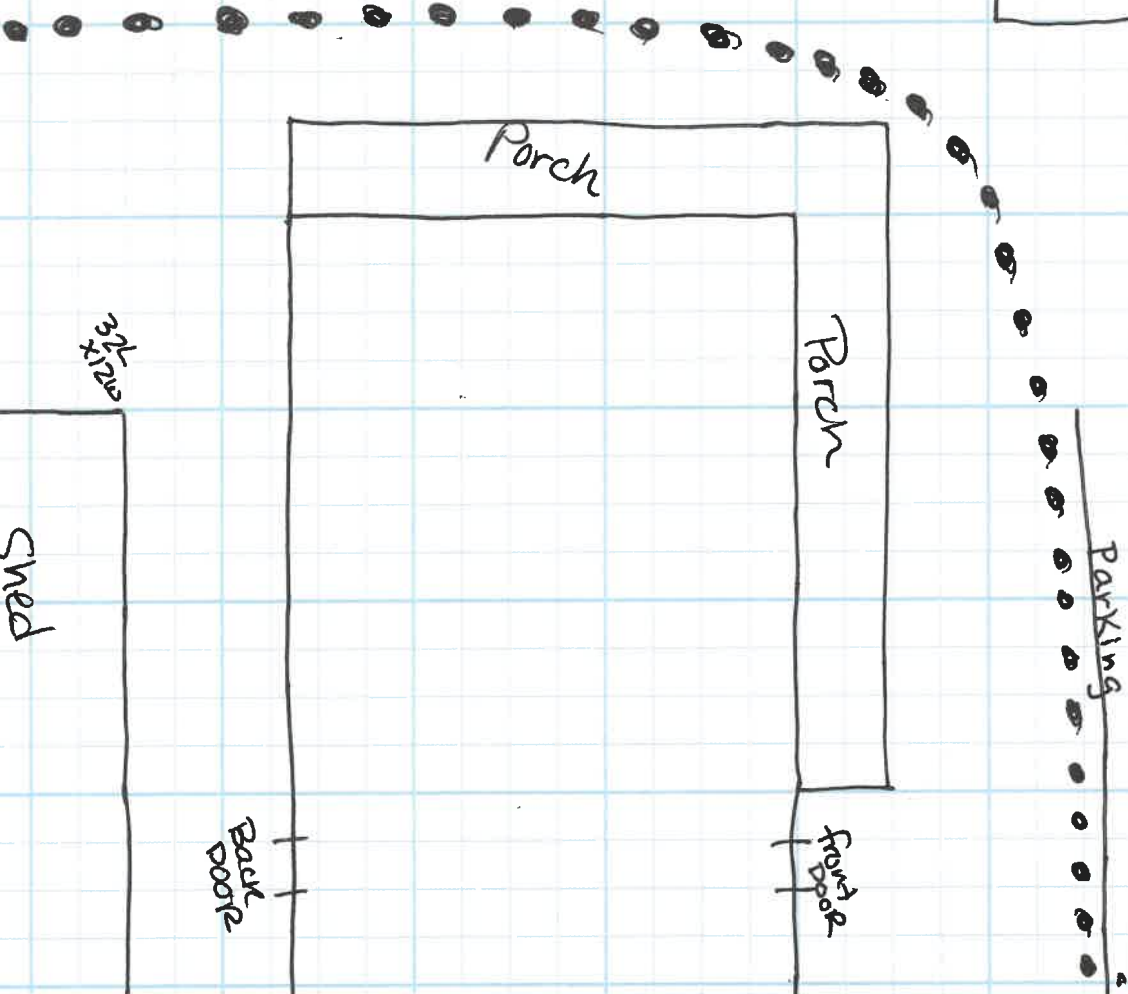
#10 =



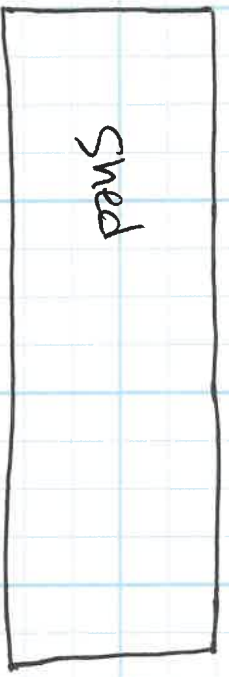
55L  
27W  
1485  
142



Pine  
Trees



3 1/2 x 2 1/2



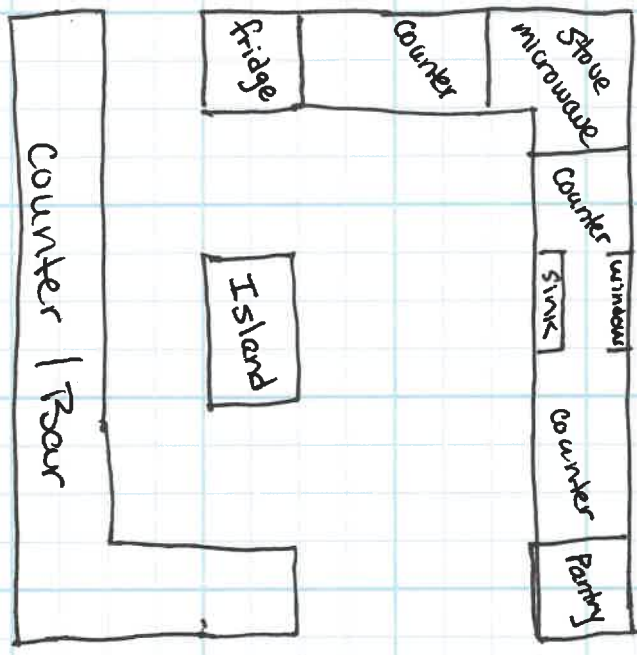
Back  
Door

Front  
Door

Parking

Parking

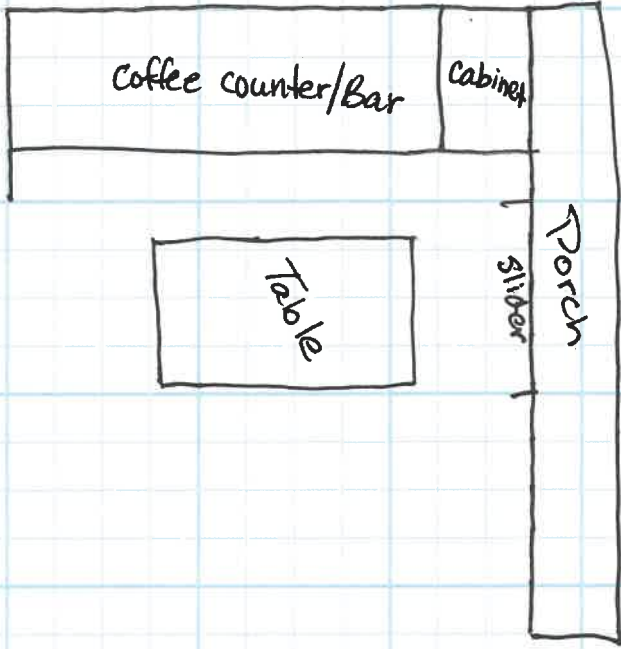
13L  
x13L  
169  
17



Kitchen

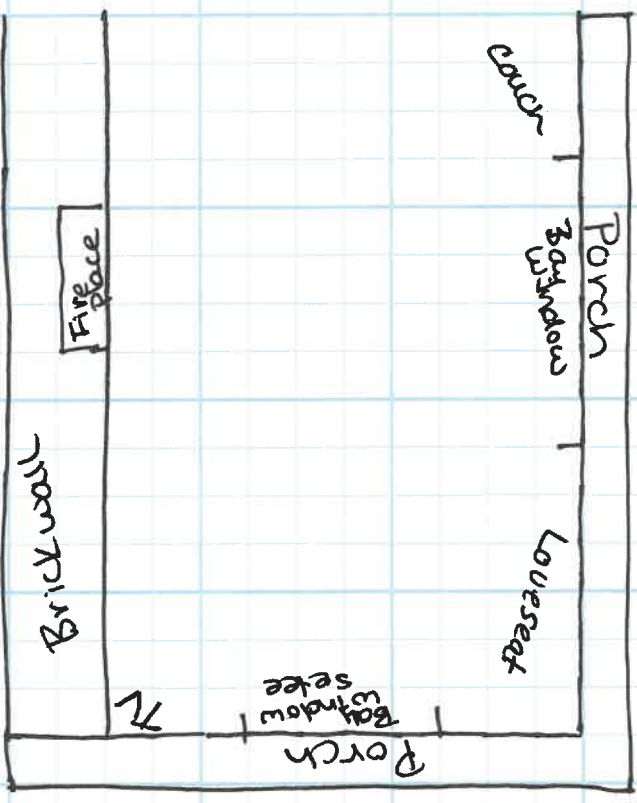


14W  
15W  
16W



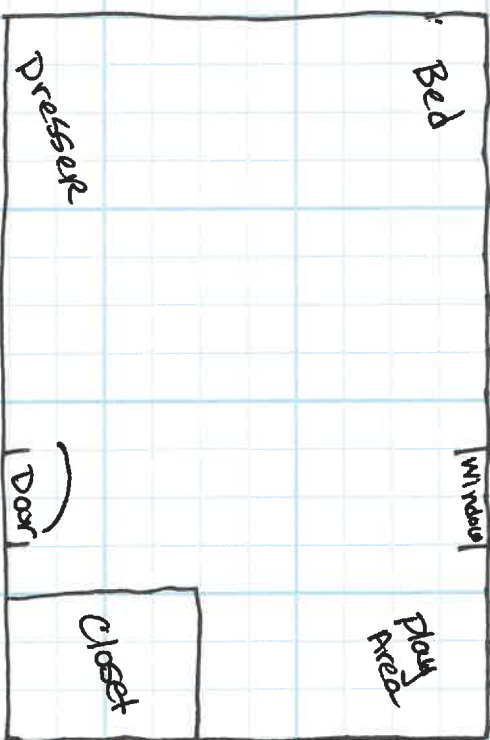
Dining Room

15  
15  
15  
15



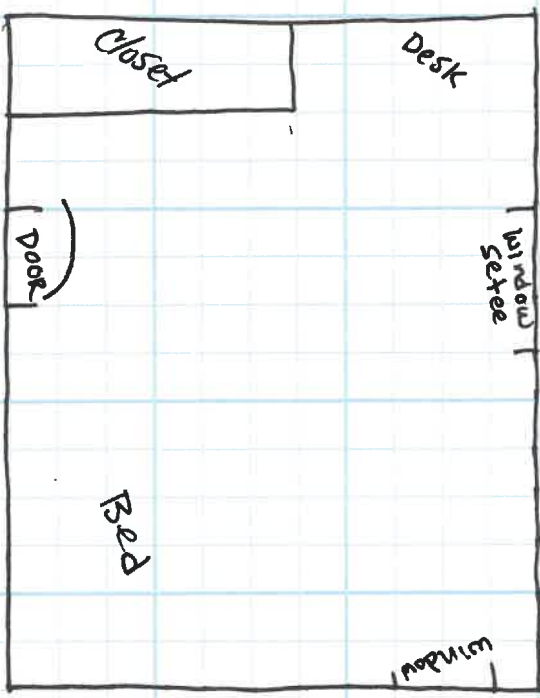
15/3

15/2



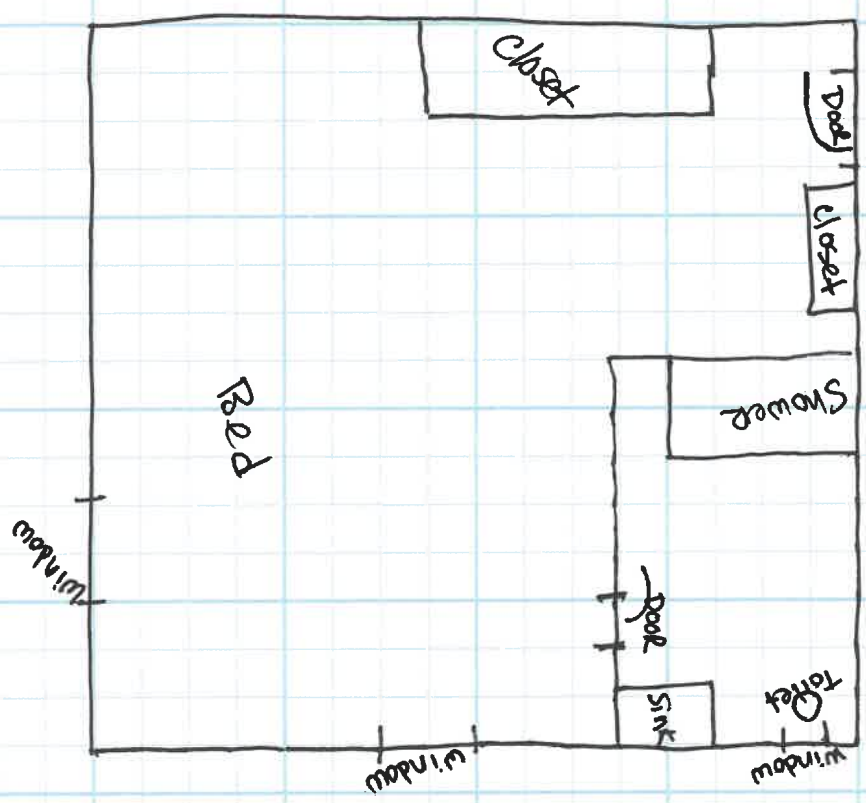
Bedroom 1

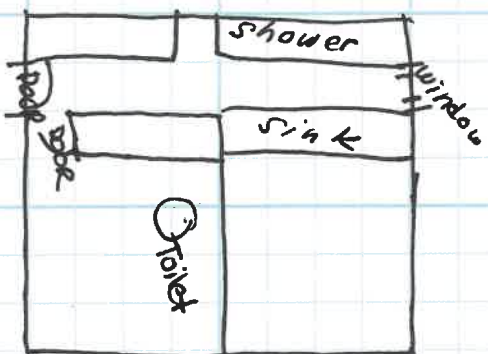
14  
11  
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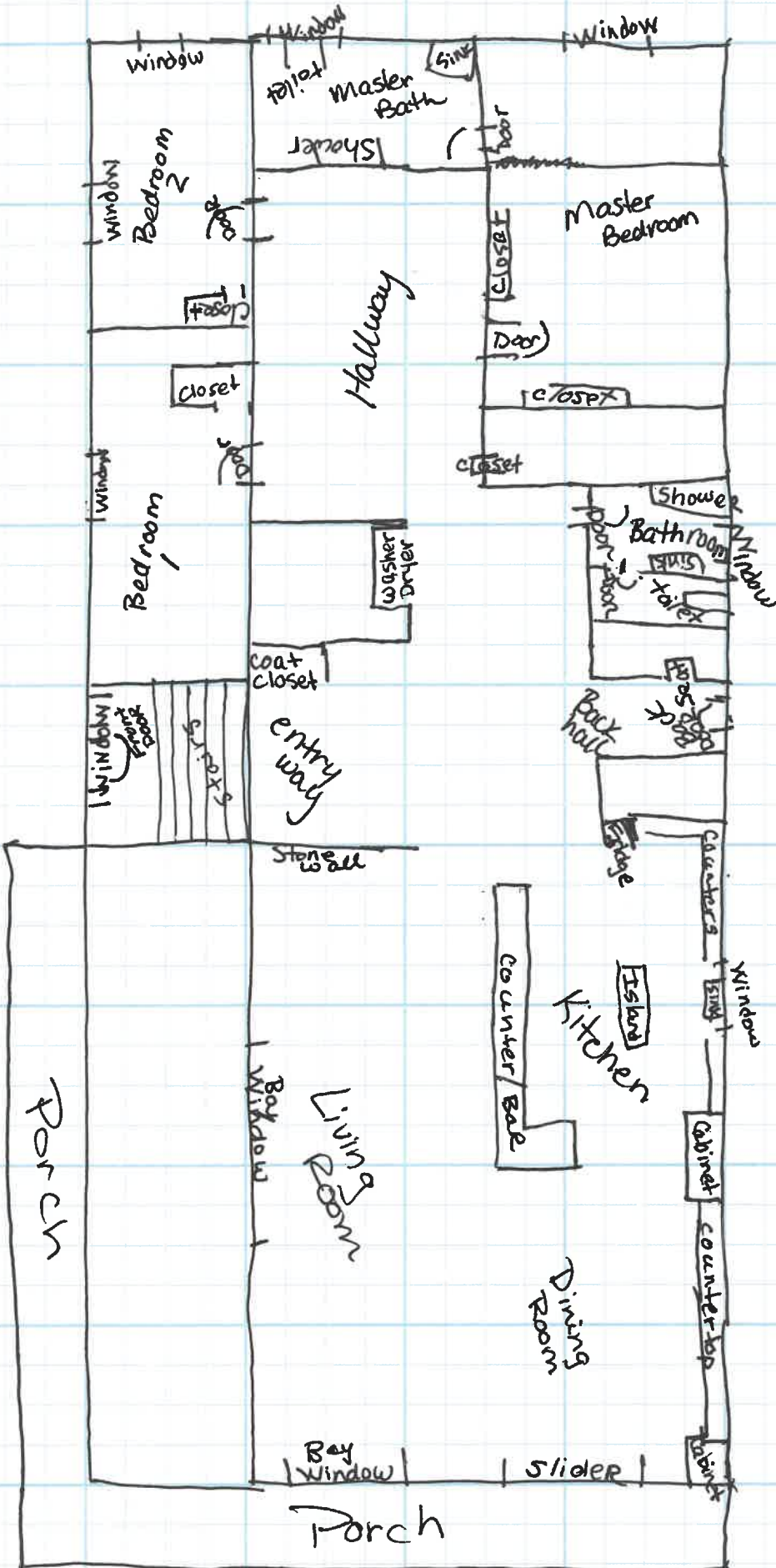
Bedroom 2

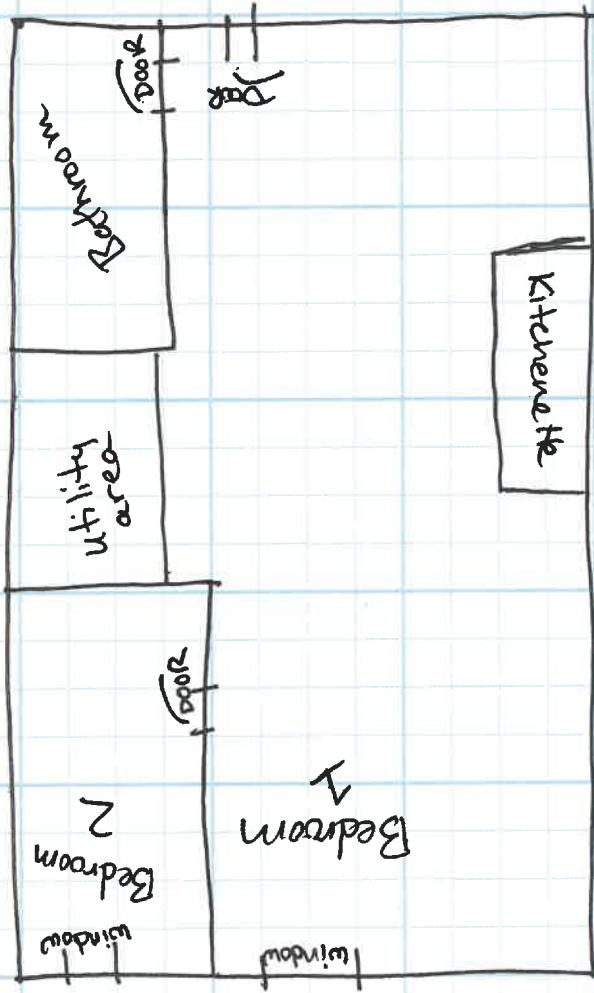
Master Bedroom | Bathroom





Bathroom



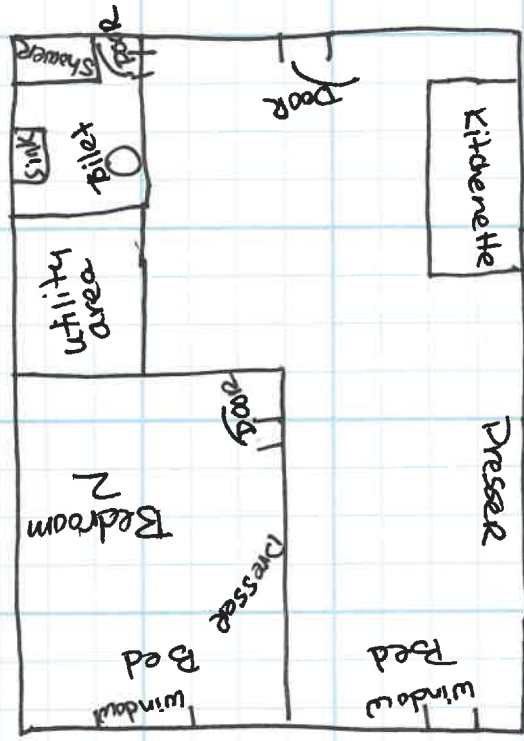


Basement



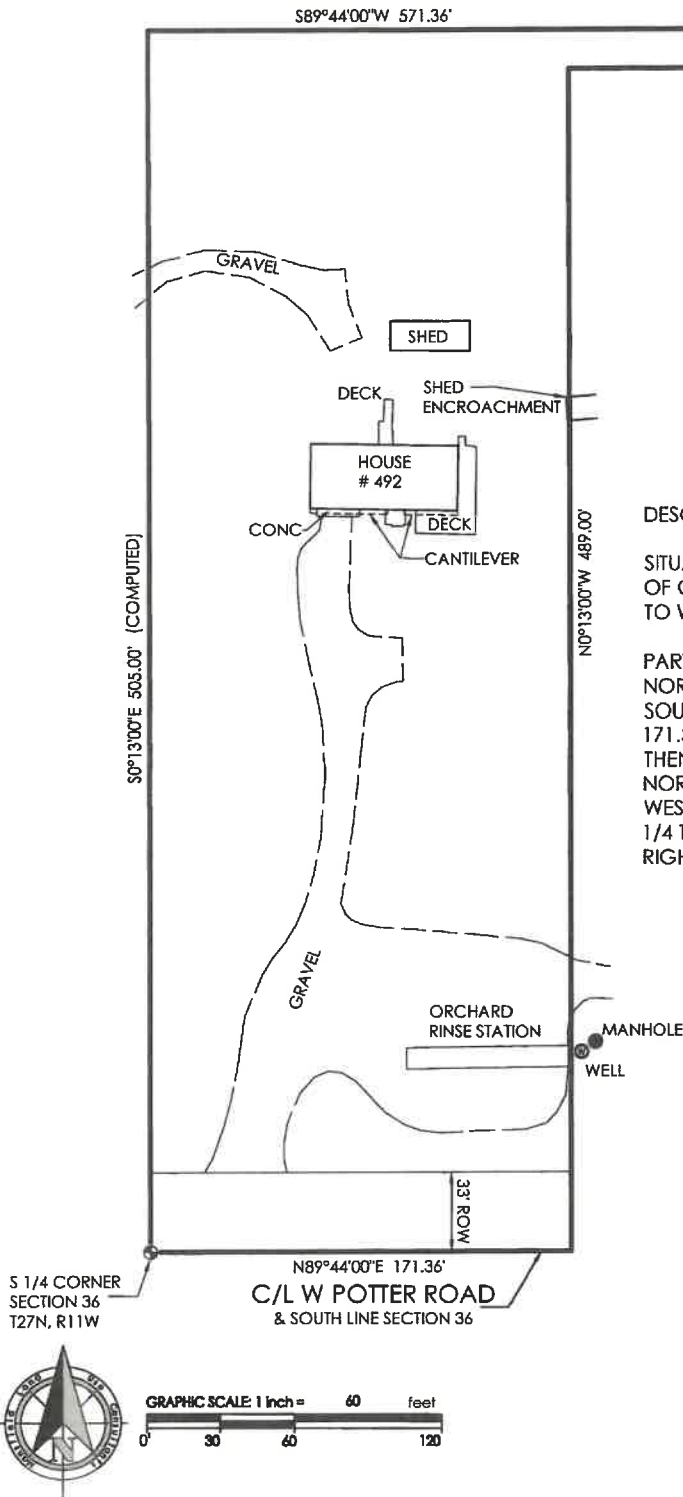
37/13

app  
#2



Basement | Downstairs

# MORTGAGE REPORT



DESCRIPTION AS PROVIDED (DEED 2019R-05234):

SITUATED IN THE TOWNSHIP OF GARFIELD, COUNTY OF GRAND TRAVERSE AND STATE OF MICHIGAN, TO WIT:

PART OF THE SOUTHEAST 1/4, SECTION 36, TOWN 27 NORTH, RANGE 11 WEST COMMENCING AT THE SOUTH 1/4 CORNER; THENCE NORTH  $89^{\circ}44'$  EAST 171.36 FEET; THENCE NORTH  $0^{\circ}13'$  WEST 489 FEET; THENCE NORTH  $89^{\circ}44'$  EAST 400 FEET; THENCE NORTH  $0^{\circ}13'$  WEST 16 FEET; THENCE SOUTH  $89^{\circ}44'$  WEST 571.36 FEET; THENCE SOUTH ALONG THE WEST 1/4 TO THE POINT OF BEGINNING EXCEPT ROAD RIGHT-OF-WAY



*Michael Kenneth Geisert*

We hereby certify that we have examined the premises herein described, that the buildings are located entirely as shown and that they do not encroach except as shown hereon. This report, prepared for mortgage purposes only, does not represent a boundary survey, and is not to be used for the establishment of any fence, building or other improvements. The location of fences, walls or other indications of occupancy along or near boundary lines are not shown. All utilities and easements may or may not be shown. This report was made from the legal description shown above. The description should be compared with the Abstract of Title or Title Policy for accuracy, easements and exceptions.

Brandy Waslawski

**Mansfield**  
 Land Use Consultants  
 Planners - Civil Engineers - Surveyors  
 PO Box 4015  
 830 Cottageview Dr., Suite 201  
 Traverse City, MI 49685  
 Ph: (231) 946-9310  
 Fax: (231) 946-8926  
 www.manscpa.com

Part of the SE 1/4  
 Section 36, T27N, R11W  
 Garfield Township, Grand Traverse County, Michigan

DRN: MKG	CKD: MKG
4/25/2024	
24072	
SHT 1 OF 1	



# Charter Township of Garfield

## Grand Traverse County

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

CHUCK KORN  
SUPERVISOR

LANIE McMANUS  
CLERK

CHLOE MACOMBER  
TREASURER

MOLLY AGOSTINELLI, TRUSTEE  
STEVE DUELL, TRUSTEE

CHRIS BARSCHEFF, TRUSTEE  
DENISE SCHMUCKAL, TRUSTEE

August 21, 2023

Brandy Waslawski Perritt  
492 W Potter Rd  
Traverse City, MI 49696-8525

SUBJECT: Renting on VRBO/AirBnB

Dear Mrs Perritt,

I believe I found your home listed on VRBO and AirBnB. Renting for any term less than 30 consecutive days is not allowed in Garfield Township and is a violation of Zoning Ordinance, Section 201 and Article 3.

Additionally, renting for more than 14 days makes the property ineligible for the Principal Residence Exemption (aka Homestead or PRE). According to the Michigan Department of Treasury "*Guidelines for the Michigan Principal Residence Exemption Program*":

"An owner that would be required to declare rental income on their home is not entitled to a principal residence exemption on that property. Therefore, if an owner rents his property for more than 14 days a year, the property is not entitled to a principal residence exemption."

I have enclosed an affidavit that indicates you understand the Township's Ordinance. Please complete, sign, and return it to me no later than **September 4, 2023**, so we can ensure you are in compliance. Failure to respond may result in the denial of the Principal Residence Exemption and potential Civil Infractions due to the Zoning violations.

Sincerely,

Amy L DeHaan

c: Mike Green, Garfield Township Zoning Administrator

---

Amy L DeHaan, MMAO (4)  
Assessor



# Charter Township of Garfield

## Grand Traverse County

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STEVE DUELL, TRUSTEE

CHRIS BARSCHIEFF, TRUSTEE  
DENISE SCHMUCKAL, TRUSTEE

### PROPERTY OWNER AFFIDAVIT AFFIRMING NO RENTING AREA(S) OF HOME

I/We, Brandy Perritt (Waslawski), owner(s) of  
[insert owner's name(s)]

492 W Potter Rd, in Garfield Township, Michigan, agree to  
[insert property address]

the following conditions to qualify for a 100% Principal Residence Exemption (aka Homestead or PRE):

- No use of home as a "Vacation Rental" for any term less than 30 days
- No rental of the area identified below [check one]:

- individual room(s)
- entire home
- lower portion
- upper portion
- guest/mother-in-law suite/apartment

of my/our home (address listed above) for more than 14 days in a calendar year to anyone, including family.

- That the area identified will be only used by me/us as part of my/our Homestead.

I/We also understand that renting this area of my/our home may result in not only the loss of our PRE, but also a violation of Township Ordinance Section 201 and Article 3 which may lead to a Civil Infraction.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

---

---

Amy L DeHaan, MMAO(4)  
Assessor



# Charter Township of Garfield

Grand Traverse County

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

---

## LETTER OF INFORMATION

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08/22/2023

WASLAWSKI BRANDY C  
492 W POTTER RD  
TRAVERSE CITY MI 49696-8525

RE: Activity at 492 W POTTER RD, Parcel Number 05-036-025-40

Dear Owner/Occupant,

This letter is to inform you of the following violation(s) at the location listed above:

*Unauthorized vacation home rental. Current VRBO listing (as of 8-22-2023):*

[https://www.vrbo.com/3427569?dateless=true&x\\_pwa=1&rfr=HSR&pwa\\_ts=1692713847741&referrerUrl=aHR0cHM6Ly93d3cudnJiby5jb20vSG90ZWwtU2VhcmNo&useRewards=true&adults=1&children=&regionId=3577&destination=Traverse+City%2C+Michigan%2C+United+States+of+America&destType=BOUNDING\\_BOX&latLong=44.68423%2C-85.59717&searchId=cce755f5-a88c-4e04-bd0e-3bf60922c480&privacyTrackingState=CAN\\_NOT\\_TRACK&sort=RECOMMENDED&userIntent=&xpediaPropertyId=94851546](https://www.vrbo.com/3427569?dateless=true&x_pwa=1&rfr=HSR&pwa_ts=1692713847741&referrerUrl=aHR0cHM6Ly93d3cudnJiby5jb20vSG90ZWwtU2VhcmNo&useRewards=true&adults=1&children=&regionId=3577&destination=Traverse+City%2C+Michigan%2C+United+States+of+America&destType=BOUNDING_BOX&latLong=44.68423%2C-85.59717&searchId=cce755f5-a88c-4e04-bd0e-3bf60922c480&privacyTrackingState=CAN_NOT_TRACK&sort=RECOMMENDED&userIntent=&xpediaPropertyId=94851546)

It is our procedure to first inform property owners or occupants of a violation as quite often they are not aware a violation has occurred. **Please remove the violation within 14 days of receipt of this letter to resolve this issue.**

Thank you in advance for your cooperation in this matter as it is our desire to attain voluntary compliance and avoid the need for further enforcement actions. Feel free to contact this office if you have any questions or concerns.

Sincerely,

Michael Green,  
Zoning Administrator  
Charter Township of Garfield  
231.941.1620 x 230  
[mgreen@garfield-twp.com](mailto:mgreen@garfield-twp.com)



# Charter Township of Garfield

## Grand Traverse County

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TREASURER

MOLLY AGOSTINELLI, TRUSTEE  
STEVE DUELL, TRUSTEE

CHRIS BARSCHEFF, TRUSTEE  
DENISE SCHMUCKAL, TRUSTEE

October 11, 2023

### SECOND NOTICE

Brandy Waslawski Perritt  
492 W Potter Rd  
Traverse City, MI 49696-8525

SUBJECT: Renting on VRBO/AirBnB – 492 W Potter Rd

Dear Mrs Perritt,

In August, 2023, I sent you a letter about finding your home listed on VRBO. That letter informed you that renting for any term less than 30 consecutive days is not allowed in Garfield Township and is a violation of Zoning Ordinance, Section 201 and Article 3.

Additionally, renting for more than 14 days makes the property ineligible for the Principal Residence Exemption (aka Homestead or PRE). According to the Michigan Department of Treasury "*Guidelines for the Michigan Principal Residence Exemption Program*":

"An owner that would be required to declare rental income on their home is not entitled to a principal residence exemption on that property. Therefore, if an owner rents his property for more than 14 days a year, the property is not entitled to a principal residence exemption."

Enclosed is an affidavit indicating you understand the Township's Ordinance and will no longer use the property as a short-term rental. Please complete, sign, and return it to me no later than **October 30, 2023**, so we can ensure you are in compliance. Your failure to respond may put your Principal Residence Exemption at risk and continued rentals may result in potential Civil Infractions due to the Zoning violations.

Sincerely,

Amy L DeHaan

c: Mike Green, Garfield Township Zoning Administrator



# Charter Township of Garfield

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DENISE SCHMUCKAL, TRUSTEE

### PROPERTY OWNER AFFIDAVIT AFFIRMING NO RENTING AREA(S) OF HOME

I/We, Brandy Waslawski Perritt, owner(s) of  
[insert owner's name(s)]

492 W Potter Rd, in Garfield Township, Michigan, agree to  
[insert property address]

the following conditions to qualify for a 100% Principal Residence Exemption (aka Homestead or PRE):

- No use of home as a "Vacation Rental" for any term less than 30 days
- No rental of the area identified below [check one]:

- individual room(s)
- entire home
- lower portion
- upper portion
- guest/mother-in-law suite/apartment

of my/our home (address listed above) for more than 14 days in a calendar year to anyone, including family.

- That the area identified will be only used by me/us as part of my/our Homestead.

I/We also understand that renting this area of my/our home may result in not only the loss of our PRE, but also a violation of Township Ordinance Section 201 and Article 3 which may lead to a Civil Infraction.

Signed: \_\_\_\_\_

Date: \_\_\_\_\_

\_\_\_\_\_

Date: \_\_\_\_\_

---

Amy L DeHaan, MMAO(4)  
Assessor

8/23 AIRBNB.COM/H/THEPOTTERSHOMERETREAT/AFF SENT

6/10/24 OWNER IS RUNNING A B&B HERE, STATES SHE HAS TWO KITCHENS AND SIX BEDROOMS. AT ONE POINT SHE WAS RENTING OUT THE HOUSE AND STAYING IN A TRAILER ON THE PROPERTY. PRE NEEDS TO BE DENIED SO SHE CAN REAPPLY FOR THE CORRECT PERCENTAGE OF PRE. - JFB

5/28/24 OPERATING A BUSINESS AT THIS LOCATION (LOVE CLEAN MI LLC) ACCORDING TO LARA, HAS BEEN IN BUSINESS SINCE 2016. ALD

5/24/24 REC'D COMPLAINT RE: SHORT-TERM RENTAL. GROUP OF 5 GUYS THERE THIS WEEKEND (1ST OF THE SEASON), THEY RENTED NEARLY EVERY WEEKEND LAST SUMMER. FORWARDED TO MIKE GREEN, ZONING. ALD

10/19/23 BRANDY WASLAWSKI (231-944-8983) IS WORKING WITH PLANNING/ZONING TO CREATE B&B AT THIS LOCATION. SHE IS HOPING TO GET THE PROCESS COMPLETED THIS SUMMER, SHE WANTS TO DO THIS CORRECTLY & IS WORKING TO GET THE APPL COMPLETED FOR PC, ETC. GOT ON VRBO & FOUND LISTING BUT IT WOULD NOT ALLOW ME TO BOOK FOR 10 DAYS/AIRBNB SHOWED IT COULD NOT FIND LISTING - SHE SAYS SHE HAS PUT BOTH LISTINGS ON HOLD (WITHIN PAST 30 MINS) UNTIL SHE GETS THE REQUIRED APPROVAL. SHE DOES NOT WANT TO RISK LOSING HER HOME INS OR HER MTGE - SAYS THIS IS A BUSINESS. ALD

8/23 LISTED ON AIRBNB.COM/H/THEPOTTERSHOMERETREAT AND

[HTTPS://WWW.VRBO.COM/3427569?UNITID=4000697](https://www.vrbo.com/3427569?UNITID=4000697). ALSO INDICATES THEY'VE DONE EXTENSIVE REMODELLING (ATTACHED). ALD





# Charter Township of Garfield

## Grand Traverse County

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STEVE DUELL, *TRUSTEE*

CHRIS BARSCHEFF, *TRUSTEE*  
DENISE SCHMUCKAL, *TRUSTEE*

June 12, 2024

Brandy Waslawski  
492 Potter Road  
Traverse City, MI 49696

**SUBJECT: Denial of Principal Residence Exemption (2024)  
Parcel #28-05-036-025-40**

Dear Ms Waslawski:

Enclosed you will find form 2742, Notice of Denial of Principal Residence Exemption (PRE) for the tax year 2024. It is being sent to you because we became aware that the home is being used as a rental/bed and breakfast.

The Principal Residence Exemption excludes the ability to use your home as a rental for a period greater than 14 days. If you are living in a portion of the home not being used for commercial purposes you may reapply for a percentage of the exemption relevant to the area you occupy.

Should you disagree with the denial, you are welcome to file an appeal with the Small Claims Division of the Michigan Tax Tribunal, as described at the bottom of the denial form.

If you have any questions, please feel free to contact me.

Sincerely,

Justin Bigbee

---

Justin Bigbee MAAO (3)  
Appraiser

ASSESSOR'S DATE STAMP

# Notice of Denial of Principal Residence Exemption

Issued under authority of Public Act 206 of 1893

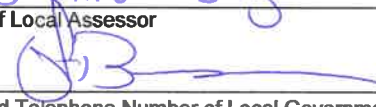
With this notice, you are notified that the Principal Residence Exemption on the property identified below has been denied. If you have questions about the denial, you may contact your local government or follow the appeal procedures specified below. For more information regarding the Principal Residence Exemption (PRE), please review the PRE guidelines at [www.michigan.gov/pre](http://www.michigan.gov/pre).

Type or print in blue or black ink

**PART 1: PROPERTY INFORMATION** Type or print legibly. Use a separate form for each property number.

1. Property tax identification number <b>28-05-036-025-40</b>		2. Name of Local Unit (Check Township or City) <input checked="" type="checkbox"/> Township <b>Grandfield</b> <input type="checkbox"/> City		3. County <b>GRAND TRAVERSE</b>
4. Street address of property (Provide a Complete Address) <b>492 W POTTER RD</b>				
5. Name of Owner (First, Middle, Last) <b>WASLAWSKI BRANDY C</b>		6. Owner's Last Four Digits of Social Security Number <b>XXX-XX-</b>		7. Owner's Daytime Telephone Number
8. Name of Co-Owner (First, Middle, Last)		9. Co-Owner's Last Four Digits of Social Security Number <b>XXX-XX-</b>		10. Co-Owner's Daytime Telephone Number
11. Mailing address if different than property address (street or RR#, city, state, Zip code)				
12. Your exemption was denied/adjusted for the following reason: <input type="checkbox"/> a. The owner is not a Michigan resident. <input type="checkbox"/> b. The property claimed is not the owner's principal residence. <input type="checkbox"/> c. The person claiming the exemption is not the owner. <input type="checkbox"/> d. The person claiming the exemption, claimed or was granted, a substantially similar exemption in another state. <input checked="" type="checkbox"/> e. Other: <b>Property used as a rental / Bed + Breakfast</b>				
13. Claim Denied for Calendar Year(s): (see instructions) <b>2024</b>			14. Percentage Adjusted to: <b>0%</b>	

**PART 2: CERTIFICATION**

15. Name of the Local Assessor (Print or Type) <b>Justin Bigbee</b>	
16. Signature of Local Assessor 	17. Date <b>6/12/24</b>
18. Address and Telephone Number of Local Government <b>3848 Veterans Dr. 49884 231-941-1620</b>	

**Homeowner's Right to Appeal**

If you disagree with this denial, you may appeal to the Residential/Small Claims Division of the Michigan Tax Tribunal within 35 days of the denial. An appeal with the Michigan Tax Tribunal can be initiated by the timely filing of a petition. The petition must be a Michigan Tax Tribunal form or a form approved by the Michigan Tax Tribunal. Michigan Tax Tribunal forms are available at [www.michigan.gov/taxtrib](http://www.michigan.gov/taxtrib). You can print the Petition for Denial of Exemption for Principal Residence/Qualified Agricultural and mail the completed form to the Michigan Tax Tribunal at P.O.Box 30232, Lansing, Michigan 48909 or complete the form online and submit electronically, if provided for by the Michigan Tax Tribunal.



# Charter Township of Garfield

## Grand Traverse County

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

---

### 2<sup>ND</sup> NOTICE OF VIOLATION

---

06/13/2024

WASLAWSKI BRANDY C  
492 W POTTER RD  
TRAVERSE CITY MI 49696-8525

**RE: Unauthorized Land Use at 492 W POTTER RD, Parcel Number 05-036-025-40**

Dear Property Owner,

This letter is to inform you that this office has received complaints on your property located at the above address due to the use of your residence as a short-term rental for periods of less than thirty (30) days. Short-term rentals are not allowed in the R-1 district.


This letter will serve both as a Letter of Violation and Notice of Civil Infraction, which if issued, will require your presence before the Grand Traverse County Magistrate office.

**Please discontinue the use of your residence as a short-term rental within fourteen (14) days from receipt of this letter.**

Thank you in advance for your cooperation in this matter as it is our desire to attain voluntary compliance and to avoid any further enforcement actions. Should you have any questions, comments or concerns, please do not hesitate to contact the planning department at the number above.

Thank you,

Michael Green, Zoning Administrator  
Charter Township of Garfield

 <b>Charter Township of Garfield</b> <b>Planning Department Report No. 2024-51</b>			
Prepared:	July 3, 2024	Pages:	9
Meeting:	July 10, 2024 Planning Commission	Attachments:	<input checked="" type="checkbox"/>
Subject:	TowerNorth Wireless Communication Facility Special Use Permit – Update		
File No.	SUP-2024-02	Parcel No.	05-019-001-00 (part)
Applicant:	TowerNorth Development, LLC		
Agent:	Jaime Mathew w/Kimley-Horn and Associates, Inc.		
Owner:	Frank A Bare		

**BRIEF OVERVIEW:**

- 2767 Zimmerman Road – west side of Zimmerman Road north of Silver Lake Road
- Approximately 42.25 acres (entire parcel); approximately 0.23 acres (lease parcel area)
- Portion of one of the parcels containing the existing Alpers gravel mining operation
- A-Agricultural zoning district

**APPLICATION HISTORY:**

- June 12, 2024 Planning Commission – Application tabled, more information was requested
- July 10, 2024 Planning Commission – Update

*Zoomed-in aerial image of the subject property (property lines highlighted in blue):*



*Zoomed-out aerial image of the subject property (property lines highlighted in blue):*



**PURPOSE OF APPLICATION:**

This application requests a Special Use Permit (SUP) for a wireless communication facility (cell tower) at 2767 Zimmerman Road. The applicants propose a 155-foot-tall monopole tower with associated antenna equipment within a 60' x 60' fenced compound. Wireless communication facilities are permitted via SUP in the A-Agricultural zoning district. Aerial images of the site are shown below.

**SITE DESIGN AND ZONING COMPLIANCE OVERVIEW:**

In approving any special use permit pursuant to Section 423, the Planning Commission may impose such reasonable standards, conditions, or requirements, in addition to or that supersede any standard specified in this ordinance, as it may deem necessary to protect the public interest and welfare. Such additional standards may include, but need not be limited to:

- a) Financing
- b) Availability of adequate public facilities or services
- c) Dedication of land
- d) Reservation of land
- e) Creation of special assessment districts
- f) Creation of restrictive covenants or easements
- g) Special setbacks
- h) Yard requirements
- i) Increased screening or landscaping requirements
- j) Area requirements
- k) Development phasing; or
- l) Standards pertaining to traffic, circulation, noise, lighting, hours of operation, protection of environmentally sensitive areas, and similar characteristics.

**UPDATE AFTER INTRODUCTION OF APPLICATION:**

At the introduction of the application at their June 12, 2024 meeting, the Planning Commission had several comments and questions regarding the application. The applicants have also offered additional information since this meeting. Staff offer the following comments:

**1. Renderings of Tower from Zimmerman Road**

Commissioners asked for renderings of what the proposed tower will look like, specifically from vantage points at street level along Zimmerman Road. The applicant has provided renderings of the tower from four different vantage points along Zimmerman Road (see attached).

**2. Proximity of Proposed Tower to Water Tower in Heritage Estates**

There were some questions regarding the proposed location of the tower given the water tower in Heritage Estates with wireless communication equipment on it, which is approximately 3/4-mile away. The applicants offered their comments on why a 50-foot or more extension of the existing water tower, or other wireless communication facility, would not be feasible, including:

- The water tower is about 68 feet tall which offers a shorter area for providing cell coverage.
- The water tower could be decommissioned in the future and not be available for collocation of wireless communications equipment.
- The water tower site is zoned R-1 One-Family Residential, which does not permit wireless communication facilities, so permitting a new tower at the water tower site is not feasible.
- The water tower is not designed structurally to support an extension for a tower.
- The water tower site is located within a residential neighborhood, which may not be a compatible location for a new tower.

Staff corresponded with the Township Engineer regarding the water tower. While the water tower is anticipated to be in place for at least the next few years, there remains a possibility that the water tower could be decommissioned in the future. Further, Staff also noted that two existing monopole towers, on Hartman Road and Day Drive respectively, are also located about 3/4-mile away from each other. This is the same distance between the proposed tower and the water tower in Heritage Estates. Thus, it appears that there is nothing precluding the consideration of this application.

**3. Proximity of Proposed Tower to Existing House**

There are concerns over the proposed location of the tower in relation to the existing house on the site. The applicant provided some information on how this location was selected.

Section 792.F.(3)(b) indicates that structures “must also be set back a distance equal to their overall height from the lot line of any lot that contains a residential use, that is vacant but may be used for residential purposes, or that is within a residential zoning district.” The proposed tower appears to be closer to the existing house than the tower height (155 feet) and the proposed tower appears to be closer to the lot line on the south than the height of the tower. The subject parcel and neighboring parcels on this side of Zimmerman are zoned as A-Agricultural, and some adjacent parcels are also part of the Crown PUD, which all may be used for residential purposes.

The above standard from Section 792.F.(3)(b) is a requirement. There is no provision that would allow the Planning Commission to grant a waiver from this requirement. Section 792.K. describes the process for the Zoning Board of Appeals to grant a variance for provisions of the requirements for wireless communication facilities, provided that the Zoning Board of Appeals makes Findings of Fact based on at least one of five criteria.

For comparison, the Planning Commission asked about an existing tower on Hartman Road and how close it is to the Chelsea Park apartment building across the road. Staff also checked other existing towers in the Township and their proximity to nearby buildings. Staff offer the following:

- The tower on the Hartman Road property appears to be approximately 180 feet away from the nearest building on the Chelsea Park apartments property, based on aerial imagery
- There is a tower on the West Middle School property which appears to be approximately 105 feet away from the nearest building on the adjacent property
- There is a tower on the parcel at 2309 Switch Drive, behind Cass Road, which appears to be approximately 75 feet away from the nearest building on the adjacent property

#### **4. Selection Process for Tower Location (Exhibit D)**

Commissioners asked about how the proposed tower location was selected. The applicant provided additional information indicating that the initial 0.5-mile radius search area was found to have only parcels within the R-1 district, which does not permit wireless communication facilities. They said the next step involved reaching out to the nearest property owners in the area on sites where a cell tower could be permitted under the Zoning Ordinance.

#### **5. Zoning Ordinance Standards**

The applicant also provided information addressing comments from Staff from the Completeness Review dated May 21, 2024.

- *Lighting* – The applicant indicates that the proposed lights will be located on the equipment canopy / shelter and aimed downwards towards the equipment. Commissioners wanted to know if there would be lights on the proposed tower, including at the top. The applicant's response indicates that no lighting is proposed on the tower itself.
- *Stormwater Management* – The applicant indicates they are working with the Township Engineer and Drain Commissioner regarding stormwater management requirements.
- *Snow Storage* – The response letter shows two areas on the site plan, one within the lease area and one within the access easement, to provide snow storage for the site.

#### **6. Other Comments**

Other comments and questions raised at the previous meeting included the following:

- The Planning Commission asked if there was a decommissioning plan for the tower. The Zoning Ordinance describes in Section 792.J. the process for the Zoning Administrator to handle abandoned wireless communication facilities, including a notice of abandonment, declaration of abandonment, and removal of the facility. Staff recommend the applicants consider preparing a decommissioning plan for the proposed tower to anticipate how the tower can be removed at the end of its useful life.
- Staff are gathering information on the existing wireless communication facilities within the Township, including cell towers and radio / television antennae, and are building a database in GIS of these facilities. Staff can share this with the Planning Commission via the online interactive map or prepare a PDF map of these facilities if desired.

**ZONING ORDINANCE STANDARDS FOR WIRELESS COMMUNICATION FACILITIES:**

The Zoning Ordinance includes a set of definitions regarding wireless communications (e.g., collocation, equipment, facility, support structure, and equipment compound). The Zoning Ordinance also includes the following supplemental standards applicable to all wireless communication facilities and antennae within Section 792.F. The applicant provided their comments on these supplemental standards in their cover letter dated May 9, 2024 and attached to this report. Staff comments are as follows:

**(1) Number of Facilities to be Minimized**

- (a) **Generally:** *Antenna supporting structures must be located in a manner that is consistent with township’s interest in land-use compatibility. No antenna supporting structure will be permitted unless the applicant demonstrates that the proposed antenna cannot be accommodated on an existing antenna supporting structure.*

The response letter provides additional information on why the water tower in the Heritage Estates neighborhood is not a feasible location for this project. The water tower is located about 3/4-mile from the proposed tower; the next nearest tower is about 1.5 miles away.

- (b) **Letters of coordination:** *The applicant must provide documentation that a notice was mailed, via certified mail, to all providers or, where applicable, to owners of existing antenna supporting structures, and that the applicant was unable to secure a lease agreement with a provider to allow the placement of the proposed antennae on an existing structure or building within the geographic search area.*

The applicant provided additional information on the search process for this location and indicated that “no existing towers are located within the 0.5-mile search area or within 1.0 mile of the proposed tower location.” The response letter provides additional information on why the water tower in Heritage Estates is not feasible for this project. The water tower is about 3/4-mile from the proposed tower; the next nearest tower is about 1.5 miles away.

- (c) **Additional evidence:** *As appropriate, the following evidence may also be submitted to demonstrate compliance with this section:*
- (i) *That no existing wireless communications facility within the geographic search area meets the applicant’s radio frequency engineering or height requirements;*
  - (ii) *That no building or structure within the geographic search area has sufficient structural strength to support the applicant’s proposed antennae; or*
  - (iii) *That there are other limiting factors that render collocated, surface-mounted, or roof-mounted facilities unsuitable or unreasonable.*

As stated above, the response letter provides additional information on why the water tower in Heritage Estates is not feasible. The water tower is roughly 3/4 miles from the proposed tower; the next nearest tower is about 1.5 miles away.

**(2) Construction**

*Antenna supporting structures shall be constructed utilizing monopole or freestanding lattice type construction only, unless the applicant is able to demonstrate that such a structure cannot accommodate the proposed or future antennae.*

The proposed tower will be a monopole structure.



**(3) Setbacks**

- (a) *Antenna supporting structures, equipment enclosures, and ancillary appurtenances must meet the minimum setback requirements for the zoning district in which they are proposed.*

The proposed leased area site is on a parcel zoned as A-Agricultural. The setbacks in the Agricultural zoning district are 30 feet (front), 20 feet (each side), and 35 feet (rear). The proposed tower and leased area appear to meet the minimum setback requirements for the Agricultural zoning district.

- (b) *In addition to complying with (a) above, antenna supporting structures must also be set back a distance equal to their overall height from the lot line of any lot that contains a residential use, that is vacant but may be used for residential purposes, or that is within a residential zoning district; however, guy-wire anchors need only comply with the provisions of subsection (a), above.*

The proposed wireless tower is on the same parcel as an existing house shown on the site plan, and the parcel is zoned A-Agricultural. Looking at the site plan, the proposed tower is within 140 feet of the house and the tower is 155 feet tall. The application describes how the tower is designed to fall within an 80-foot radius. The applicant's response letter provides additional information on how the siting of the proposed tower was determined. However, this standard of the Zoning Ordinance still must be met.

- (c) *The setback requirements specified in (a) and (b) above are minimums. Any proposed wireless communication facility or antenna proposed and requiring SUP application and approval may have a greater setback requirement imposed by the Planning Commission if substantiated by a need to minimize the visual, aesthetic, and public safety impacts of the facility or antenna.*

As stated above, the minimum setback requirements must be met and so the setback from the existing house on the parcel may need to be increased.

**(4) Accommodation of Future Collocations**

- (a) *Antenna supporting structures must be designed to accommodate future collocations by at least two (2) additional service providers. A notarized statement by the applicant to this effect shall be provided by the applicant. The exact amount of additional equipment to be accommodated will be agreed upon during the application review and approval process.*

The cover letter indicates the facility will be able to accommodate 2 additional collocations.

- (b) *The proposed location of a wireless communication facility shall be adequately sized and configured to allow the placement of at least two (2) additional communication equipment shelters.*

The site plan shows 2 20'x12' spaces being reserved for lease areas for others.

- (c) *Wireless communication towers shall reserve space on the tower for at least one (1) public safety antenna, and shelter or ground space to accommodate one (1) equipment shelter if deemed necessary.*

The cover letter indicates that the applicants will work with the Township on installing a public safety antenna and ground equipment if deemed necessary.

- (d) *As a condition of approval under this article, the applicant must submit a shared use plan that commits the owner of the proposed antenna supporting structure to accommodate future collocations where reasonable and feasible in light of the criteria set forth in this section.*

The applicants note this requirement and that allowing for collocation is required by the Federal Telecommunication Act of 1996.

- (e) *The provisions of (a) through (d) above shall not apply to Residential Facilities.*

The proposed monopole is not a Residential Facility.

**(5) Equipment Shelter Design and Height**

*The design and materials used in the construction of the equipment shelter shall, to the extent possible, blend the structure with the surrounding built or natural environment. The equipment shelter shall not exceed fifteen (15) feet in height.*

The cover letter notes that the ground equipment will be less than 15 feet in height. An elevation sketch of the ground equipment and shelter should be included on the site plan.

**(6) Lighting**

- (a) *No lights, signals, or other illumination will be permitted on any antenna supporting structure or ancillary appurtenances unless the applicant demonstrates that lighting is required by the Federal Aviation Administration (FAA), the Federal Communications Commission (FCC), or the Michigan Department of Transportation Bureau of Aeronautics (MDOT-BOA). No existing facility or antenna shall be modified in any way which would cause the structure to require lighting unless a SUP is first approved permitting such modification and lighting.*

The applicant states the FAA Determination of No Hazard to Air Navigation (Exhibit L) indicates that no lighting is needed for aviation safety.

- (b) *Site lighting shall comply with the lighting standards of this Ordinance.*

The applicant indicates that the proposed lights will be located on the equipment canopy / shelter and aimed downwards towards the equipment. No lighting is proposed on the tower itself. The applicant also provided a cut sheet for the proposed light fixture.

**(7) Color**

*Antenna supporting structures and ancillary appurtenances, including transmission lines, must maintain a galvanized grey finish or other contextual or compatible color as determined by the township, except as otherwise required by the FAA, the FCC, or the MDOT-BOA.*

The cover letter states the tower will be designed with galvanized steel and the proposed antennas will be off-white to grey in color. The proposed cables will be routed within the monopole tower but would be grey to black in color.

**(8) Fencing**

*A fence of at least six (6) feet in height from finished grade must be installed in order to enclose the base of the antenna supporting structure and associated equipment enclosures. Access to the*

*antenna supporting structure must be controlled by a locked gate. The fence must be constructed in accordance with §515 Fences and Walls, of this ordinance, except that barbed wire construction may be allowed at the discretion of the applicant.*

A 6-foot chain link fence with barbed wire at the top of the fence is proposed by the applicant. The site plan notes that there will be a 12-foot-wide double leaf gate and a 4-foot-wide swing gate for the fenced area. There is also a proposed entrance gate for the drive leading up to the leased area, details of which are shown on the site plan.

**(9) Landscaping**

*Wireless communication facilities and antenna shall be effectively screened to obscure views of the tower base, equipment shelter, security fencing, and/or guy wire anchors from adjacent uses and public rights-of-way. In locations where the visual impact of the tower will be minimal or where existing vegetation or topography provide an effective natural screening, the Planning Commission may modify or waive this requirement.*

The cover letter notes that the existing parcel has pine trees and landscaping along the property lines which provide natural screening. The site plan shows an extensive existing landscape buffer on the south side and in the northwest corner near the proposed tower. More information is needed on any existing or proposed landscaping on the east side of the site facing Zimmerman Road, and additional plantings may be needed if there is insufficient landscaping on this side.

**(10) Signs**

- (a) Except as provided for in (b) and (c) below, no signs may be placed on antenna supporting structures, ancillary appurtenances, equipment enclosures, or on any fence or wall required by this section.*
- (b) If high voltage is necessary for the operation of proposed wireless communications facilities, “High Voltage—Danger” and “No Trespass” warning signs not greater than one (1) square foot in area must be permanently attached to the fence or wall at intervals of at least forty (40) feet and upon the access gate.*
- (c) A sign not greater than one (1) square foot in area must be attached to the access gate that indicates the following information:*
  - (i) Federal registration number, if applicable;*
  - (ii) Name of owner or contact person; and*
  - (iii) Emergency contact number.*

The cover letter states that no signs are proposed for this project except for a sign with the emergency contact information placed on the equipment cabinet door. Also, a sign with the FCC registration number will be located on the fence gate.

**ACTION REQUESTED:**

The applicant has provided some additional information to address the Planning Commission’s questions. However, the proposed tower location still appears to be closer to the existing house than the tower height of 155 feet. This requirement still needs to be met and this issue should be resolved before proceeding. If the applicant is willing to adjust the proposed tower location to meet this requirement, Commissioners may consider scheduling this application for a public hearing.

Following the presentation by the applicant and Commissioner discussion, if the Planning Commission is comfortable with setting a public hearing for this application, then the following motion is suggested:

MOTION THAT application SUP-2024-02, submitted by TowerNorth Development, LLC for a Special Use Permit for a wireless communication facility at 2767 Zimmerman Road, on a portion of Parcel #05-019-001-00, BE SCHEDULED for a public hearing at the August 14, 2024 Planning Commission Regular Meeting.

Any additional information the Planning Commission deems necessary should be added to this motion.

**Attachments:**

1. Comment Response Letter from Applicant dated July 2, 2024
2. Application Cover Letter dated May 9, 2024
3. Exhibit A – Signed Special Use Permit Application dated May 7, 2024
4. Exhibit B – Site Survey dated January 30, 2024
5. Exhibit C – Site Plans dated January 30, 2024
6. Exhibit D – 1/2-Mile Verizon Wireless Search Ring Map
7. Exhibit E – RF Coverage Maps dated April 2024
8. Exhibit F – RF Statement of Network Need dated April 17, 2024
9. Exhibit G – Certified Fall Zone Letter dated April 5, 2024
10. Exhibit H – Structural Design Report dated April 5, 2024
11. Exhibit I – FCC Licenses
12. Exhibit J – Affidavit of Intent to Collocate dated April 16, 2024
13. Exhibit K – Zoning Map
14. Exhibit L – FAA Determination of No Hazard to Air Navigation dated March 4, 2024
15. Exhibit M – Approval Criteria and Impact Assessment Review dated May 9, 2024

July 2, 2024

Charter Township of Garfield  
Attn: Stephen Hannon  
3848 Veterans Drive  
Traverse City, MI 49684

**RE: *Application for Special Use Permit – Proposed Wireless Communication Facility***

Dear Members of the Planning Commission:

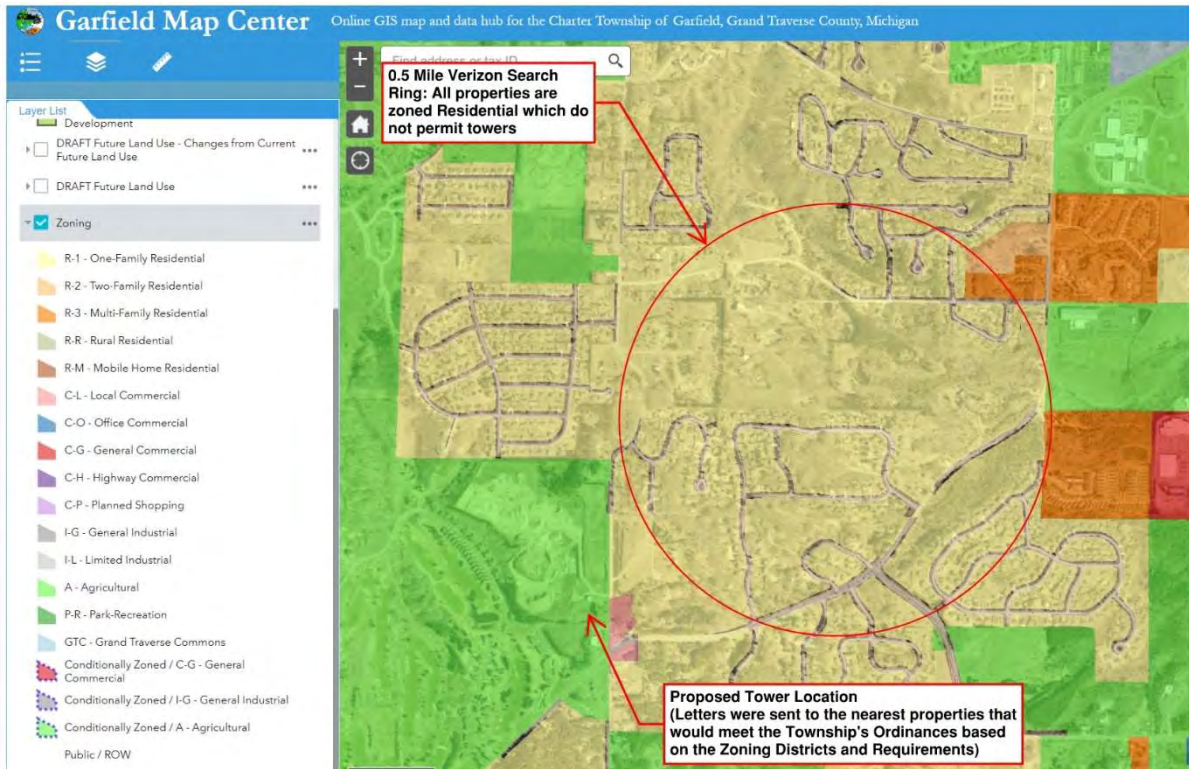
Please see the below responses to the comments received during the Planning Commission meeting held on June 12, 2024. The answers are listed below in bold and are preceded by the comments or questions discussed during the meeting.

1. The Planning Commission requested renderings (photo simulations) of the proposed tower along Zimmerman Road to visualize the tower location and the existing landscaping/screening.  
**Response: Please see the attached existing vs. proposed photo simulations of the proposed tower from four (4) different vantage points along Zimmerman Road. The renderings show the natural screening of the tower provided by the existing landscaping along Zimmerman Road and the South property line. There are no plans to remove the existing large spruce trees for the construction of the wireless communication facility.**
2. The Planning Commission inquired whether a 50ft+ extension for a colocation on the existing Water Tower would be a feasible alternative.  
**Response: The existing water tower does not meet Verizon’s coverage needs in the area based on the height of the water tower. An extension would not be structurally feasible, economically feasible, and would not meet the Township’s ordinances based on the reasons below:**
  - The water tower is roughly 68ft tall which is 87ft shorter than the proposed tower height. The proposed tower height was determined by Verizon’s Radio Frequency (RF) Engineers as the minimum height required to fill in Verizon’s coverage gap and provide better service to the community.
  - During the Planning Commission meeting, the board discussed the future plans to relocate the water tower Southeast of the existing location. If the tower were to be removed or decommissioned at some point, this would result in a loss of coverage to the community, leaving Verizon in the same situation of looking for a new tower location. Since the area is zoned residential and does not permit towers, Verizon would be required to find a new tower location, route new utilities (power and fiber) to the new tower and remove any existing equipment at the water tower site which would be both practically and financially infeasible.
  - Regarding the feasibility of adding a 50ft+ extension to the water tower, the township ordinances (Section 792.A.e) state that we would be required to treat the extension as a new tower since the colocation would “*increase the overall*

*height of the support structure by more than 20ft or 10% of its original approved height, whichever is greater...".* Since the property is zoned residential, which does not permit a new cell tower, we would be required to request a Use Variance since we would not be meeting the township's ordinance. Whereas the location we are proposing in our application does meet the township's ordinances.

- From a construction standpoint, the water tower is not designed to structurally support a 50ft+ steel extension and would require extensive modifications and reinforcements. This would require the existing carrier to remove their equipment on the tower and construct a temporary structure to limit the loss in coverage. Depending on the lease agreement with the existing carrier, they likely also have the first right of refusal any may deny Verizon's request for removing/relocating their equipment in order to construct the extension.
  - The existing water tower is also located in a residential community surrounded by houses (and a few recently constructed new homes), so the addition of a 50ft-87ft extension for the antenna equipment would likely not be welcomed by the existing property owners.
3. The Planning Commission stated their concerns with the distance between the proposed tower and the existing residence on the parcel.
- Response:** TowerNorth is working with both the existing property owner (Frank Bare) and the future property owner (Hexagon Investments, LLC) for this project. The proposed tower location was originally selected by Hexagon Investments and all parties are mutually agreeing to the tower location. If the Planning Commission requires the tower to be setback 155ft from the residence, then we would like to request a waiver/relief of the setback requirement, in order to reduce the setback requirement to 137ft (the current proposed separation from the existing residence). The proposed tower location does meet the setback requirement from all neighboring residential properties and residential zoning districts, which are located along the East and West property lines. The tower will also be designed by a licensed Structural Engineer and is designed to withstand extreme wind loadings. In the event of an extreme weather scenario that would exceed the capacity of the tower, the tower is designed to buckle at certain points along the top half of the tower such that the tower would collapse onto itself within an 80ft fall zone radius.
4. The Planning Commission inquired about how the proposed tower location was selected.
- Response:** When Verizon identifies the need for additional coverage, they will provide us with a search area to either find an existing structure for a colocation or a location for a new tower that would meet their coverage needs. Verizon initially provided the 0.5-mile search radius below, but the area is located entirely within the Residential Zoning District which does not permit cell towers. As a result, we reached out to the nearest property owners in the area that would permit a cell tower based on the zoning ordinances. Based on the interest we received from the property owners, our team selected the proposed location based on Verizon's need and the Township's

ordinances. The proposed location was reviewed by Verizon and was determined to fill in their coverage gaps in this area.



In addition to the comments that were discussed during the Planning Commission meeting, please see our previous responses below addressing the comments from the initial Completeness Review from May 21, 2024 that were not addressed above. Updates to the previous comments are in red.

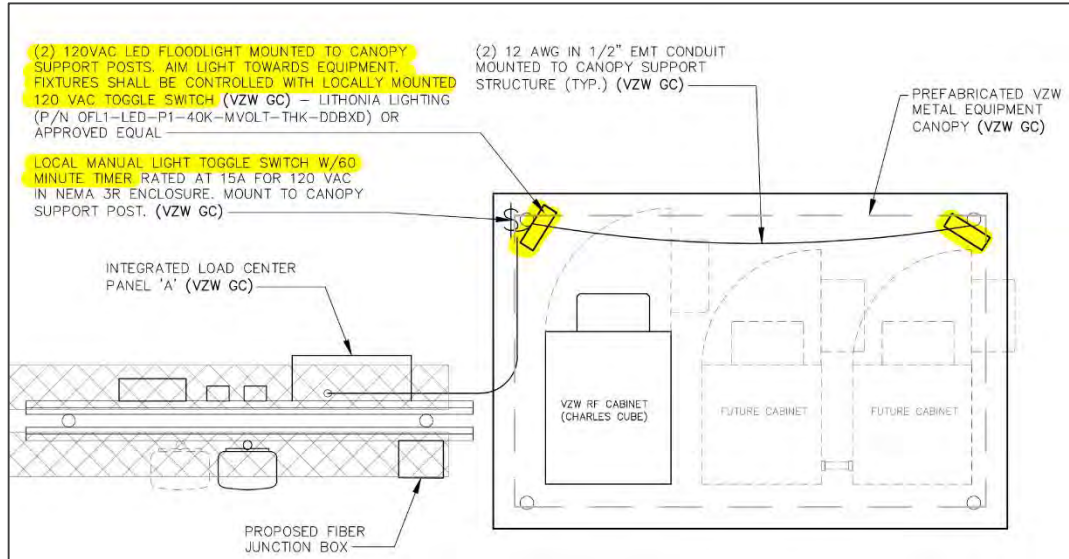
5. Zoning Ordinance Standards – The purpose statement for Section 423 Special Use Permits indicates that every “special use permit application or amendment shall, at a minimum, be required to comply with every requirement contained in each article of this ordinance.” Staff offers comments on the following sections of the Zoning Ordinance:

- a. Lighting – The site plan notes there “are two, low wattage (21W), LED lights proposed as part of this project.” Please provide details on the proposed lighting including cut sheets for the proposed fixtures and a photometric plan to determine if the lighting standards of Section 517 are met.

**Response:** The proposed lights will be located on the equipment canopy/shelter as shown in the example sketch below. The lights are aimed downwards towards the equipment in order to illuminate the area for maintenance personal that may be on site at night. The lights are operated with a toggle switch with a maximum

60-minute timer and would only be on while someone is on site for safety and security purposes. No lighting is proposed on the tower itself.

**07/02/2024 Response: Please see the attached cut sheet for the light fixture. The proposed lights provide 0.5-foot candles at approximately 30ft from the light location based on the mounting height of 8ft above grade with shielding provided by the proposed canopy.**



- b. Stormwater Management – Stormwater shall be detained on site and the stormwater system is subject to review by the Township Engineer. Please provide an escrow application for stormwater review.

**Response: We are reviewing the submittal requirements for the stormwater review and escrow application (stormwater calculations, drainage arrows, and soil information) for our proposed site and we will work directly with the Township Engineer to submit a formal application and/or determine if any additional stormwater management is required.**

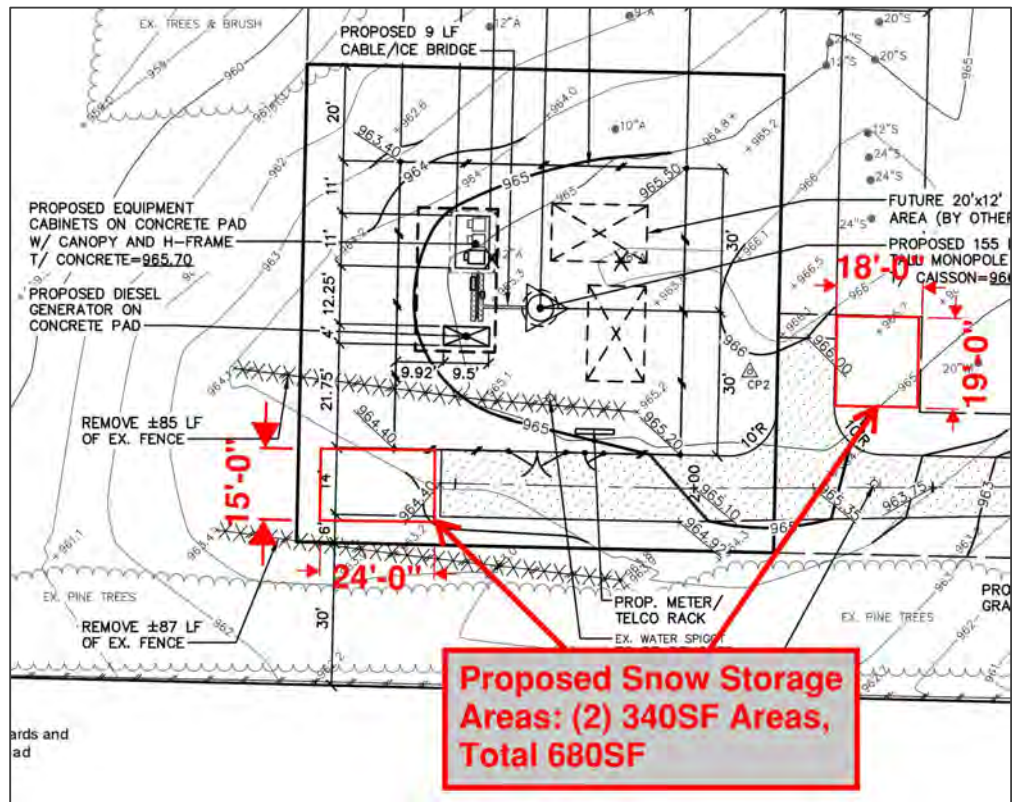
**07/02/2024 Response: We have reached out to the Drain Commissioner on the Stormwater review and permit to ensure that we are meeting the township’s requirement in our stormwater management plans. We will provide the final permit approval prior to submitting any building permit applications.**

- c. Snow Storage – The application indicates that a parking space and turnaround area will be installed to provide adequate parking. Snow storage is required for any parking areas with 2,700 square feet or more as described in Section 551.E(6). This is understood to include maneuvering lanes and drives. The site plan shows a proposed gravel drive which appears to take up at least 2,700 square feet. Please indicate on the site plan an area for the snow storage which meets the standards of Section 551.E(6).



Response: The proposed gravel drive, parking space and turnaround area is approximately +/-3,400 square feet. Per the standards of 551.E(6), a ratio of 10 square feet per 100 square feet shall be used to determine the on-site storage area, which is approximately 340 square feet. Please see the two (2) proposed snow storage areas below located within the lease area and access easement of the wireless facility. Each area is approximately 340 square feet for a total of 680 square feet.

07/02/2024 Response: Please see the attached plans showing the proposed snow storage areas outlined in red.



We trust these responses adequately address your comments. If you have any questions or require any additional information, please reach out to me directly.

Sincerely,

Jaime Mathew

Ph: (630) 487-3489

Email: Jaime.mathew@kimley-horn.com

# Kimley»»Horn

Expect More. Experience Better.

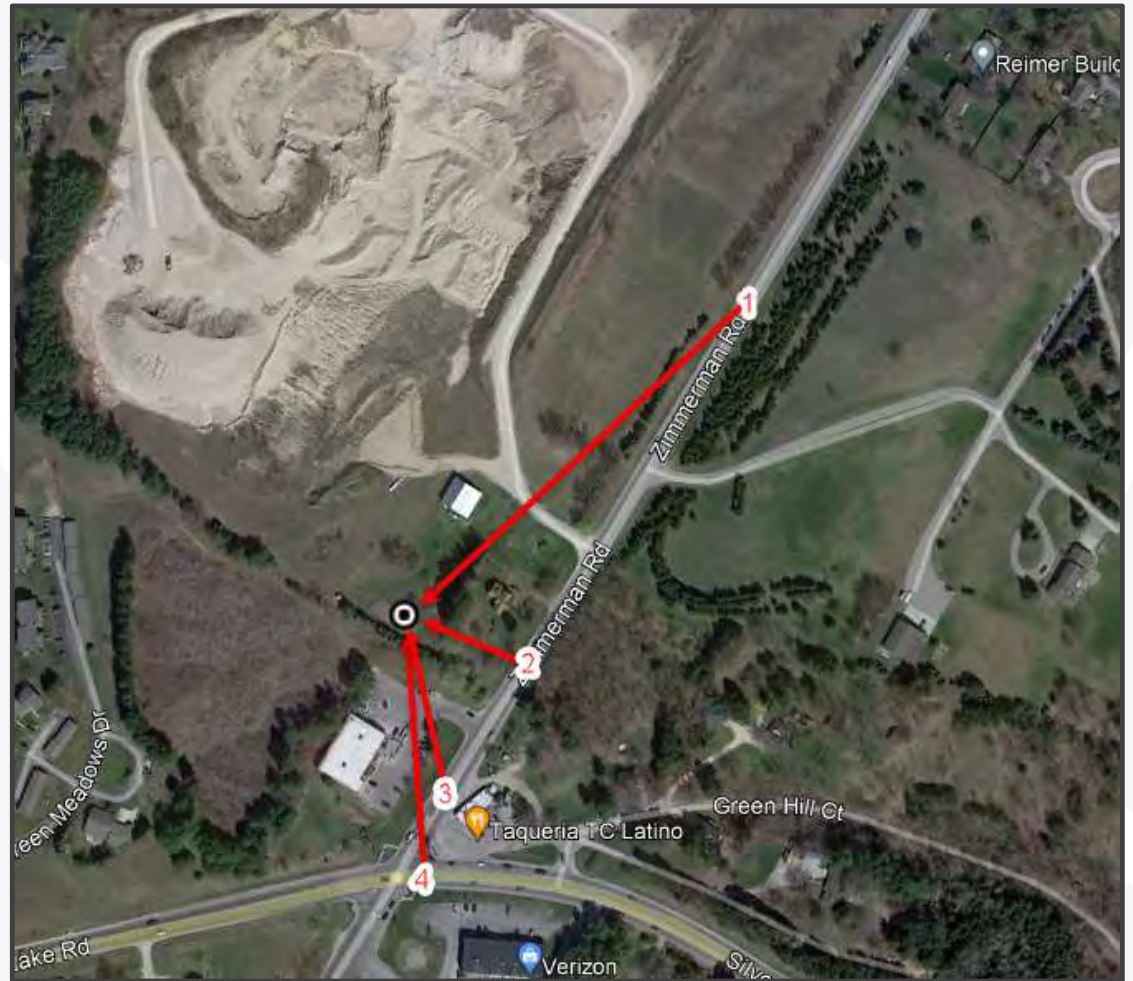
- SITE NAME: TN-MI0004-A SILVER LAKE ROAD
- PROPOSED 155' GUYED TOWER  
(+4' LIGHTNING ROD) 159' OVERALL
- SITE ADDRESS:(Near) 2767 Zimmerman Road, MI 49685
- TOWER LOCATION: 44.726889, -85.677444  
(44.727067, -85.677493 )

## VISUAL IMPACT ANALYSIS

verizon<sup>v</sup>

# AERIAL MAP

- VIEW 1 – LOOKING SW FROM ZIMMERMAN RD  
(Approx 900' from tower)
- VIEW 2 – LOOKING NW AT CENTERLINE OF  
ZIMMERMAN RD  
(Approx 250' from tower)
- VIEW 3 – LOOKING NW FROM ZIMMERMAN RD  
(Approx 350' from tower)
- VIEW 4 – LOOKING NW AT INTERSECTION OF  
ZIMMERMAN RD AND SILVER LAKE ROAD  
(Approx 500' from tower)



## EXISTING VIEW 1

- VIEW 1 – LOOKING SW FROM ZIMMERMAN RD  
(Approx 900' from tower)



## PROPOSED VIEW 1

- VIEW 1 – LOOKING SW FROM ZIMMERMAN RD  
(Approx 900' from tower)



## EXISTING VIEW 2

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- VIEW 2 – LOOKING NW AT CENTERLINE OF ZIMMERMAN RD  
(Approx 250' from tower)



## PROPOSED VIEW 2

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- VIEW 2 – LOOKING NW AT CENTERLINE OF ZIMMERMAN RD  
(Approx 250' from tower)



## EXISTING VIEW 3

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- VIEW 3 – LOOKING NW FROM ZIMMERMAN RD  
(Approx 350' from tower)





## PROPOSED VIEW 3

- VIEW 3 – LOOKING NW FROM ZIMMERMAN RD  
(Approx 350' from tower)



## EXISTING VIEW 4

- VIEW 4 – LOOKING NW AT INTERSECTION OF ZIMMERMAN RD AND SILVER LAKE RD (Approx 500' from tower)



## PROPOSED VIEW 4

- VIEW 4 – LOOKING NW AT INTERSECTION OF ZIMMERMAN RD AND SILVER LAKE RD (Approx 500' from tower)





# OFL Size 1 LED Flood Luminaire



Catalog  
Number

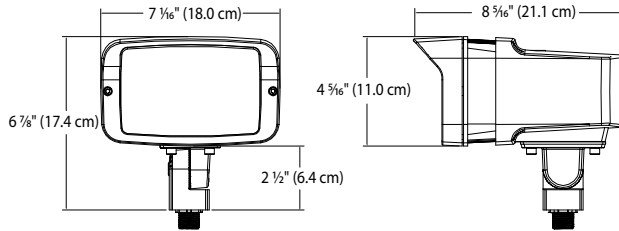
Notes

Type

Hit the Tab key or mouse over the page to see all interactive elements.

## Specifications

<b>EPA:</b>	0.6 ft <sup>2</sup> (.06 m <sup>2</sup> )
<b>Depth:</b>	8.3" (21.1 cm)
<b>Width:</b>	7" (18 cm)
<b>Height:</b>	6.9" (17.4 cm)
<b>Weight:</b>	5 lbs (2.27 kg)



## Introduction

The OFL Size 1 Floodlight delivers up to 4,400 lumens, with a robust design and several mounting options making it perfect for light commercial applications. It's the ideal long-life replacement for 70-150W metal halide floods, with typical energy savings up to 84% and expected service life of over 50,000 hours.

## Ordering Information

**EXAMPLE:** OFL1 LED P1 40K MVOLT YK DDBXD

OFL1 LED	Series	Performance Package	Color Temperature	Voltage	Mounting	Finish (required)
OFL1 LED	P1 <sup>1</sup>		40K <sup>1</sup> 4000K	MVOLT <sup>2</sup>	YK Yoke	DDBXD Dark bronze

## Accessories

Ordered and shipped separately.

DSXF1/2TS DDBXD U	Slipfitter for 1-1/4" to 2-3/8" OD tenons; mates with 1/2" threaded knuckle (specify finish) <sup>2</sup>
FTS CG6 DDBXD U	Slipfitter for 2-3/8" to 2-7/8" OD tenons; mates with yoke mount (specify finish)

## NOTES

- P1 40K not available with THK.
- MVOLT driver operates on any line voltage from 120-277V (50/60Hz).

## FEATURES & SPECIFICATIONS

### INTENDED USE

The traditional and robust design of the OFL1 LED floodlight with energy efficient LEDs, is suitable for replacing up to 150W Metal Halide. It is ideal for landscape, signage, and accent lighting in heavy commercial and residential applications.

### CONSTRUCTION

Die-cast aluminum housing has integral heat sink fins to optimize thermal management through conductive and convective cooling. The LED driver is mounted in direct contact with the casting to promote low operating temperature and long life. Housing is completely sealed against moisture and environmental contaminants (IP65). Low EPA (0.6 ft<sup>2</sup>) for optimized wind loading.

### FINISH

Exterior parts are protected by a zinc-infused Super Durable TGIC thermoset powder coat finish that provides superior resistance to corrosion and weathering.

### ELECTRICAL

Light engine(s) consist of chip-on-board (COB) LEDs directly coupled to the housing to maximize heat dissipation and promote long life (50,000 hrs).

### INSTALLATION

Integral adjustable knuckle with 1/2-14NPS threaded pipe, yoke, or slipfitter attachment, facilitates quick and easy installation to a variety of mounting accessories.

### LISTINGS

UL certified to U.S. and Canadian standards. Luminaire is IP65 rated. Rated for -40°C minimum ambient. DesignLights Consortium® (DLC) qualified product. Not all versions of this product may be DLC qualified. Please check the DLC Qualified Products List at [www.designlights.org/QPL](http://www.designlights.org/QPL) to confirm which versions are qualified.

### WARRANTY

5-year limited warranty. Complete warranty terms located at: [www.acuitybrands.com/support/customer-support/terms-and-conditions](http://www.acuitybrands.com/support/customer-support/terms-and-conditions)

**Note:** Actual performance may differ as a result of end-user environment and application. All values are design or typical values, measured under laboratory conditions at 25 °C. Specifications subject to change without notice.



COMMERCIAL OUTDOOR

One Lithonia Way • Conyers, Georgia 30012 • Phone: 1-800-705-SERV (7378) • [www.lithonia.com](http://www.lithonia.com)  
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OFL1 LED  
Rev. 1/23/20

## Performance Data

### Lumen Output

Lumen values are from photometric tests performed in accordance with IESNA LM-79-08. Data is considered to be representative of the configurations shown, within the tolerances allowed by Lighting Facts. Contact factory for performance data on any configurations not shown here.

Performance Package	System Watts	Dist. Type	Field Angle		Beam Angle		40K		50K	
			°H	°V	°H	°V	Lumens	LPW	Lumens	LPW
P1	21W	WFL	106	106	71	72	2,295	109	2,333	111
P2	45W	WFL	106	106	71	72	4,451	99	4,466	99

### Lumen Ambient Temperature (LAT) Multipliers

Use these factors to determine relative lumen output for average ambient temperatures from 0-40°C (32-104°F).

Ambient	Lumen Multiplier
0°C	1.06
10°C	1.03
20°C	1.01
25°C	1.00
30°C	0.99
40°C	0.97

### Projected LED Lumen Maintenance

Data references the extrapolated performance projections for the **OFL Flood Size 1** platform based on 9000 hours of LED testing (tested per IESNA LM-80-08 and projected per IESNA TM-21-11).

To calculate LLF, use the lumen maintenance factor that corresponds to the desired number of operating hours below. For other lumen maintenance values, contact factory.

Operating Hours	0	25,000	50,000
Lumen Maintenance Factor	1	0.88	0.78

### Electrical Load

Power Package	System Watts	Current (A)				
		120V	208V	240V	277V	347V
P1	21W	0.21	0.12	0.11	0.1	-
P2	45W	0.41	0.24	0.2	0.19	-

## Photometric Diagrams

To see complete photometric reports or download .ies files for this product, visit [Lithonia Lighting's OFL Series Flood Size 1 homepage](#).

## Mounting, Options and Accessories



**THK-Knuckle with 1/2" NPS threaded pipe**

**YK-Yoke mount**

**Slipfitter attachment  
DSXF1/2 TS  
H= 2-1/2" (6.3 cm)  
ID= 2-3/8" (6.0 cm)  
OD= 3-1/2" (8.8 cm)**

R:\3194\MI0004-A (VZ# 4090)\CAD\3194-MI0004-SP1.dwg, 2/27/2024 3:38 PM, Scott G. Fisher, SP1, MCLLC PDF, p.3  
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SCALE: 1" = 30'  
 0 30 60 90



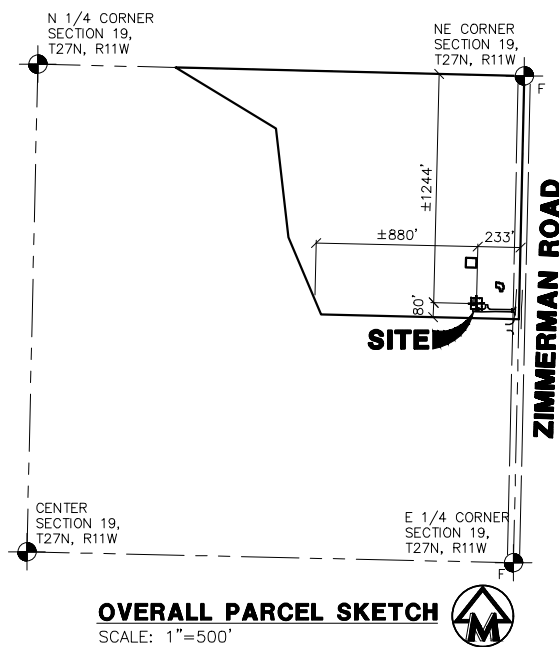
Know what's below.  
 Call before you dig.

**LEGEND**

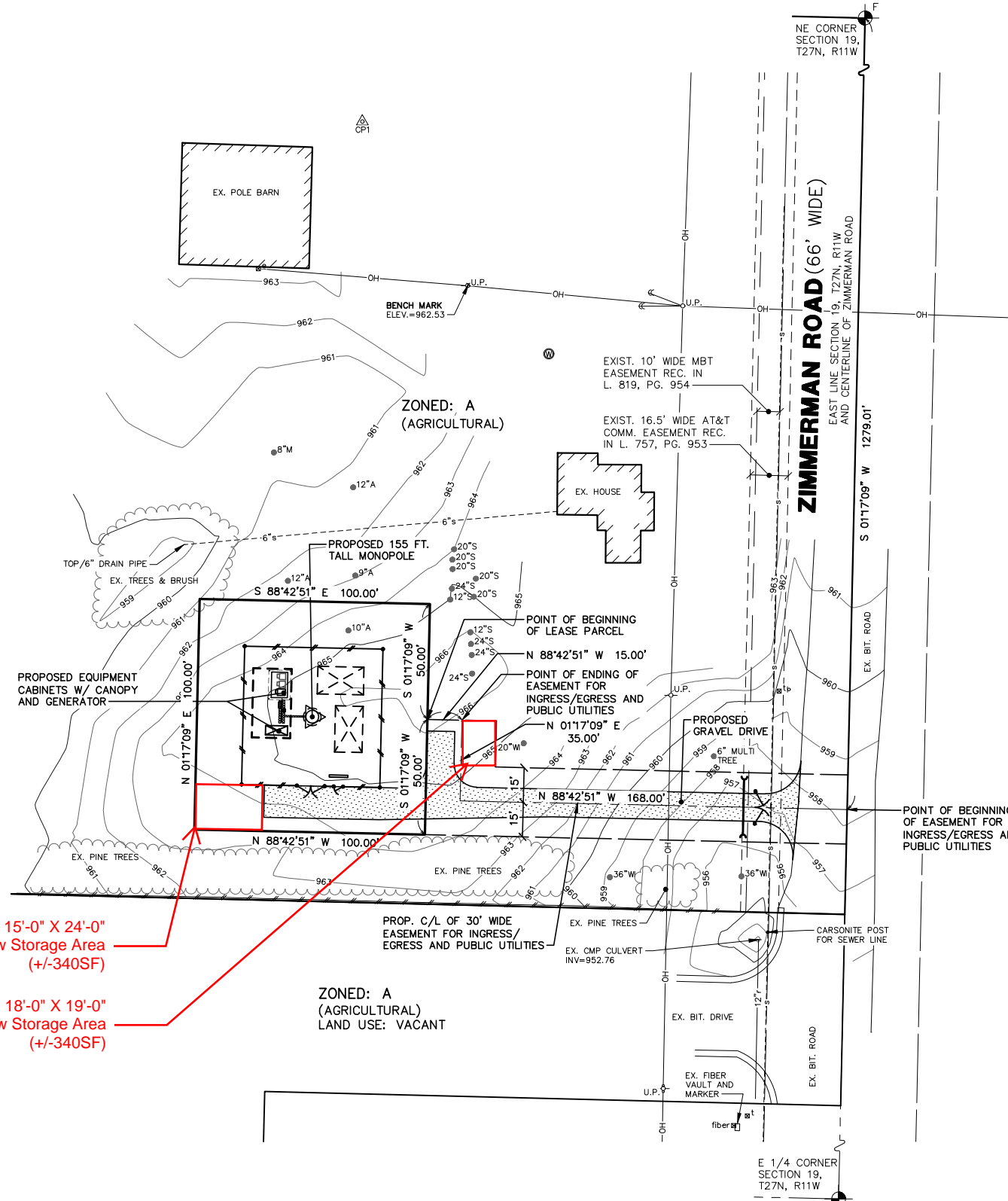
- 921 EXIST. CONTOUR
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- GUY WIRE
- OH EXIST. OVERHEAD UTILITY LINE
- S-S EXIST. SANITARY SEWER
- END SECTION
- HEAD WALL
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- MAILBOX
- SIGN
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- FIBER OPTIC MARKER
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**TREE LEGEND**

- A APPLE
- CR CRABAPPLE
- M MAPLE
- S SPRUCE
- W WILLOW

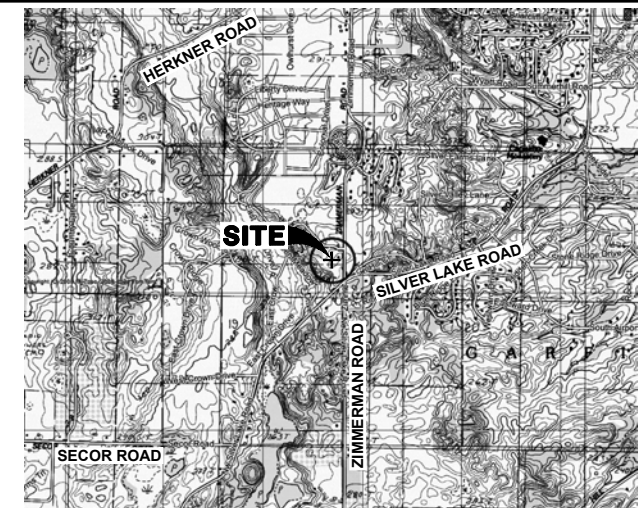


**OVERALL PARCEL SKETCH**  
 SCALE: 1"=500'



Proposed 15'-0" X 24'-0"  
 Snow Storage Area  
 (+/-340SF)

Proposed 18'-0" X 19'-0"  
 Snow Storage Area  
 (+/-340SF)



**VICINITY SKETCH**

SCALE: 1"=2000'

**LOCATION**

LATITUDE 44° 43' 36.8"  
 LONGITUDE 85° 40' 38.8"  
 GROUND ELEV. @ TOWER BASE = 965.90

**LEGAL DESCRIPTION OF LEASE PARCEL**

Commencing at the Northeast corner of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan, thence S 01°17'09" W 1279.01 feet along the east line of said Section 19 (also being the centerline of Zimmerman Road, 66 feet wide); thence N 88°42'51" W 168.00 feet; thence N 01°17'09" E 35.00 feet; thence N 88°42'51" W 15.00 feet to the POINT OF BEGINNING

thence S 01°17'09" W 50.00 feet;  
 thence N 88°42'51" W 100.00 feet;  
 thence N 01°17'09" E 100.00 feet;  
 thence S 88°42'51" E 100.00 feet;  
 thence S 01°17'09" W 50.00 feet to the POINT OF BEGINNING; being a part of the Northeast 1/4 of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan; containing 10,000 square feet, or 0.230 acres of land, more or less; subject to easements and restrictions of record, if any;

Together with a 30 foot easement for ingress, egress and public utilities, the centerline of said easement is described as follows

Commencing at the Northeast corner of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan, thence S 01°17'09" W 1279.01 feet along the east line of said Section 19 (also being the centerline of Zimmerman Road, 66 feet wide) to the POINT OF BEGINNING

thence N 88°42'51" W 168.00 feet;  
 thence N 01°17'09" E 35.00 feet to the POINT OF ENDING; being part of the Northeast 1/4 of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan; except any part taken, deeded or used for public road purposes; and subject to easements and restrictions of record, if any.

**LEGAL DESCRIPTION OF OVERALL PARCEL**

(Taken from Title Report)

Part of the North 1/2 of the Northeast 1/4 of Section 19, T27N, R11W, Commencing at the Southeast corner; thence N 89°37' W 1077.08 feet; thence N 23°59' W 455.36 feet; thence N 07°34' W 595.51 feet; thence N 59°45' W 640.68 feet; thence East on the North section line to the Northeast corner of Section 19; thence South to the Point of Beginning. Except road right of way.

**NOTES**

1. Rotate all bearings 00°55'31" counter-clockwise to obtain bearings based on True North as determined from global positioning system (GPS).
2. This site is not located in a flood area per Flood Insurance Rate Map number 2605C0225C, effective date August 28, 2018.
3. This site plan is based on the survey of the existing conditions conducted by Midwestern Consulting, LLC on 11-30-2023.

**BENCH MARK**

Spike in a utility pole located ±70 feet east of the southeast corner of the existing pole barn and ±198 feet northeast of the proposed monopole  
 Elevation: 962.53 (NAVD 88 Datum)

**PROPERTY INFORMATION**

TAX PARCEL: #05-019-001-00  
 OWNER: FRANK A. BARE  
 2767 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685

CELL SITE ADDRESS:  
 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685

PREPARED BY:  
 MIDWESTERN CONSULTING, L.L.C.

SCOTT G. FISHER P.E. #58473

**APPLICANTS:**  
 TOWN OF NORTH DEVELOPMENT  
 500 CENTER STREET  
 SUITE 301  
 W. BRIDGEWATER, MA 02379  
 (800) 821-5825 x2

**CELL CO. PARTNERSHIP:**  
 VERIZON WIRELESS  
 24242 NORTHWESTERN HWY.  
 SOUTHFIELD, MI 48075  
 (248) 915-3000

**TowerNorth**

**verizon**

**'SILVER LAKE ROAD'**  
**TN SITE #MI0004-A**  
**VZW SITE #4090**

GARFIELD TOWNSHIP  
 GRAND TRAVERSE COUNTY  
 MICHIGAN

REV.	DATE	DESCRIPTION
1	02/27/24	1. DRAWING UPDATES
2	02/26/24	2. DRAWING UPDATES

**MIDWESTERN CONSULTING**

385 Plaza Drive  
 Ann Arbor, Michigan 48108  
 (734) 995-0200  
 www.midwesternconsulting.com

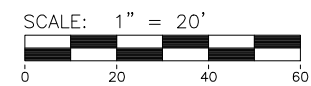
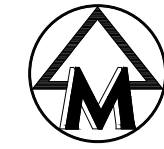
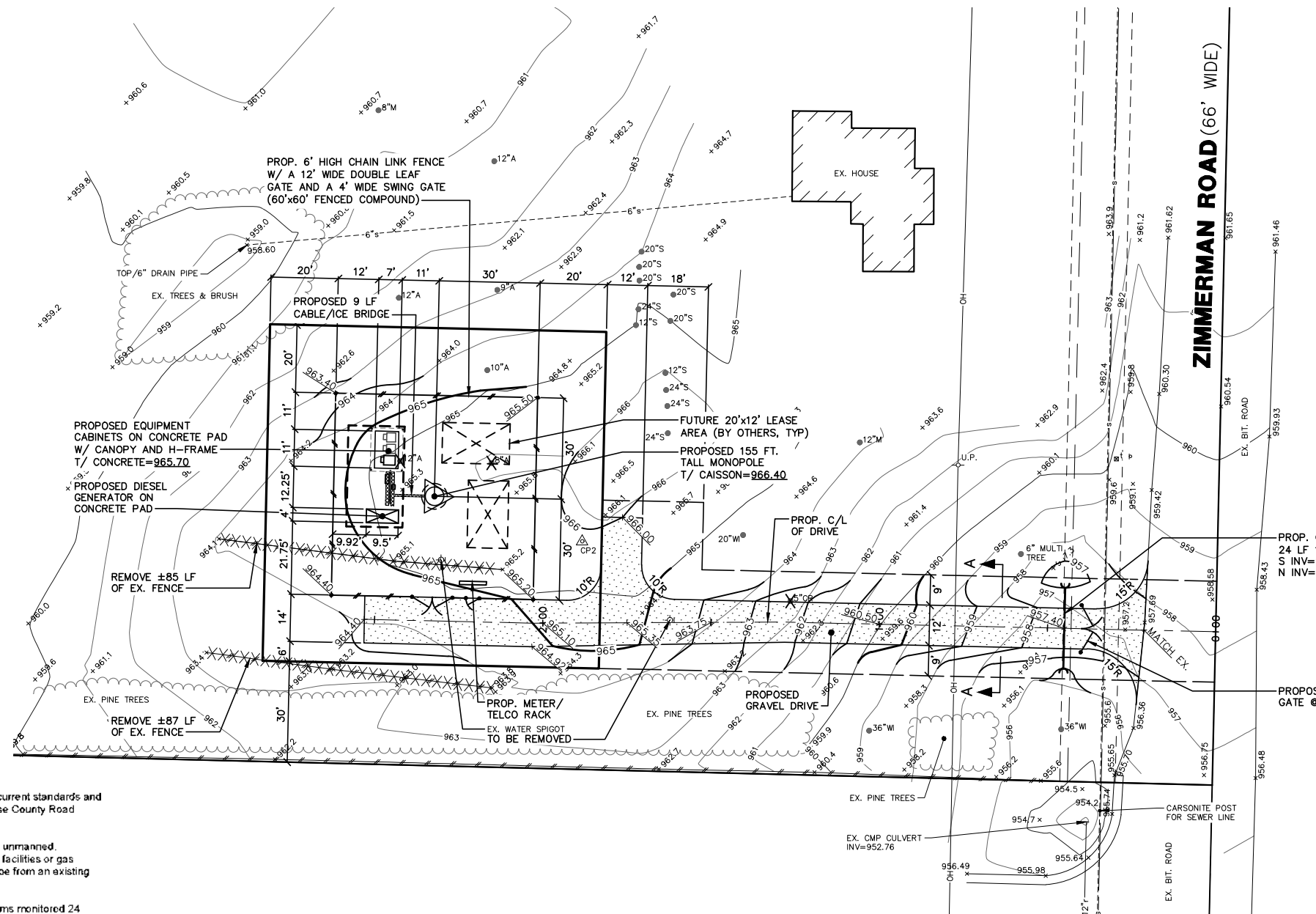
Land Development • Land Survey  
 Institutional • Municipal  
 Wireless Communications  
 Transportation • Landfill Services

**JOB No. 23194-MI0004**

DATE: 01/30/24  
 CADD: BLF  
 ENG: SGF  
 PW: SGF  
 TECH: KMW  
 FILE: 23194\_MI0004-SP1  
 FB#: 552M9

**SITE SURVEY GENERAL INFORMATION**

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**LEGEND**

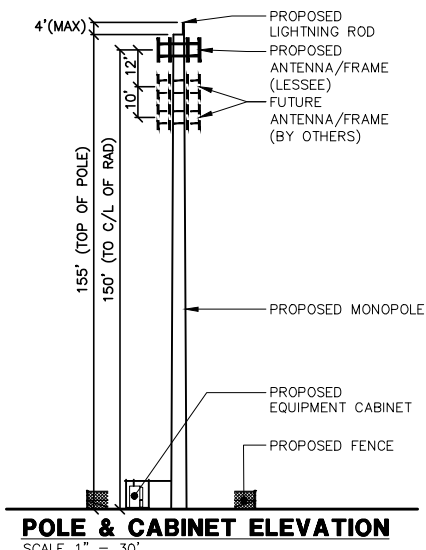
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**TREE LEGEND**

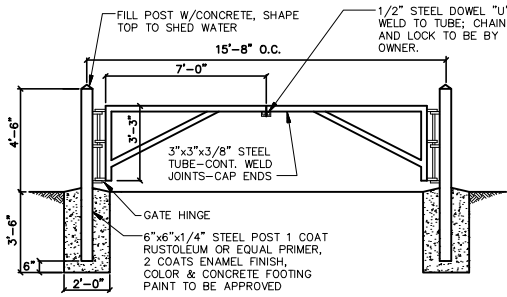
- A APPLE
- CR CRABAPPLE
- M MAPLE
- S SPRUCE
- W WILLOW

**GENERAL NOTES:**

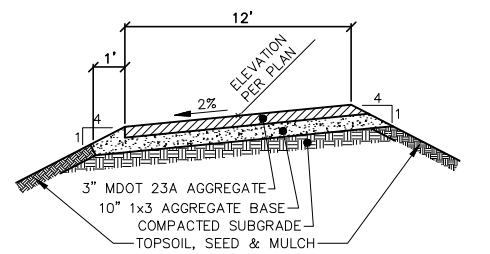
1. All site work construction shall be in accordance with the current standards and specifications of Garfield Township and the Grand Traverse County Road Commission, where applicable.
2. The proposed equipment cabinet is to be a computerized, unmanned, telephone exchange structure. No water service, sanitary facilities or gas service is needed. Telephone and electrical services will be from an existing utility pole or line adjacent to the site.
3. The proposed equipment cabinet is to have security systems monitored 24 hours per day. The cabinet will also be constructed with bullet resistant materials.
4. There are two, low voltage (21W), LED lights proposed as part of this project. The lights are mounted to the canopy support posts, under the canopy opposite from the equipment cabinet. Lights shall be connected to a technician operated on/off switch with a timer with a one-hour maximum lit duration.
5. There are no signs proposed for this project except for:
  - a. Emergency contact information purposes and FCC "call" sign placed on equipment cabinet door;
  - b. FCC registration number located on fence gate
6. The cellular antenna and equipment cabinet will be approved by the Federal Communications Commission (FCC) and will not impact any frequency sensitive devices whatsoever. Buyer warrants no adverse radio interference with adjacent land uses.
7. There are no toxic materials used by Lessee on the site. Lessee has no need for outdoor storage or garbage disposal and pick-up.
8. Tower shall be equipped with an anti-climbing device.
9. Maintenance personnel using van type service vehicles enter and exit the site approximately 2 to 4 times per month. No loading or unloading area is needed by them.
10. All areas disturbed by the construction of the tower and cabinet and driveway shall be restored in kind. Contractor is to provide soil erosion control measures as needed or as directed by owner or government agency having jurisdiction
11. All areas inside of and to 1'-0" outside of the fenced area shall be covered with 3" of crushed limestone placed over "Typa" landscape fabric.
12. Ingress and egress by Lessee's personnel to the site shall be via a proposed gravel drive from Zimmerman Road.
13. The proposed drive shall consist of 3" of MDOT Class 23A crushed limestone aggregate over 10" of 1"x3" crushed concrete or slag over compacted subgrade. The subgrade shall be stripped free of all topsoil and organic material prior to placing aggregate base. Where poor subgrade soils are encountered, a woven geotextile fabric (Miraf 500X or approved equal) shall be placed so that it is a minimum of 2 ft. wider and longer than the drive which is to be constructed over the poor soils.



**POLE & CABINET ELEVATION**  
SCALE 1" = 30'



**ENTRANCE GATE DETAIL**  
SCALE: 1/4" = 1'



**GRAVEL DRIVE CROSS SECTION A-A**  
NOT TO SCALE

**APPLICANTS:**  
 TOWER NORTH DEVELOPMENT  
 300 CENTER STREET  
 SUITE 301  
 W. BRIDGEWATER, MA 02379  
 (800) 821-5825 x2

**TowerNorth**

**verizon**

GARFIELD TOWNSHIP  
 GRAND TRAVERSE COUNTY  
 MICHIGAN

**'SILVER LAKE ROAD'**  
**TN SITE #MI0004-A**  
**VZW SITE #4090**

REV.	DATE	DESCRIPTION
1	02/27/24	DRAWING UPDATES
2	02/26/24	DRAWING UPDATES

**MIDWESTERN CONSULTING**

3855 Plaza Drive  
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Land Development • Land Survey  
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JOB No.	23194-MI0004
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ENG:	SGF
PM:	SGF
TECH:	KMW
FILE:	23194_MI0004-SPT
FB#:	552M9

**SITE PLAN DETAIL**

**2**

SHEET 2 OF 2

May 9, 2024

The Charter Township of Garfield  
3848 Veterans Drive  
Traverse City, MI 49684

**RE: Request for Special Use Permit Approval to locate a Wireless Communication Facility (WCF) at Property Address: 2767 Zimmerman Road, Traverse City, MI 49685**

Dear Members of the Planning Commission:

Please accept this letter, along with the attached documents, as part of our formal application for a Special Use Permit approval from **TowerNorth Development, LLC (TowerNorth)** in conjunction with **Verizon Wireless** to install a 155ft monopole tower and associated antenna equipment within a 60ft x 60ft fenced compound located near 2767 Zimmerman Road, Traverse City, MI 49685 (Parcel ID: 05-019-001-00).

Verizon Wireless is looking to enhance their network and to provide improved cellular data and coverage in the Charter Township of Garfield through the installation of a new wireless communication tower in partnership with TowerNorth. The proposed location will provide high-speed wireless broadband access and enhanced E-911 services to the communities in the area between Long Lake and US-31. The proposed infrastructure provides the opportunity for additional cell carriers to improve and expand their coverage while eliminating the need for additional towers within the surrounding area. The proposed service will also improve the emergency services available to the community.

TowerNorth and Verizon Wireless are seeking a Special Use Permit for the wireless communication facility based on the criteria outlined in **Section 792 of the Charter Township of Garfield Zoning Ordinance (Wireless Communications Facilities and Antennae)**. The property of the proposed wireless communication facility is currently Zoned A (Agricultural) which permits wireless communication facilities as a Special Use in accordance with Table 3-4 of the Zoning Ordinance.

TowerNorth and Verizon Wireless are hopeful that the proposed wireless communication facility will assist the Township with their current and future plans of development: in which we believe are to (1) encourage technology access throughout the Township and (2) ensure that adequate infrastructure including emergency services are available for the healthy economic growth of the area.

To limit the visual impact, the tower will be constructed out of galvanized steel and will be designed for a minimum of two (2) additional collocations. In addition, the tower will conform to and be designed under the Federal guidelines and ANSI standards/specifications of wind & ice loadings. Current traffic will not be affected as the proposed facility is unmanned and unstaffed and may be visited by maintenance personnel approximately 2-4 times per month or as needed for servicing. A proposed access road will be installed off Zimmerman Rd.

The proposed wireless communication facility complies with the Special Use standards stated in **Section 792 Part F: Standards Applicable to All Wireless Communication Facilities and Antennae** of the Zoning Ordinance. The proposed tower and associated equipment will operate in a clean and quiet manner. The facility is completely automated and will not create smoke, fumes, odors, dust, glare, noise pollution, unsanitary conditions, surface drainage problems, environmental



nuisances, traffic congestion, threats to morality or public safety, or any other objectional characteristics offensive to the community. To the contrary, the facility will contribute to the improved safety, convenience, comfort and general welfare of the community by providing enhanced communication capabilities and an emergency communications infrastructure. No water services, sanitary facilities, gas services, or garbage disposal/pick-up services are needed. The existing landscaping will be preserved to the greatest extent possible, and all disturbed areas will be restored in kind. Soil erosion control measures will comply with the terms of the County Soil Erosion and Sedimentation Control Standards.

Please review this letter along with all documentation provided in which TowerNorth intends to comply with the Charter Township of Garfield Zoning Ordinance along with the attached documents as requested in **Section 792 Part D: Submission Requirements** and **Table 7-15: Telecommunications Facility – Submittal Requirements** of the Zoning Ordinance.

## **SECTION 792 WIRELESS COMMUNICATIONS FACILITIES AND ANTENNAE**

### **Section 792.D – Submission Requirements:**

1. The requirements as indicated in Table 7-15 (see page 7-21) must be provided with an application for any wireless communications facility or antennae. The application must be signed by the property owner, the applicant, and a provider who will be placing antennae on the proposed wireless communications facility.  
**Response: Please find the signed application by the property owner, the applicant, and agent in Exhibit A. Please see Exhibit J for the Affidavit of Intent to Collocate provided by Verizon Wireless who will be placing their antenna equipment on the proposed wireless communications facility. Please see our response to the submittal requirements outlined in Table 7-15 below and where each referenced document can be found in our submittal.**
2. The Zoning Administrator in the case of an administrative approval, or the Planning Commission in the case of a SUP application, may modify the submission requirements where it is determined that certain information is not required or useful in determining compliance with the provisions of this ordinance. A decision to modify certain submission requirements must be in writing and made a part of the application file.  
**Response: Noted.**
3. If the property owner is not a provider, the application must include a copy of an executed lease agreement between the applicant or property owner and a provider, or, where no lease agreement has been executed, an affidavit signed by a carrier attesting to an intent to place antennae on the wireless communications facility if the application is approved.  
**Response: A lease agreement between the property owner and TowerNorth is currently being developed. Please see Exhibit J for the Affidavit of Intent to Collocate signed by Verizon Wireless attesting to their intent to install their antenna equipment if the proposed facility is approved.**

**Table 7-15: Telecommunications Facility – Submittal Requirements**

<b>Antenna</b>	<b>Required Submissions</b>	<b>Reference(s)</b>
✓	A complete application on a form provided by the department	Exhibit A – Signed SUP Application
✓	The name, address, and telephone contact information for the owner of any proposed or existing antenna supporting structure, and a statement that such information will be updated annually or upon a change of ownership after the application is approved	Letter of Intent, Exhibit A – Signed SUP Application
✓	A survey of the lot completed by a registered land surveyor that shows all existing uses, structures, and improvements	Exhibit B – Site Survey
✓	A site plan of the property showing all proposed uses, structures and improvements	Exhibit C – Site Plans
✓	Antenna heights and power levels of the proposed facility and all other facilities on the subject property, including a statement of the height above sea level of the highest point of the proposed facility	Exhibit C – Site Plans
✓	A graphical representation, and an accompanying statement, of the search area used to locate the proposed facility	Exhibit D – 1/2-Mile Verizon Wireless Search Ring Map
✓	A graphical representation, and an accompanying statement, of the coverage area planned for the cell to be served by the proposed facility along with a service map showing all existing towers and coverage area for those towers in adjacent sections	Exhibit E – RF Coverage Maps, Exhibit F – RF Statement of Network Need
✓	A radio frequency plot indicating the coverage of existing wireless communications sites, and that of the proposed site sufficient to demonstrate geographic search area, coverage prediction, and design radius	Exhibit E – RF Coverage Maps
✓	A statement by a qualified professional engineer specifying the design structural failure modes of the proposed facility, including proof that the proposed antenna supporting structure has been designed so that, in the event of structural failure, the facility will collapse within the boundaries of the lot on which it is located	Exhibit G – Certified Fall Zone Letter
✓	A stamped or sealed structural analysis of the proposed wireless communications facility prepared by a professional engineer, indicating the proposed and future loading capacity of the facility	Exhibit H – Structural Design Report
✓	Proof of a license (and for broadcast structures, a construction development approval) issued by the FCC to transmit radio signals in the township	Exhibit I – FCC Licenses
✓	A shared use plan, including a statement, which indicates the applicant's intent to allow the co-location of other antenna, provided that the cost of modifying the existing tower is borne by the collocating entity and reasonable compensation, is paid by the co-locating entity. In support of this statement, the applicant will make this information reasonably known to service providers.	Letter of Intent, Exhibit C – Site Plans

**Section F. Standards Applicable to All Wireless Communication Facilities and Antennae**

**1. Number of Facilities to be Minimized**

- a. Generally: Antenna supporting structures must be located in a manner that is consistent with township's interest in land-use compatibility. No antenna supporting structure will be permitted unless the applicant demonstrates that the proposed antenna cannot be accommodated on an existing antenna supporting structure.

**Response: Please see Exhibit E for Verizon's RF coverage maps and Exhibit F for an RF Statement of Network need. Verizon first considers whether an existing tower in the area would resolve the service gap, however, there are no existing towers within a mile of the proposed tower location.**

- b. Letters of coordination: The applicant must provide documentation that a notice was mailed, via certified mail, to all providers or, where applicable, to owners of existing antenna supporting structures, and that the applicant was unable to secure a lease agreement with a provider to allow the placement of the proposed antennae on an existing structure or building within the geographic search area.

**Response: Please see Exhibit D for a map of Verizon's 0.5-mile search area that was used to identify any existing towers or potential locations for a new tower. No existing towers are located within the 0.5-mile search area or within 1.0 mile of the proposed tower location.**

- c. Additional evidence: As appropriate, the following evidence may also be submitted to demonstrate compliance with this section:

- i. That no existing wireless communications facility within the geographic search area meets the applicant's radio frequency engineering or height requirements;
- ii. That no building or structure within the geographic search area has sufficient structural strength to support the applicant's proposed antennae; or
- iii. That there are other limiting factors that render collocated, surface-mounted, or roof mounted facilities unsuitable or unreasonable.

**Response: There are no existing towers within a 1.0-mile radius of the proposed tower location or suitable structures that would meet the required antenna centerline to service the coverage gap. The existing towers outside of this area either already have Verizon collocated on the existing tower or are too close to Verizon's existing sites and would cause issues with overlapping coverage and would not effectively fill the coverage gap in service. The proposed tower location is centrally located between the existing Verizon sites as shown in the RF coverage maps in Exhibit E.**

**2. Construction**

Antenna supporting structures shall be constructed utilizing monopole or freestanding lattice type construction only, unless the applicant is able to demonstrate that such a structure cannot accommodate the proposed or future antennae.

**Response: In compliance with this section, the tower will be designed as a monopole tower type.**

### 3. Setbacks

- a. Antenna supporting structures, equipment enclosures, and ancillary appurtenances must meet the minimum setback requirements for the zoning district in which they are proposed.

**Response: The proposed tower and fenced compound are meeting all setback requirements for the Agricultural (A) district (Front: 30ftt, Side: 20ft, Back: 35ft). The proposed fenced compound, which contains the tower and all equipment enclosures, has the following approximate setbacks: 149ft Front, 30ft Side, and approximately 860ft Back.**

- b. In addition to complying with (a) above, antenna supporting structures must also be set back a distance equal to their overall height from the lot line of any lot that contains a residential use, that is vacant but may be used for residential purposes, or that is within a residential zoning district; however, guy-wire anchors need only comply with the provisions of subsection (a), above.

**Response: The surrounding properties are currently zoned Agricultural (A) with no existing residential uses as shown on the Zoning Map in Exhibit K. In addition, please refer to the tower fall zone letter in Exhibit G that states that the tower is designed to fall within an 80ft radius, which will contain the tower within the proposed property boundaries.**

- c. The setback requirements specified in (a) and (b) above are minimums. Any proposed wireless communication facility or antenna proposed and requiring SUP application and approval may have a greater setback requirement imposed by the Planning Commission if substantiated by a need to minimize the visual, aesthetic, and public safety impacts of the facility or antenna.

**Response: Noted.**

### 4. Accommodation of Future Collocations

- a. Antenna supporting structures must be designed to accommodate future collocations by at least two (2) additional service providers. A notarized statement by the applicant to this effect shall be provided by the applicant. The exact amount of additional equipment to be accommodated will be agreed upon during the application review and approval process.

**Response: The tower is designed to accommodate a minimum of two additional collocations as shown on page 2 of the Site Plans in Exhibit C.**

- b. The proposed location of a wireless communication facility shall be adequately sized and configured to allow the placement of at least two (2) additional communication equipment shelters.

**Response: The facility is designed to accommodate a minimum of two additional collocations as shown on page 2 of the Site Plans in Exhibit C.**

- c. Wireless communication towers shall reserve space on the tower for at least one (1) public safety antenna, and shelter or ground space to accommodate one (1) equipment shelter if deemed necessary.

**Response: TowerNorth will work with the Township to install at least one (1) public safety antenna and ground equipment if deemed necessary.**

- d. As a condition of approval under this article, the applicant must submit a shared use plan that commits the owner of the proposed antenna supporting structure to

accommodate future collocations where reasonable and feasible in light of the criteria set forth in this section.

**Response: TowerNorth, who will be the owner of the tower, has a business plan that aligns with the requirement mentioned. Their goal is to maximize the number of collocators on this structure. Additionally, the Federal Telecommunication Act of 1996 mandates that structures must allow for collocation.**

- e. The provisions of (a) through (d) above shall not apply to Residential Facilities.

**Response: Noted.**

#### 5. **Equipment Shelter Design and Height**

The design and materials used in the construction of the equipment shelter shall, to the extent possible, blend the structure with the surrounding built or natural environment. The equipment shelter shall not exceed fifteen (15) feet in height.

**Response: In compliance with this section, the ground equipment will be under 15ft in height. No buildings or equipment shelters are proposed. Existing pine trees to the south of the tower will provide natural screening from the neighboring parcel.**

#### 6. **Lighting**

- a. No lights, signals, or other illumination will be permitted on any antenna supporting structure or ancillary appurtenances unless the applicant demonstrates that lighting is required by the Federal Aviation Administration (FAA), the Federal Communications Commission (FCC), or the Michigan Department of Transportation Bureau of Aeronautics (MDOT-BOA). No existing facility or antenna shall be modified in any way which would cause the structure to require lighting unless a SUP is first approved permitting such modification and lighting.

**Response: Please see Exhibit L for the FAA Determination of No Hazard to Air Navigation. As part of this evaluation, marking and lighting of the tower is not necessary for aviation safety. However, if the FAA determines at any time that the facility needs to be lit, then we will be required to comply with all federal regulations. In addition, we will provide the Township notice of any requirements.**

- b. Site lighting shall comply with the lighting standards of this Ordinance.

**Response: The proposed site will comply with the lighting standards of this ordinance.**

#### 7. **Color**

Antenna supporting structures and ancillary appurtenances, including transmission lines, must maintain a galvanized grey finish or other contextual or compatible color as determined by the township, except as otherwise required by the FAA, the FCC, or the MDOT-BOA.

**Response: In compliance with this section, the tower will be designed with galvanized steel and the proposed antennas will be off-white to grey in color. The proposed cables will be routed within the monopole tower but would be grey to black in color.**

#### 8. **Fencing**

A fence of at least six (6) feet in height from finished grade must be installed in order to enclose the base of the antenna supporting structure and associated equipment enclosures. Access to

the antenna supporting structure must be controlled by a locked gate. The fence must be constructed in accordance with §515 Fences and Walls, of this ordinance, except that barbed wire construction may be allowed at the discretion of the applicant.

**Response: Please see the Site Plans in Exhibit C for the location and design of the proposed fence enclosing the tower and associated ground equipment. A 6ft chain-link fence with barbed wire at the top of the fence is proposed. The existing trees lining the south property line and road frontage will provide natural screening for the proposed ground equipment.**

**9. Landscaping**

Wireless communication facilities and antenna shall be effectively screened to obscure views of the tower base, equipment shelter, security fencing, and/or guy wire anchors from adjacent uses and public rights-of-way. In locations where the visual impact of the tower will be minimal or where existing vegetation or topography provide an effective natural screening, the Planning Commission may modify or waive this requirement.

**Response: The existing parcel has pine trees and landscaping along the property lines near the proposed tower location which will provide natural screening of the tower and ground equipment from the surrounding properties and public right-of-way.**

**10. Signs**

- a. Except as provided for in (b) and (c) below, no signs may be placed on antenna supporting structures, ancillary appurtenances, equipment enclosures, or on any fence or wall required by this section.
- b. If high voltage is necessary for the operation of proposed wireless communications facilities, "High Voltage—Danger" and "No Trespass" warning signs not greater than one (1) square foot in area must be permanently attached to the fence or wall at intervals of at least forty (40) feet and upon the access gate.
- c. A sign not greater than one (1) square foot in area must be attached to the access gate that indicates the following information:
  - i. Federal registration number, if applicable;
  - ii. Name of owner or contact person; and
  - iii. Emergency contact number.

**Response: There are no signs proposed for this project except for a sign with the emergency contact information placed on the equipment cabinet door. A sign with the FCC registration number will be located on the fence gate. If the federal, state, or local agency requires any additional signage, the proposed wireless facility will comply with their requirements.**

**Section J. Abandonment**

1. **Notice of abandonment:** In the event that all legally approved use of an antenna supporting structure or antenna has been discontinued for a period of six (6) months, the Zoning Administrator may make a preliminary determination of abandonment. In making such a determination, the Zoning Administrator may request documentation and/or affidavits from the property owner regarding the structure's usage, including evidence that use of the structure is imminent. Failure on the part of a property owner to provide updated contact information for


- the owner of the antenna supporting structure for four consecutive years will be presumptive evidence of abandonment. At such time as the Zoning Administrator reasonably determines that an antenna supporting structure or antenna has been abandoned, the Zoning Administrator will provide the property owner with a written notice of abandonment by certified mail.
2. **Declaration of abandonment:** Failure on the part of the property owner to respond to the notice of abandonment within ninety (90) days, or to adequately demonstrate that the structure is not abandoned, will be evidence of abandonment. Based on the foregoing, or on any other relevant evidence before the Zoning Administrator, the Zoning Administrator may make a final determination of abandonment, whereupon a declaration of abandonment will be issued to the property owner by certified mail.
  3. **Removal of facility:** Within one hundred and twenty (120) days of a declaration of abandonment, the property owner must either:
    - a. Reactivate the use of the structure as a wireless communications facility or transfer ownership of the structure to another owner who will make such use of the facility; or
    - b. Dismantle and remove the facility. If the facility remains abandoned upon the expiration of one hundred and twenty (120) days, the township may enter upon the property and remove the facility, with all costs to be borne by the property owner.

**Response: TowerNorth will comply with the ordinance above and will work with the township if any of these issues present themselves. If the owner of the wireless communication facility changes, the new tower owner will provide the updated contact information to the Township for their records.**

In summary, we believe that the proposed wireless communication facility meets the intent of the Charter Township of Garfield Zoning Ordinance for Wireless Communication Facilities found in Section 792 and have provided the necessary information and documents to the Planning Department. We appreciate your review and consideration for a Special Land Use approval.

If you have any questions or require any additional information, please reach out to me directly.

Sincerely,



**Jaime Mathew, P.E. (IL)**  
**Kimley-Horn and Associates, Inc.**  
**Ph: (630) 487-3489**  
**Email: [jaime.mathew@kimley-horn.com](mailto:jaime.mathew@kimley-horn.com)**



# Charter Township of Garfield

## Grand Traverse County

3848 VETERANS DRIVE  
TRAVERSE CITY, MICHIGAN 49684  
PH: (231) 941-1620 • FAX: (231) 941-1588

### SPECIAL USE PERMIT (SUP) APPLICATION

#### ASSISTANCE

This application must be completed in full. An incomplete or improperly prepared application will not be accepted and will result in processing delays. Before submitting an application, it is recommended that you contact the Planning and/or Zoning Department to arrange an appointment to discuss your proposed application. Time is often saved by these preliminary discussions. For additional information or assistance in completing this development application, please contact the Planning Department at (231) 941-1620.

#### ACTION REQUESTED

- New Special Use Permit  
 Major Amendment  
 Minor Amendment  
 Administrative Amendment

#### PROJECT / DEVELOPMENT NAME

MI0004-A Silver Lake Road

#### APPLICANT INFORMATION

Name: TowerNorth Development, LLC  
Address: 750 West Center Street, Suite 301, West Bridgewater, Massachusetts 02379  
Phone Number: 888-315-0220  
Email: jfrancisco@towernorth.com

#### AGENT INFORMATION

Name: Jaime Mathew w/ Kimley-Horn and Associates, Inc.  
Address: 4201 Winfield Road, Suite 600, Warrenville, IL 60555  
Phone Number: 630-487-3489  
Email: jaime.mathew@kimley-horn.com

#### OWNER INFORMATION

Name: Frank A Bare  
Address: 2767 Zimmerman Road, Traverse City, MI 49685  
Phone Number: 231-590-7827  
Email: N/A



**CONTACT PERSON**

Please select one person to be contact person for all correspondence and questions:

<i>Applicant:</i>	James Francisco (jfrancisco@townorth.com)
<i>Agent:</i>	Jaime Mathew (jaime.mathew@kimley-horn.com)
<i>Owner:</i>	Mathew Alpers (231-218-0739) / Frank Bare (231-590-7827)

**PROPERTY INFORMATION**

<i>Property Address:</i>	2767 Zimmerman Road, Traverse City, MI 49685	
<i>Property Identification Number:</i>	05-019-001-00	
<i>Legal Description:</i>	See attached.	
<i>Zoning District:</i>	Agricultural (A)	
<i>Master Plan Future Land Use Designation:</i>	Low Density Residential	
<i>Area of Property (acres or square feet):</i>	42.25 acres	
<i>Existing Use(s):</i>	Commercial - Excavating Business, Residential	
<i>Proposed Use(s):</i>	Wireless Communication Facility	

**PROJECT TIMELINE**

<i>Estimated Start Date:</i>	October 2024
<i>Estimated Completion Date:</i>	December 2024

**REQUIRED SUBMITTAL ITEMS**

A complete application for a Special Use Permit consists of the following:

Application Form:

- One original signed application
- One digital copy of the application (PDF only)

Application Fee:

Fees are established by resolution of the Garfield Township Board and are set out in the current Fee Schedule as listed on the Planning Department page of the Township website (<http://www.garfield-twp.com>). Please make check out to Charter Township of Garfield.

- Fee

Escrow Fee:

Additional fees may be required if a review by independent professional help is deemed necessary by the Township. If required, such additional fees must be placed in escrow by the applicant in accordance with the escrow policies of the Township and prior to any further processing of this application. Any unused escrow funds shall be returned to the applicant. Please complete an Escrow and Review (ER) Application form.

Site Development Plan:

- Ten complete stapled 11"x17" paper sets (Administrative Amendments require one copy)
- Two complete bound 24"x36" paper sets
- One digital set (PDF only)

Written Information:

- Ten paper copies of the Approval Criteria (Administrative Amendments require one copy)
- One digital copy of the Approval Criteria (PDF only)
- Ten paper copies of the Impact Assessment (Administrative Amendments require one copy)
- One digital copy of the Impact Assessment (PDF only)

Digital items to be delivered via email or USB flash drive

### SUBMITTAL DEADLINE

Submittal deadlines are listed on the Planning Department page of the Township website (<http://www.garfield-twp.com>). Please note that the listed dates are the deadlines after which submittals will not be considered for the indicated meeting. Any errors or missing information on an application submitted at the deadline will result in a delay in the processing of the application. An earlier submittal is encouraged to avoid possible delays.

### WAIVERS

Submittal Waiver:

At the discretion of the Director of Planning, a Site Development Plan may be waived in any of the following cases when it is determined that the submission would serve no useful purpose:

1. The erection or enlargement of an accessory structure;
2. The enlargement of a principal building by less than 20 percent of its existing gross floor area, provided such enlargement will not result in a requirement for additional off-street parking;
3. A change in principal use where such change would not result in an increase in impervious surface area, additional off-street parking, site access, other external site characteristics or a violation of this ordinance.

Data Waiver:

The Director of Planning may waive a particular element of information or data otherwise required for a Site Development Plan upon a finding that the information or data is not necessary to determine compliance with this ordinance or that such information or data would not bear on the decision of the approval authority.

### SITE PLAN

Check that your site plan includes all required elements for a Site Development Plan (SDP). Please use the Required Site Plan Elements Checklist below.

### APPROVAL CRITERIA

Indicate, on a separate sheet of paper, how the proposed special use will comply with, meet, or facilitate each of the following Approval Criteria from § 423.E of the Zoning Ordinance. The Planning Commission must determine that each of these criteria are satisfied in order to grant approval of a Special Use Permit. A special use is permitted only if the applicant demonstrates that special use is permitted only if the applicant demonstrates that:

- The proposed use will be consistent with the purpose and intent of the master plan and this ordinance, including all regulations of the applicable zoning district;

- The proposed use will be designed, constructed, operated and maintained so as to be compatible, harmonious and appropriate with the existing or planned character and uses of the neighborhood, adjacent properties and the natural environment;
- The proposed use will not be detrimental, hazardous or disturbing to existing or future adjacent uses or to the public welfare by reason of excessive traffic, noise, dust, gas, smoke, vibration, odor, glare, visual clutter, electrical or electromagnetic interference;
- Potential adverse effects arising from the proposed use on the neighborhood and adjacent properties will be minimized through the provision of adequate parking, the placement of buildings, structures and entrances, as well as the provision and location of screening, fencing, landscaping, buffers or setbacks;
- The proposed use will retain as many natural features of the property as practicable, particularly where the natural features assist in preserving the general character of the neighborhood;
- Adequate public and private infrastructure and services such as streets, water and sewage facilities, drainage structures, police and fire protection, and schools, already exist or will be provided without excessive additional requirements at public cost;
- The establishment, maintenance, or operation of the proposed use shall not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;
- The public interest and welfare supporting the proposed use shall be sufficient to outweigh individual interests that are adversely affected by the establishment of the proposed use;
- Adequate measures shall be taken to provide ingress and egress so designed as to minimize traffic hazards and to minimize traffic congestion on the public roads;
- Adequate measures shall be taken to provide vehicular and pedestrian traffic within the site, and in relation to streets and sidewalks servicing the site in a safe and convenient manner; and
- The proposed use shall not impede the orderly development and improvement of surrounding property for uses permitted within the zoning district.

#### IMPACT ASSESSMENT

A written impact statement to include the following information:

- A written illustrative description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.
- Types of uses and other man-made facilities.
- The number of people to be housed, employed, visitors or patrons and vehicular and pedestrian traffic.
- Phasing of the project including ultimate development proposals.
- Natural features which will be retained, removed and/or modified including vegetation, drainage, hillsides, streams wetlands, woodlands, wildlife and water. The description of the areas to be changed shall include their effect on the site and adjacent properties. An aerial photo may be used to delineate the areas of change.
- The method to be used to serve the development with water and sanitary sewer facilities.
- The method to be used to control drainage on the site and from the site. This shall include runoff control during periods of construction.
- If the public sewers are not available to the site, the Applicant shall submit a current approval from the Health Department or other responsible public agency indicating approval of plans for sewage treatment.

- The method to be used to control any increase in effluent discharge to the air or any increase in noise level emanating from the site. Consideration of any nuisance that would be created within the site or external to the site whether by reason of dust, noise, fumes vibration, smoke or lights.
- An indication of how the proposed use conforms with existing and potential development patterns and any adverse effects.
- The proposed density in units per acre for residential developments.
- Name(s) and address(es) of person(s) responsible for preparation of statement.
- Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the County Soil Erosion and Sedimentation office.
- Type, direction, and intensity of outside lighting.
- General description of deed restrictions, if any.

ADDITIONAL INFORMATION

If applicable, provide the following further information:

	<u>Yes</u>	<u>No</u>	<u>Not Applicable</u>
A. <u>Sanitary Sewer Service</u>			
1. Does project require extension of public sewer line?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will a community wastewater system be installed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, provide construction plans and specifications			
3. Will on-site disposal be used?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, is it depicted on plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
B. <u>Water Service</u>			
1. Does project require extension of public water main?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Will a community water supply be installed?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, has a Utility Agreement been prepared?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If yes, provide construction plans and specifications			
C. <u>Public utility easements required?</u>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
If yes, show on plan.			
D. <u>Stormwater Review/Soil Erosion</u>			
1. Soil Erosion Plans approved by Soil Erosion Office?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If so, attach approval letter.			
If no, are alternate measures shown?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
2. Stormwater Plans approved by Township Engineer?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
If so, attach approval letter.			
If no, are alternate measures shown?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

Note: Alternate measures must be designed and sealed by a registered Engineer.

E. Roads and Circulation

- |   |                                     |                                     |                                     |
|---|-------------------------------------|-------------------------------------|-------------------------------------|
| 1. Are interior public streets proposed?                                  | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| If yes, has Road Commission approved (attach letter)?                     | <input type="checkbox"/>            | <input type="checkbox"/>            | <input checked="" type="checkbox"/> |
| 2. Will public streets connect to adjoining properties or future streets? | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 3. Are private roads or interior drives proposed?                         | <input checked="" type="checkbox"/> | <input type="checkbox"/>            | <input type="checkbox"/>            |
| 4. Will private drives connect to adjoining properties service roads?     | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| 5. Has the Road Commission or MDOT approved curb cuts?                    | <input type="checkbox"/>            | <input checked="" type="checkbox"/> | <input type="checkbox"/>            |
| If yes, attach approved permit.   |                                     |                                     |                                     |

OTHER INFORMATION

If there is any other information that you think may be useful in the review of this application, please attach it to this application or explain it on a separate page.

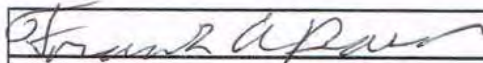
REVIEW PROCESS

- Upon submittal of this application, Staff will review the materials submitted and will, within ten (10) working days, forward a determination of completeness to the applicant. If the submission is incomplete or noncompliant with the Zoning Ordinance, it will be returned to the applicant for revision. Once the submission is revised, Staff will again review it for completeness and again forward a determination to the applicant within ten (10) working days. This procedure shall be repeated until a complete submission is received.
- Once the application is deemed to be complete and submitted according to the application deadlines, it will be forwarded to the Planning Commission for review. The Planning Commission will determine if the application is complete and schedule a public hearing.
- Upon holding a public hearing, the Planning Commission may approve, approve with conditions, or deny the proposed special use.
- If approved or approved with conditions, the decision of the Planning Commission shall be incorporated into a written report and decision order.

PERMISSION TO ENTER SUBJECT PROPERTY

Permission is hereby granted to Garfield Township staff and Planning Commissioners to enter the premises subject to this application for the purposes of making inspections associated with this application, during normal and reasonable working hours.

Owner Signature:



Applicant Signature:

Agent Signature:

Jaime Mathew Digitally signed by Jaime Mathew  
DN: cn=Jaime Mathew, email=jaime.mathew@township-garfield.com, o=Garfield Township, ou=Garfield Township, c=US

Date:

5/7/2024

OWNER'S AUTHORIZATION

If the applicant is not the registered owner of the lands that is the subject of this application, the owner(s) must complete the authorization set out below.

I/We Frank Bare authorize to make this application on my/our behalf and to provide any of my/our personal information necessary for the processing of this application. Moreover, this shall be your good and sufficient authorization for so doing.

Owner Signature:

Frank A Bare

Date:

5/7/2024

AFFIDAVIT

The undersigned affirms that he/she or they is (are) the owner, or authorized agent of the owner, involved in the application and all of the information submitted in this application, including any supplemental information, is in all respects true and correct. The undersigned further acknowledges that willful misrepresentation of information will terminate this permit application and any permit associated with this document.

Owner Signature:

Frank A Bare

Date:

Applicant Signature:

Date:

5/7/2024

Required Site Plan Elements Checklist (See § 956 of the Zoning Ordinance) Site Diagram (SD) / Administrative Site Plan (ASP) / Site Development Plan (SDP)	SD	ASP/ SDP
<b>A. Basic Information</b>		
1. Applicant's name, address, telephone number and signature	<input type="checkbox"/>	<input type="checkbox"/>
2. Property owner's name, address, telephone number and signature	<input type="checkbox"/>	<input type="checkbox"/>
3. Proof of property ownership	<input type="checkbox"/>	<input type="checkbox"/>
4. Whether there are any options or liens on the property	<input type="checkbox"/>	<input type="checkbox"/>
5. A signed and notarized statement from the owner of the property that the applicant has the right to act as the owner's agent	<input type="checkbox"/>	<input type="checkbox"/>
6. The address and/or parcel number of the property, complete legal description and dimensions of the property, setback lines, gross and net acreages and frontage	<input type="checkbox"/>	<input type="checkbox"/>
7. A vicinity map showing the area and road network surrounding the property	<input type="checkbox"/>	<input type="checkbox"/>
8. Name, address and phone number of the preparer of the site plan	<input type="checkbox"/>	<input type="checkbox"/>
9. Project title or name of the proposed development	<input type="checkbox"/>	<input type="checkbox"/>
10. Statement of proposed use of land, project completion schedule, any proposed development phasing	<input type="checkbox"/>	<input type="checkbox"/>
11. Land uses and zoning classification on the subject parcel and adjoining parcels	<input type="checkbox"/>	<input type="checkbox"/>
12. Seal of the registered engineer, architect, landscape architect, surveyor, or planner who prepared the plan, as well as their name, address and telephone number	<input type="checkbox"/>	<input type="checkbox"/>
<b>B. Site Plan Information</b>		
1. North arrow, scale, and date of original submittal and last revision	<input type="checkbox"/>	<input type="checkbox"/>
2. Boundary dimensions of natural features	<input type="checkbox"/>	<input type="checkbox"/>
3. Natural features such as woodlots, water bodies, wetlands, high risk erosion areas, slopes over twenty-five percent (25%), beach, drainage, and similar features	<input type="checkbox"/>	<input type="checkbox"/>
4. Proposed alterations to topography and other natural features	<input type="checkbox"/>	<input type="checkbox"/>
5. Existing topographic elevations at two-foot intervals except shown at five-foot intervals where slopes exceed 18%	<input type="checkbox"/>	<input type="checkbox"/>
6. Soil erosion and sediment control measures as required by the Grand Traverse County Soil Erosion Department.	<input type="checkbox"/>	<input type="checkbox"/>
7. The location, height and square footage of existing and proposed main and accessory buildings, and other existing structures	<input type="checkbox"/>	<input type="checkbox"/>
8. Location and specifications for any existing or proposed (above or below ground) storage facilities for any chemicals, salts, flammable materials, or hazardous materials. Include any containment structures or clear zones required by county, state or federal government authorities	<input type="checkbox"/>	<input type="checkbox"/>
9. Proposed finish floor and grade line elevations of any structures <i>*Required only for habitable construction within the floodplain on site diagrams and administrative site plans.</i>	<input type="checkbox"/> *	<input type="checkbox"/>
10. Existing and proposed driveways, including parking areas	<input type="checkbox"/>	<input type="checkbox"/>
11. Neighboring driveways and other vehicular circulation features adjacent to the site	<input type="checkbox"/>	<input type="checkbox"/>
12. A dimensional plan indicating the location, size and number of parking spaces of the on-site parking areas, and shared parking areas	<input type="checkbox"/>	<input type="checkbox"/>
13. Identification and dimensions of service lanes and service parking, snow storage areas, loading and unloading and docks	<input type="checkbox"/>	<input type="checkbox"/>
14. Proposed roads, access easements, sidewalks, bicycle paths, and other vehicular and pedestrian circulation features within and adjacent to the site	<input type="checkbox"/>	<input type="checkbox"/>
15. Location of and dimensions of curb cuts, acceleration, deceleration and passing lanes	<input type="checkbox"/>	<input type="checkbox"/>
16. Location of neighboring structures that are close to the parcel line or pertinent to the proposal	<input type="checkbox"/>	<input type="checkbox"/>
17. Location of water supply lines and/or wells	<input type="checkbox"/>	<input type="checkbox"/>
18. Location of sanitary sewer lines and/or sanitary sewer disposal systems	<input type="checkbox"/>	<input type="checkbox"/>
19. Location, specifications, and access to a water supply in the event of a fire emergency	<input type="checkbox"/>	<input type="checkbox"/>
20. Sealed (2) stormwater plans including the location and design of storm sewers, retention or detention ponds, swales, wastewater lines, clean out locations, connection points and treatment systems	<input type="checkbox"/>	<input type="checkbox"/>
21. A utility plan including the location of all other utilities on the site including but not limited to natural gas, electric, cable TV, telephone and steam	<input type="checkbox"/>	<input type="checkbox"/>
22. A sign plan indicating the location, size and specifications of all signs and advertising features, including cross sections	<input type="checkbox"/>	<input type="checkbox"/>
23. A lighting plan including exterior lighting locations with area of illumination illustrated by point values on a photometric plan, Kelvin rating, as well as the type of fixtures and shielding to be used	<input type="checkbox"/>	<input type="checkbox"/>
24. Proposed location of any open spaces, landscaping and buffering features such as buffer areas, vegetation belts, fences, walls, trash receptacle screening, and other screening features with cross sections shown	<input type="checkbox"/>	<input type="checkbox"/>
25. A Landscape plan and table identifying the species, size of landscape materials, and number proposed, compared to what is required by the Ordinance. All vegetation to be retained on site must also be indicated, as well as, its typical size by general location or range of sizes as appropriate	<input type="checkbox"/>	<input type="checkbox"/>
26. Statements regarding the project impacts on existing infrastructure (including traffic capacity, schools, and existing utilities, and on the natural environment on and adjacent to the site)	<input type="checkbox"/>	<input type="checkbox"/>
27. Changes or modifications required for any applicable regulatory agencies' approvals	<input type="checkbox"/>	<input type="checkbox"/>



SCALE: 1" = 60'



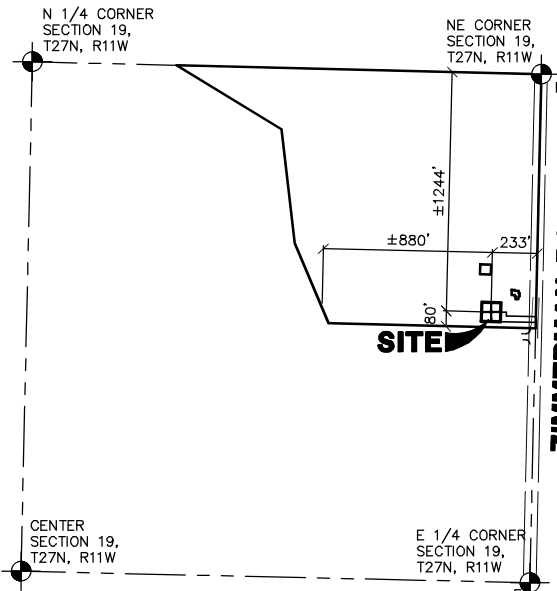
Know what's below.  
Call before you dig.

**LEGEND**

- 921- EXIST. CONTOUR
- x921.2 EXIST. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- U.P. EXIST. UTILITY POLE W/ TRANS.
- GUY WIRE
- OH EXIST. OVERHEAD UTILITY LINE
- S EXIST. SANITARY SEWER
- ) END SECTION
- ) HEAD WALL
- ) CULVERT
- ) MAILBOX
- ) SIGN
- ) TELEPHONE RISER
- ) FIBER OPTIC MARKER
- ) WELL
- ) POST
- ) FENCE
- ) SINGLE TREE
- ) TREE OR BRUSH LIMIT
- ) SECTION CORNER
- ) FOUND MONUMENT
- ) CONTROL PT.

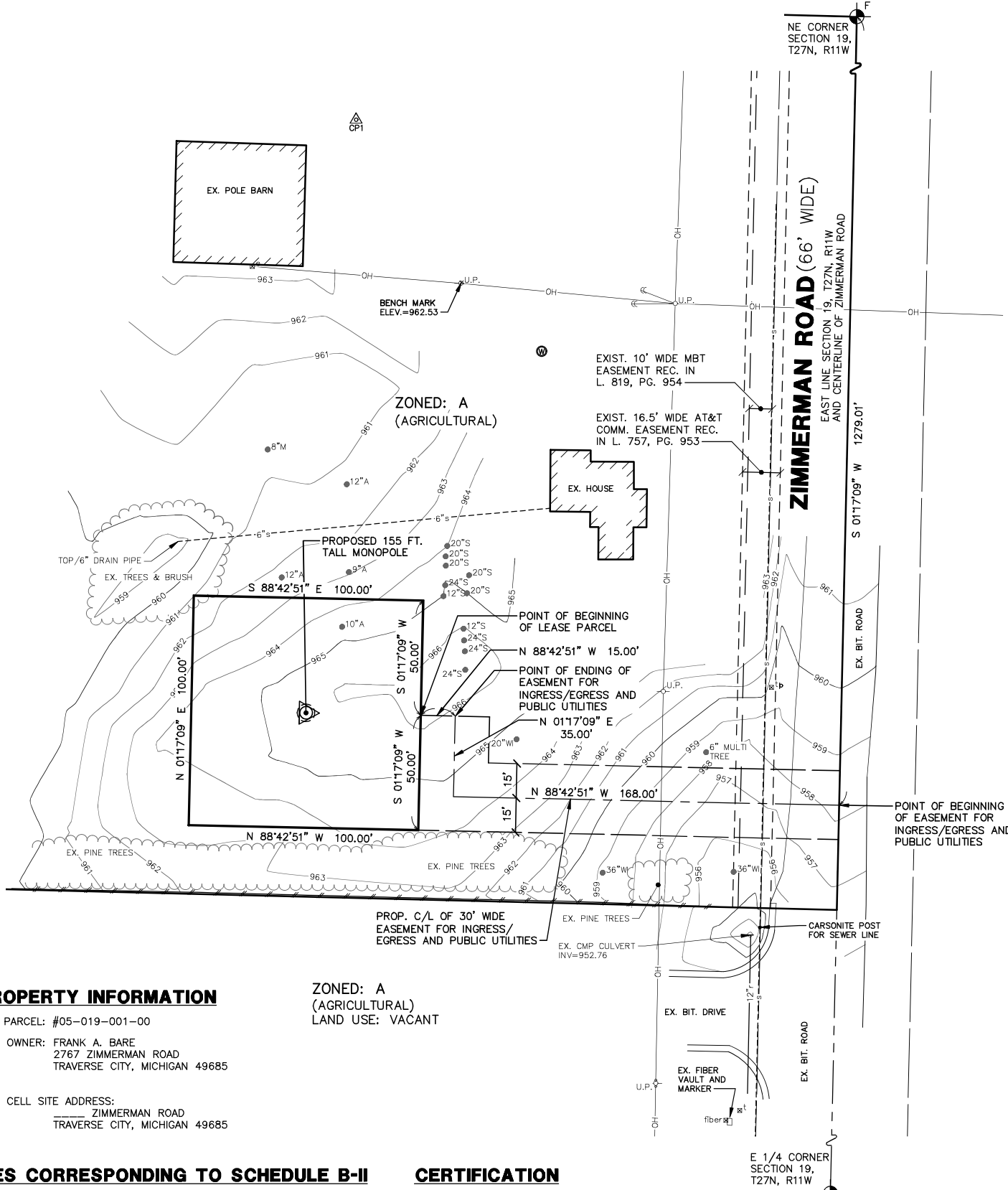
**TREE LEGEND**

- A APPLE
- CR CRABAPPLE
- M MAPLE
- S SPRUCE
- Wl WILLOW



**OVERALL PARCEL SKETCH**

SCALE: 1"=1000'



**PROPERTY INFORMATION**

TAX PARCEL: #05-019-001-00  
 OWNER: FRANK A. BARE  
 2767 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685  
 CELL SITE ADDRESS:  
 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685

ZONED: A  
 (AGRICULTURAL)  
 LAND USE: VACANT

**NOTES CORRESPONDING TO SCHEDULE B-II**

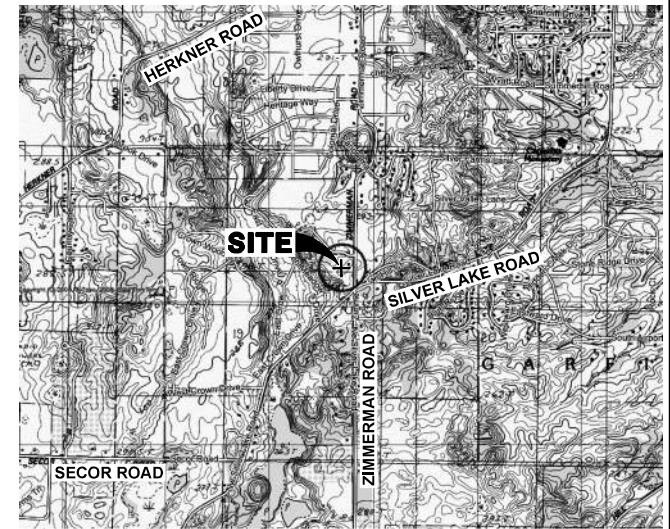
MIDWESTERN CONSULTING, LLC HAS REVIEWED THE TITLE REPORT ISSUED BY SEARCHLIGHT TITLE SERVICES, TITLE NO. STS-10725 WITH A PREPARED DATE OF JULY 18, 2023, WHICH CONTAINS THE FOLLOWING SURVEY RELATED ITEMS:

- EASEMENT AGREEMENT IN FAVOR OF MICHIGAN BELL TELEPHONE COMPANY AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 819, PAGE 954. **SHOWN HEREON, DOES NOT AFFECT LEASE PARCEL.**
- GRANT OF EASEMENT IN FAVOR OF AT&T COMMUNICATIONS AND THE COVENANTS, CONDITIONS AND RESTRICTIONS CONTAINED IN INSTRUMENT RECORDED IN LIBER 757, PAGE 953. **SHOWN HEREON, DOES NOT AFFECT LEASE PARCEL.**

**CERTIFICATION**

CERTIFIED TO: TOWERNORTH DEVELOPMENT, LLC:

I, MARK VANDER VEEN, A MICHIGAN PROFESSIONAL LAND SURVEYOR, CERTIFY THAT THE INFORMATION SHOWN HEREON WAS COMPILED USING DATA FROM AN ACTUAL FIELD SURVEY MADE UNDER MY DIRECT SUPERVISION AND THAT THE FIELD SURVEY AND COMPILATION OF INFORMATION SHOWN HEREIN WERE CONDUCTED IN ACCORDANCE WITH THE MICHIGAN STANDARDS OF PRACTICE; AND THAT THE RELATIVE POSITIONAL ACCURACY OF THIS SURVEY MEETS OR EXCEEDS THE REQUIREMENTS FOR A RURAL PARTIAL BOUNDARY SURVEY AS DEFINED UNDER ALTA/NSPS 2021 STANDARDS.



**VICINITY SKETCH**

SCALE: 1"=4000'



**LOCATION**

LATITUDE 44° 43' 36.8"  
 LONGITUDE 85° 40' 38.8"  
 GROUND ELEV. @ TOWER BASE = 965.90

**LEGAL DESCRIPTION OF LEASE PARCEL**

Commencing at the Northeast corner of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan, thence S 01°17'09" W 1279.01 feet along the east line of said Section 19 (also being the centerline of Zimmerman Road, 66 feet wide); thence N 88°42'51" W 168.00 feet; thence N 01°17'09" E 35.00 feet; thence N 88°42'51" W 15.00 feet to the POINT OF BEGINNING;

thence S 01°17'09" W 50.00 feet;  
 thence N 88°42'51" W 100.00 feet;  
 thence N 01°17'09" E 100.00 feet;  
 thence S 88°42'51" E 100.00 feet  
 thence S 01°17'09" W 50.00 feet to the POINT OF BEGINNING; being a part of the Northeast 1/4 of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan, containing 10,000 square feet, or 0.230 acres of land, more or less; subject to easements and restrictions of record, if any;

Together with a 30 foot easement for ingress, egress and public utilities, the centerline of said easement is described as follows:

Commencing at the Northeast corner of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan, thence S 01°17'09" W 1279.01 feet along the east line of said Section 19 (also being the centerline of Zimmerman Road, 66 feet wide) to the POINT OF BEGINNING;

thence N 88°42'51" W 168.00 feet;  
 thence N 01°17'09" E 35.00 feet to the POINT OF ENDING; being part of the Northeast 1/4 of Section 19, T27N, R11W, Garfield Township, Grand Traverse County, Michigan; except any part taken, dedeed or used for public road purposes, and subject to easements and restrictions of record, if any.

**LEGAL DESCRIPTION OF OVERALL PARCEL**

(Taken from Title Report)

Part of the North 1/2 of the Northeast 1/4 of Section 19, T27N, R11W, Commencing at the Southeast corner; thence N 89°37' W 1077.08 feet; thence N 23°59' W 455.36 feet; thence N 07°34' W 595.51 feet; thence N 59°45' W 640.68 feet; thence East on the North section line to the Northeast corner of Section 19; thence South to the Point of Beginning. Except road right of way.

**NOTES**

- Rotate all bearings 00°55'31" counter-clockwise to obtain bearings based on True North as determined from global positioning system (GPS).
- This site is not located in a flood area per Flood Insurance Rate Map number 26055C0225C, effective date August 28, 2018.
- This site plan is based on the survey of the existing conditions conducted by Midwestern Consulting, LLC on 11-30-2023.

**BENCH MARK**

Spike in a utility pole located ±70 feet east of the southeast corner of the existing pole barn and ±188 feet northeast of the proposed monopole.  
 Elevation: 962.53 (NAVD 88 Datum)

PREPARED BY:  
 MIDWESTERN CONSULTING, L.L.C.

MARK VANDER VEEN P.S. #4001056788

**TowerNorth**  
 TOWERNORTH DEVELOPMENT  
 750 WEST CENTER STREET, SUITE 301  
 WEST BLOOMSBURY, MA 02379  
 (888) 315-0220

**MIDWESTERN CONSULTING**  
 3845 Plaza Drive  
 Ann Arbor, Michigan 48108  
 (734) 995-0200  
 www.midwesternconsulting.com  
 Land Development • Land Survey  
 Institutional • Municipal  
 Wireless Communications  
 Transportation • Landfill Services

**SITE: M10004-A**  
**'SILVER LAKE ROAD'**  
 GARFIELD TOWNSHIP  
 GRAND TRAVERSE COUNTY  
 MICHIGAN

REV. DATE	DESCRIPTION

REVISIONS:	JOB No.	DATE	CADD:	ENG:	PM:	TECH:	FILE:	FB#:
	23194-M10004	01/30/24	BLF	SGF	SGF	KWV	23194_M10004-SV1	552M9

**SITE SURVEY**

**1**

SHEET 1 OF 2

R:\23194\M10004-A (V2) 4090\GIS\23194\_M10004-SV1.dwg, 1/30/2024 11:25 PM, Scott C. Fisher, SVI, MCLLC PDF.pc3  
 Copyright © 2024 Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



R:\23194\MI0004-A (1/27/2024)\23194-MI0004-SP1.dwg, 2/27/2024 3:38 PM, Scott G. Fisher, SP1, MLLC PDF, p.3  
 Copyright © 2024, Midwestern Consulting, L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting, L.L.C.



SCALE: 1" = 30'  
 0 30 60 90



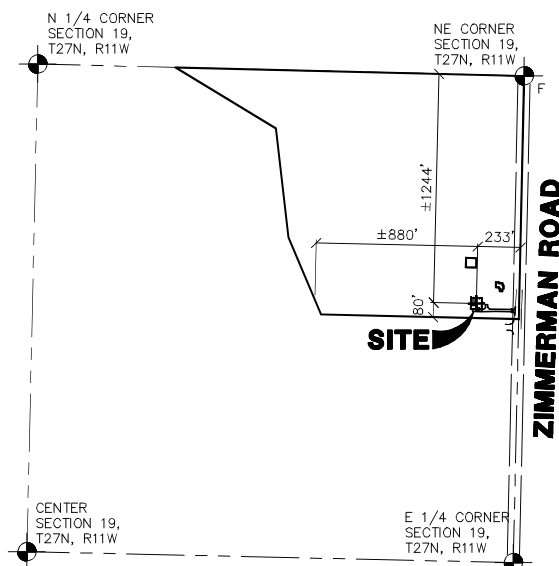
Know what's below.  
 Call before you dig.

**LEGEND**

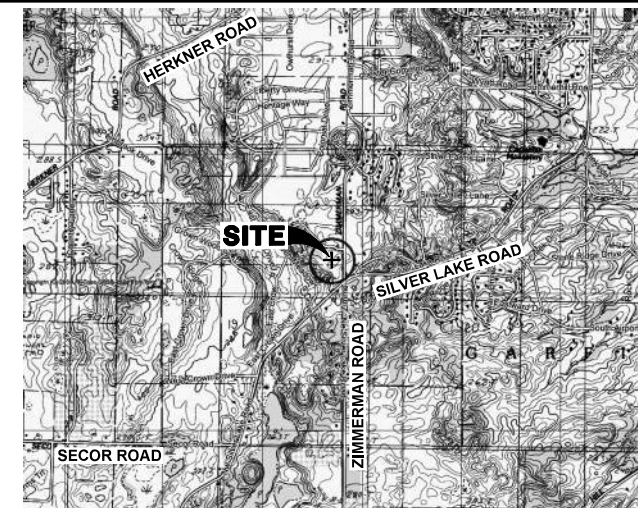
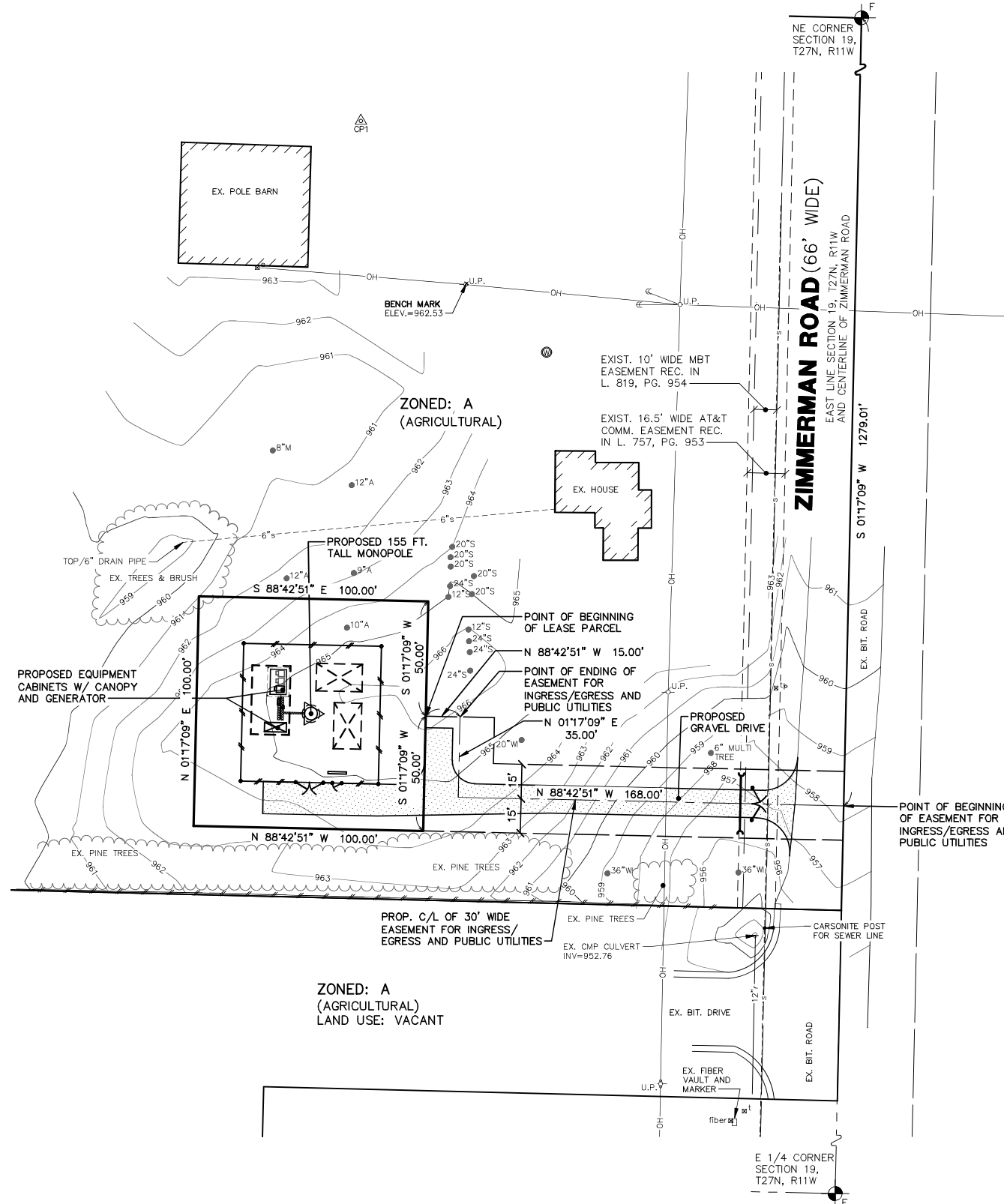
- 921 EXIST. CONTOUR
- 921 PROP. CONTOUR
- x921.2 EXIST. SPOT ELEVATION
- 921.60x PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- U.P. EXIST. UTILITY POLE W/ TRANS.
- GUY WIRE
- OH EXIST. OVERHEAD UTILITY LINE
- S-S EXIST. SANITARY SEWER
- END SECTION
- HEAD WALL
- CULVERT
- MAILBOX
- SIGN
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- FIBER OPTIC MARKER
- WELL
- POST
- FENCE
- SINGLE TREE
- TREE OR BRUSH LIMIT
- SECTION CORNER
- FOUND MONUMENT
- CONTROL PT.

**TREE LEGEND**

- A APPLE
- CR CRABAPPLE
- M MAPLE
- S SPRUCE
- W WILLOW



**OVERALL PARCEL SKETCH**  
 SCALE: 1"=500'



**VICINITY SKETCH**  
 SCALE: 1"=2000'

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- This site plan is based on the survey of the existing conditions conducted by Midwestern Consulting, L.L.C. on 11-30-2023.

**BENCH MARK**

Spike in a utility pole located ±70 feet east of the southeast corner of the existing pole barn and ±198 feet northeast of the proposed monopole  
 Elevation: 962.53 (NAVD 88 Datum)

**PROPERTY INFORMATION**

TAX PARCEL: #05-019-001-00  
 OWNER: FRANK A. BARE  
 2767 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685

CELL SITE ADDRESS:  
 ZIMMERMAN ROAD  
 TRAVERSE CITY, MICHIGAN 49685

PREPARED BY:  
 MIDWESTERN CONSULTING, L.L.C.

SCOTT G. FISHER P.E. #58473

**APPLICANTS:**  
 TOWN OF NORTH DEVELOPMENT  
 500 WATER STREET  
 SUITE 301  
 W. BRIDGEWATER, MA 02779  
 (800) 821-5825 x2

**CELLS PARTNERSHIP:**  
 VERIZON COMMUNICATIONS  
 24242 NORTHWESTERN HWY.  
 SOUTHFIELD, MI 48075  
 (248) 915-3000

**TowerNorth**

**verizon**

**'SILVER LAKE ROAD'  
 TN SITE #MI0004-A  
 VZW SITE #4090**

GARFIELD TOWNSHIP  
 GRAND TRAVERSE COUNTY  
 MICHIGAN

REV. DATE	DESCRIPTION
02/27/24	1. DRAWING UPDATES
02/26/24	2. DRAWING UPDATES

**M I D W E S T E R N  
 CONSULTING**

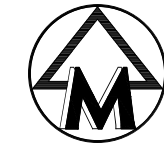
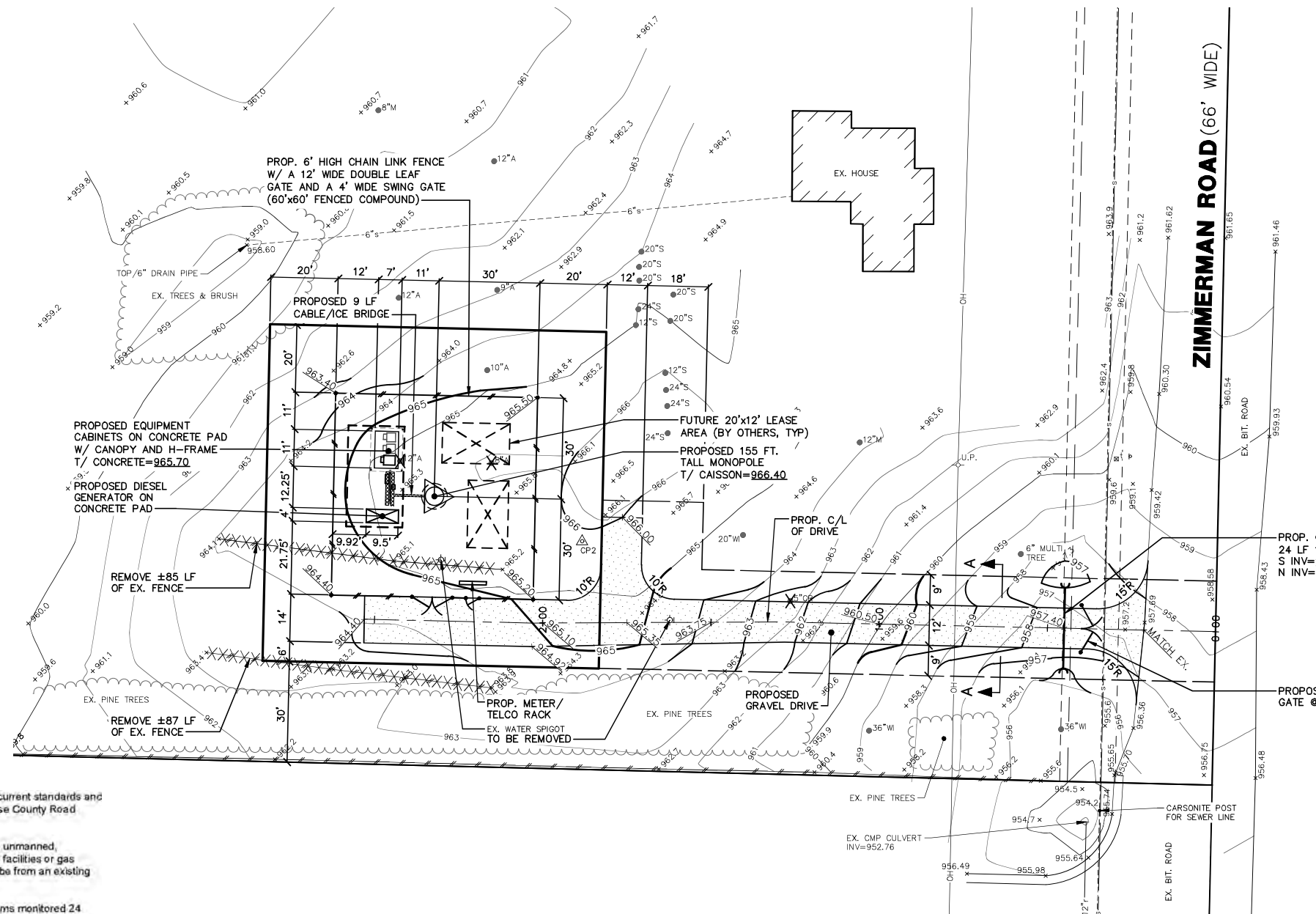
3815 Plaza Drive  
 Ann Arbor, Michigan 48108  
 (734) 995-0200  
 www.midwesternconsulting.com

Land Development • Land Survey  
 Institutional • Municipal  
 Wireless Communications  
 Transportation • Landfill Services

<b>JOB No. 23194-MI0004</b>	DATE: 01/30/24
CADD: BLF	ENG: SGF
PM: SGF	TECH: KMW
FILE: 23194_MI0004-SP1	FB#: 552M9

**SITE SURVEY  
 GENERAL  
 INFORMATION**

R:\23194\MI0004-A (17th 4090)\ACD\23194-MI0004-SF1.dwg, 2/27/2024 3:38 PM, Scott G. Fisher, SP2, MCLLC PDF, pc3  
 Copyright © 2024, Midwestern Consulting L.L.C. All rights reserved. No part of this drawing may be used or reproduced in any form or by any means, or stored in a database or retrieval system, without prior permission of Midwestern Consulting L.L.C.



SCALE: 1" = 20'



**LEGEND**

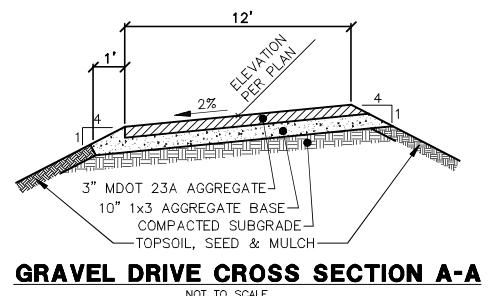
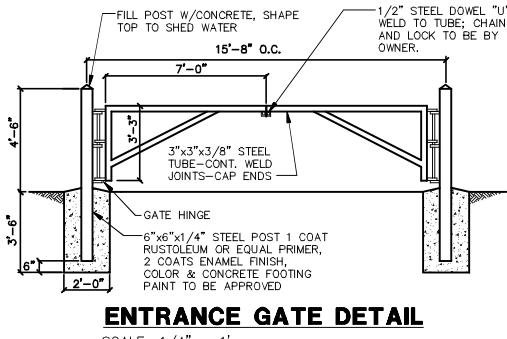
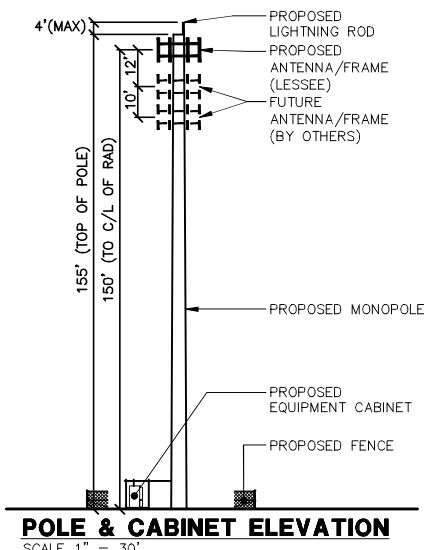
- 921 — EXIST. CONTOUR
- 921 — PROP. CONTOUR
- × 921.2 — EXIST. SPOT ELEVATION
- × 921.60 — PROP. SPOT ELEVATION
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- S — EXIST. SANITARY SEWER
- END SECTION — END SECTION
- HEAD WALL — HEAD WALL
- CULVERT — CULVERT
- MAILBOX — MAILBOX
- SIGN — SIGN
- TELEPHONE RISER — TELEPHONE RISER
- FIBER OPTIC MARKER — FIBER OPTIC MARKER
- WELL — WELL
- POST — POST
- FENCE — FENCE
- SINGLE TREE — SINGLE TREE
- TREE TO BE REMOVED — TREE TO BE REMOVED
- TREE OR BRUSH LIMIT — TREE OR BRUSH LIMIT
- SECTION CORNER — SECTION CORNER
- FOUND MONUMENT — FOUND MONUMENT
- CONTROL PT. — CONTROL PT.

**TREE LEGEND**

- A APPLE
- CR CRABAPPLE
- M MAPLE
- S SPRUCE
- W WILLOW

**GENERAL NOTES:**

1. All site work construction shall be in accordance with the current standards and specifications of Garfield Township and the Grand Traverse County Road Commission, where applicable.
2. The proposed equipment cabinet is to be a computerized, unmanned, telephone exchange structure. No water service, sanitary facilities or gas service is needed. Telephone and electrical services will be from an existing utility pole or line adjacent to the site.
3. The proposed equipment cabinet is to have security systems monitored 24 hours per day. The cabinet will also be constructed with bullet resistant materials.
4. There are two, low wattage (21W), LED lights proposed as part of this project. The lights are mounted to the canopy support posts, under the canopy opposite from the equipment cabinet. Lights shall be connected to a technician operated on/off switch with a timer with a one-hour maximum lit duration.
5. There are no signs proposed for this project except for:
  - a. Emergency contact information purposes and FCC "call" sign placed on equipment cabinet door.
  - b. FCC registration number located on fence gate.
6. The cellular antenna and equipment cabinet will be approved by the Federal Communications Commission (FCC) and will not impact any frequency sensitive devices whatsoever. Buyer warrants no adverse radio interference with adjacent land uses.
7. There are no toxic materials used by Lessee on the site. Lessee has no need for outdoor storage or garbage disposal and pick-up.
8. Tower shall be equipped with an anti-climbing device.
9. Maintenance personnel using van type service vehicles enter and exit the site approximately 2 to 4 times per month. No loading or unloading area is needed by them.
10. All areas disturbed by the construction of the tower and cabinet and driveway shall be restored in kind. Contractor is to provide soil erosion control measures as needed or as directed by owner or government agency having jurisdiction.
11. All areas inside of and to 1'-0" outside of the fenced area shall be covered with 3" of crushed limestone placed over "Typar" landscape fabric.
12. Ingress and egress by Lessee's personnel to the site shall be via a proposed gravel drive from Zimmerman Road
13. The proposed drive shall consist of 3" of MDOT Class 23A crushed limestone aggregate over 10" of 1"x3" crushed concrete or slag over compacted subgrade. The subgrade shall be stripped free of all topsoil and organic material prior to placing aggregate base. Where poor subgrade soils are encountered, a woven geotextile fabric (Mirafi 500X or approved equal) shall be placed so that it is a minimum of 2 ft. wider and longer than the drive which is to be constructed over the poor soils.



**APPLICANTS:**  
 TOWER NORTH DEVELOPMENT  
 307 CENTER STREET  
 SUITE 307  
 W. BRIDGEWATER, MA 02379  
 (800) 821-5825 x2

**CELLCO PARTNERSHIP**  
 CELLCO PARTNERSHIP  
 24242 NORTHWESTERN HWY.  
 SOUTHFIELD, MI 48075  
 (248) 915-3000

**TowerNorth**

**verizon**

**'SILVER LAKE ROAD'  
 TN SITE #MI0004-A  
 VZW SITE #4090**

GARFIELD TOWNSHIP  
 GRAND TRAVERSE COUNTY  
 MICHIGAN

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**M I D W E S T E R N  
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Land Development • Land Survey  
 Institutional • Municipal  
 Wireless Communications  
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<b>JOB No.</b>	<b>23194-MI0004</b>
<b>DATE:</b>	01/30/24
<b>CADD:</b>	BLF
<b>ENG:</b>	SGF
<b>PM:</b>	SGF
<b>TECH:</b>	KMW
<b>FILE:</b>	23194_MI0004-SF1
<b>FB#:</b>	552M9

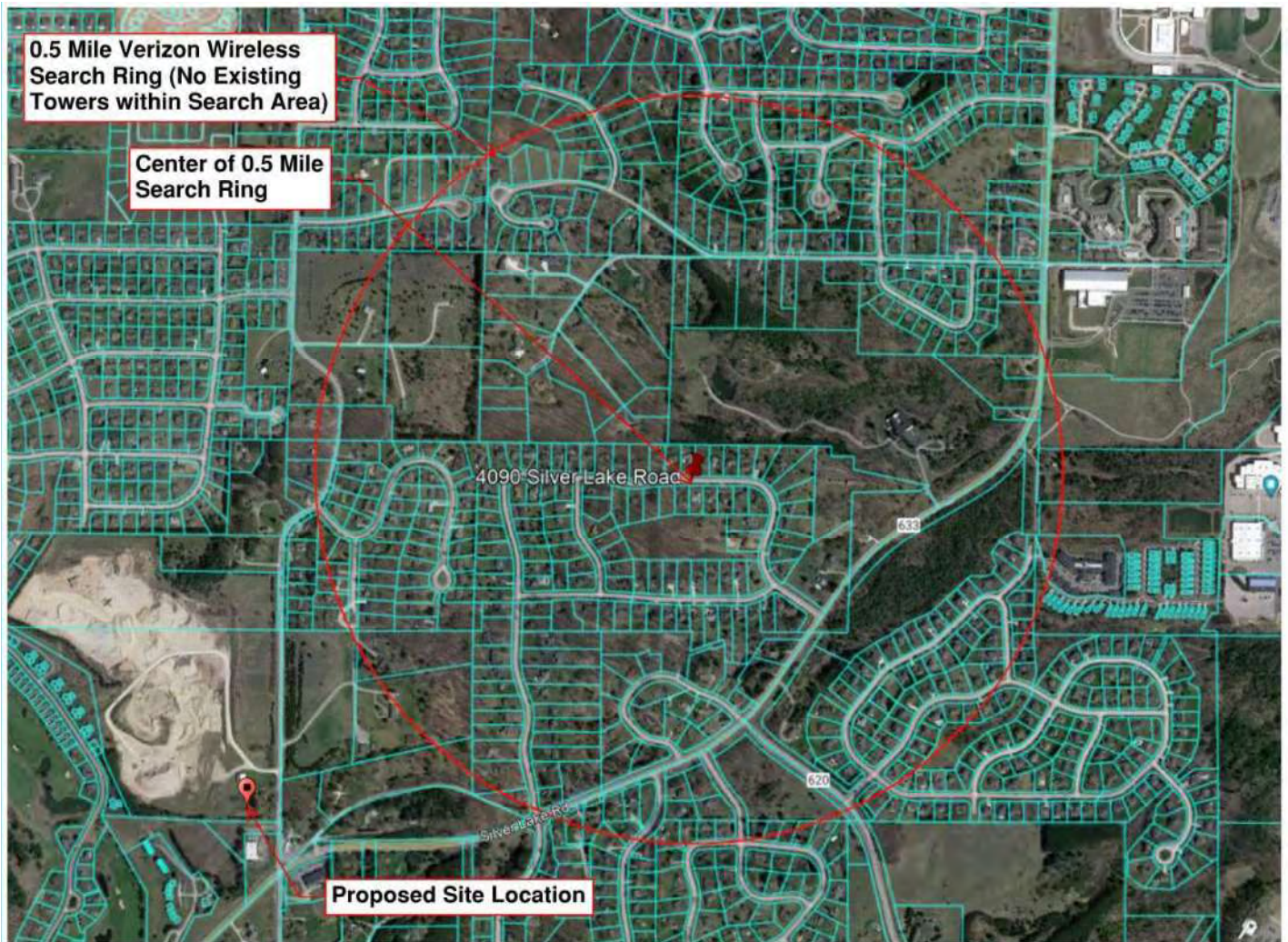
**SITE PLAN  
 DETAIL**

**2**

SHEET 2 OF 2

**Exhibit D**

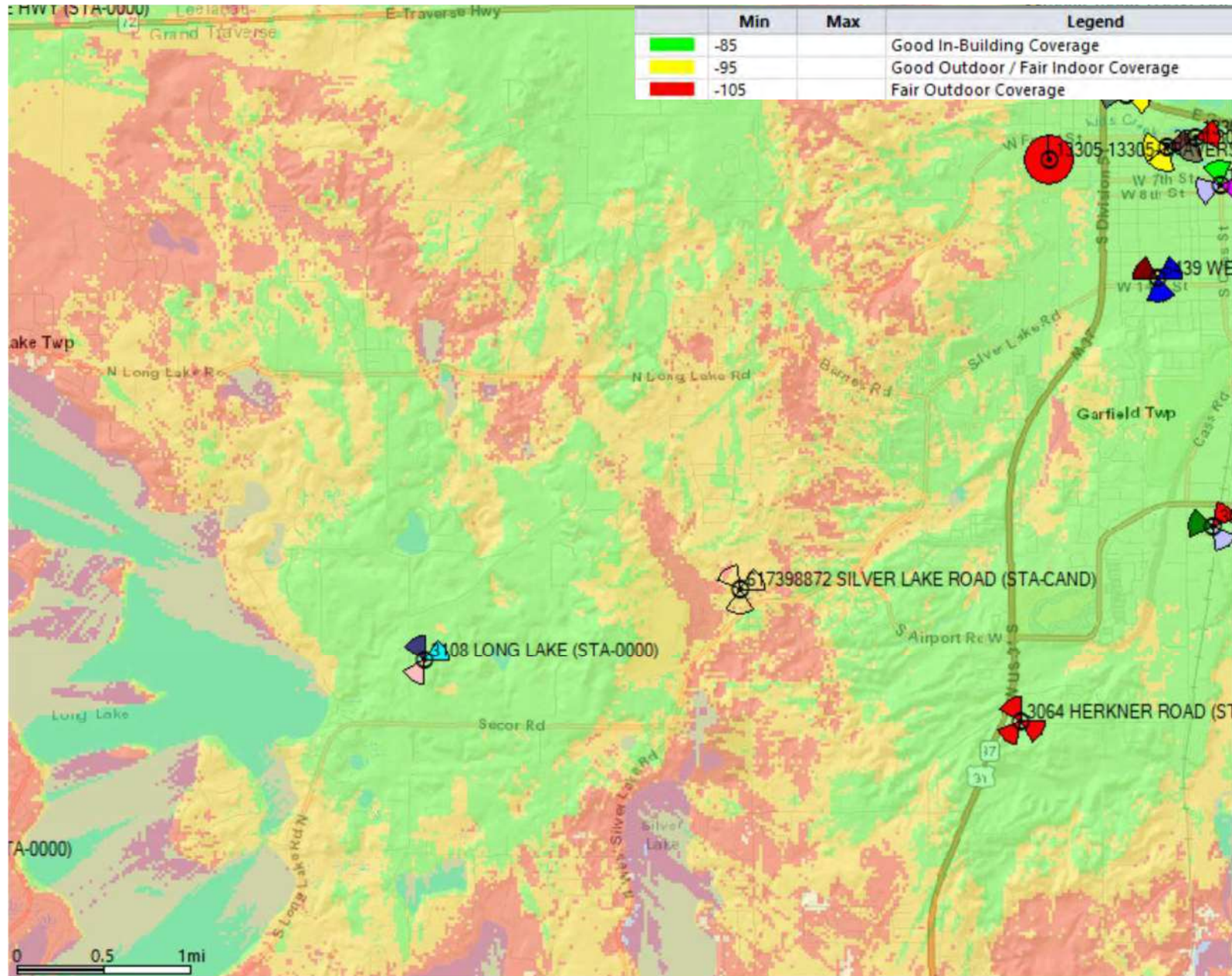
**1/2-Mile Verizon Wireless Search Ring Map**



# Silver Lake Rd

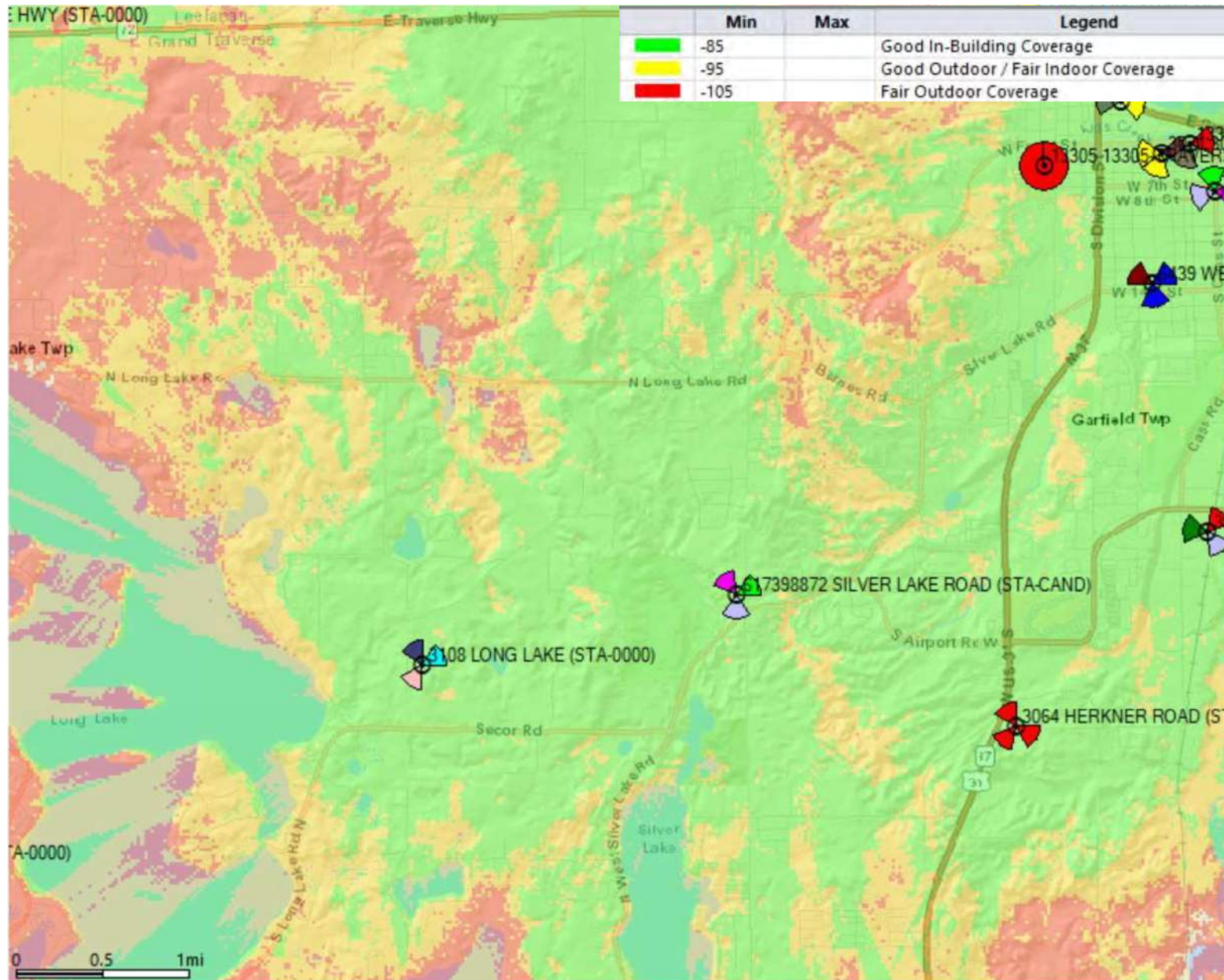
April 2024

# Current Coverage



Confidential and proprietary materials for authorized Verizon personnel and outside agencies only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement.

# Coverage with Proposed VZ Location





Statement of Network Need for a New Communications Tower  
Silver Lake Road

1. My name is Michael Avery and I am a radio frequency (RF) engineer for Verizon Wireless (“Verizon”). I have been employed as an RF engineer for nearly 30 years in the telecommunications industry with Verizon.
2. The primary duties of my job as an RF engineer include the design and management of Verizon’s wireless communications network in its Michigan/Indiana/Kentucky Market, which includes the area around Traverse City. In this role, I am also responsible for identifying and correcting substantial service gaps that present themselves in Verizon’s wireless network. These service gaps can be caused by a lack of coverage, insufficient system capacity, or both. Service gaps are identified through internal Verizon network monitoring tools and analysis showing the capacity and/or coverage needs of a particular area.
3. In the course of my employment at Verizon, I have become aware of a significant service gap in Verizon’s wireless communications network in the areas between Long Lake and US-31 (the “Gap Area”). As a result of this significant service gap, Verizon customers using their devices in and around the Gap Area are likely to experience diminished call quality, slow and unreliable data transmission speeds, call drops, and blocked calls. Verizon’s service gap in the Gap Area has existed for several years.
4. This significant service gap will remain and cannot be resolved unless a communications tower is constructed within the Gap Area. Verizon must remedy this service gap to provide high-speed wireless broadband access to the residents and areas north of Silver Lake near Garfield Township, to fill in coverage gaps where wireless services are not reliable, and to provide enhanced E911 services.
5. Verizon identified a search area in which the tower would need to be located to resolve the service gap. Before proposing a new communications tower, Verizon first considered whether any existing towers in the area could be used to resolve the coverage gap in the Gap Area. There are no other existing towers in the search area on which Verizon could collocate its communications equipment to resolve the service gap. For this reason, TowerNorth began looking for available properties in the search area that would be suitable for a tower.
6. Verizon and TowerNorth have worked together to identify a property in the Gap Area that could accommodate a communications tower to correct the significant service gap in Verizon’s wireless communications network. TowerNorth has proposed to build a new tower on Zimmerman Road in Traverse City, Michigan (“Proposed Tower”).
7. By co-locating its communications equipment on the Proposed Tower, Verizon will resolve the current significant service gap and will be able to provide improved service to

residents, businesses, and emergency service providers in and around the Gap Area. If TowerNorth is unable to construct the new telecommunications tower, and Verizon is, therefore, unable to collocate its equipment on the proposed tower, the significant service gap in Verizon's wireless communications network will remain, and Verizon will be prohibited from providing reliable wireless service to its customers in the Gap Area.

Dated this 17 day of April, 2024

A handwritten signature in black ink that reads "Michael Avery". The signature is written in a cursive style with a large, looping "y" at the end.

Michael Avery  
RF Engineer  
Verizon



April 5, 2024

Mary Caulfield  
Townernorth Development, LLC

RE: Proposed 155' Sabre Monopole for Silver Lake Road, MI

Dear Ms. Caulfield,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for an Ultimate Wind Speed of 105 mph with no ice, Risk Category II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA 222-H-2017 "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within the monopole shaft, above the base plate. Assuming that the wind pressure profile is similar to that used to design the monopole, the monopole will buckle at the location of the highest combined stress ratio within the monopole shaft. This is likely to result in the portion of the monopole above leaning over and remaining in a permanently deformed condition. This would effectively result in a fall radius of 80' or less at ground level. *Please note that this letter only applies to the above referenced monopole designed and manufactured by Sabre Industries.*

Sincerely,

Robert E. Beacom, P.E., S.E.  
Engineering Manager





**Structural Design Report**  
155' Monopole  
Site: Silver Lake Road, MI

Prepared for: TOWNORTH DEVELOPMENT, LLC  
by: Sabre Industries™

Job Number: 540366

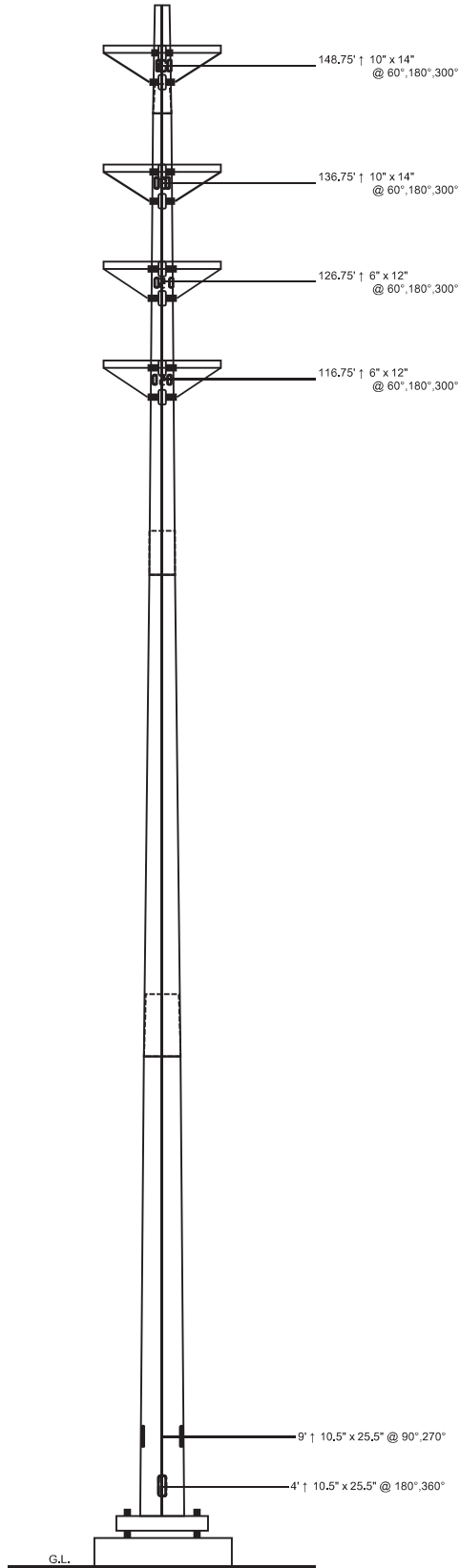
**April 5, 2024**

Monopole Profile.....	1
Foundation Design Summary (Preliminary) (Option 1).....	2
Foundation Design Summary (Preliminary) (Option 2).....	3
Pole Calculations.....	4-19
Foundation Calculations.....	20-28



Digitally Signed By Robert Beacom  
DN:  
C=US,SERIALNUMBER=MAS20240205295328,ST=Texas,L=Alvarado,O=SABRE INDUSTRIES, INC.,CN=Robert Beacom Date: 2024.04.05 10:29:26

Length (ft)	53'-3"	53'-6"	50'-0"	11'-0"
Number Of Sides	7/16"	3/8"	5/16"	1/4"
Thickness (in)	41.7"	30.57"	19.76"	18.25"
Lap Splice (ft)	55.09"	44.02"	32.33"	21.02"
Top Diameter (in)	14765	8494	4919	750
Bottom Diameter (in)				
Taper (in/ft)				
Grade				
Weight (lbs)				
Overall Steel Height (ft)				



### Designed Appurtenance Loading

Elev	Description	Tx-Line
150	Platform - 12' w/ Enhanced Support Rail	
150	(1) 42,000 Sq. Inches (12,000 lbs) (below top)	(20) 1 5/8"
138	Platform - 12' w/ Enhanced Support Rail	
138	(1) 30,000 sq. in. (5000 lbs) (below top)	(20) 1 5/8"
128	Platform - 12' w/ Enhanced Support Rail	
128	(1) 20,000 sq. in. (4000 lbs) (below top)	(12) 1 5/8"
118	Platform - 12' w/ Enhanced Support Rail	
118	(1) 15,000 sq. in. (3000 lbs) (below top)	(12) 1 5/8"

### Design Criteria - ANSI/TIA-222-H

Wind Speed (No Ice)	105 mph
Wind Speed (Ice)	50 mph
Design Ice Thickness	1.50 in
Risk Category	II
Exposure Category	C
Topographic Factor Procedure	Method 1 (Simplified)
Topographic Category	1
Ground Elevation	961 ft
Seismic Importance Factor, Ie	1.00
0.2-sec Spectral Response, Ss	0.05 g
1-sec Spectral Response, S1	0.034 g
Site Class	D (DEFAULT)
Seismic Design Category	A
Basic Seismic Force-Resisting System	Telecommunication Tower (Pole: Steel)

### Limit State Load Combination Reactions

Load Combination	Axial (kips)	Shear (kips)	Moment (ft-k)	Deflection (ft)	Sway (deg)
1.2 D + 1.0 Wo	80.19	36.84	4967.57	13.83	10.18
0.9 D + 1.0 Wo	60.17	36.79	4774.24	13.12	9.59
1.2 D + 1.0 Di + 1.0 Wi	135.62	15.3	2384.15	7.22	5.39
1.2 D + 1.0 Ev + 1.0 Eh	80.8	1.98	307.39	0.93	0.69
0.9 D - 1.0 Ev + 1.0 Eh	59.33	2	297.68	0.88	0.65
1.0 D + 1.0 Wo (Service @ 60 mph)	66.81	10.66	1420.7	4.03	2.92

### Base Plate Dimensions

Shape	Width	Thickness	Bolt Circle	Bolt Qty	Bolt Diameter
Square	60.25"	3"	62"	16	2.25"

### Anchor Bolt Dimensions

Length	Diameter	Hole Diameter	Weight	Type	Finish
84"	2.25"	2.625"	1937.6	A615-75	Galv

### Material List

Display	Value
A	3' - 0"

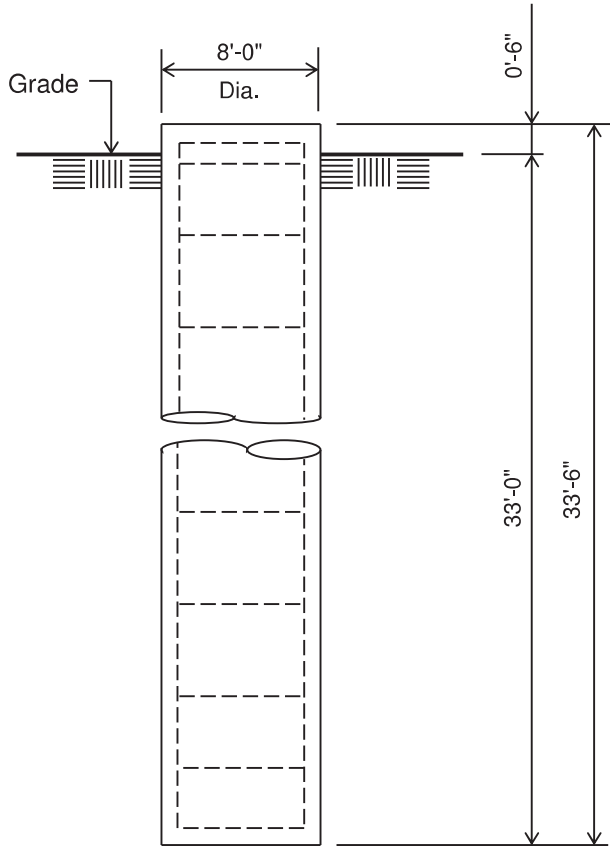
### Notes

- 1) Antenna Feed Lines Run Inside Pole
- 2) All dimensions are above ground level, unless otherwise specified.
- 3) Weights shown are estimates. Final weights may vary.
- 4) This tower design and, if applicable, the foundation design(s) shown on the following page(s) also meet or exceed the requirements of the 2015 International Building Code.
- 5) Full Height Step Bolts
- 6) Tower Rating: 99.7%

 <p><b>Sabre Industries</b> 7101 Southbridge Drive P.O. Box 658 Sioux City, IA 51102-0658 Phone: (712) 259-6890 Fax: (712) 279-0814</p> <p><small>Information contained herein is the sole property of Sabre Communications Corporation, constitutes a trade secret as defined by Iowa Code Ch. 550 and shall not be reproduced, copied or used in whole or part for any purpose whatsoever without the prior written consent of Sabre Communications Corporation.</small></p>	Job:	<b>540366</b>
	Customer:	TOWNORTH DEVELOPMENT, LLC
	Site Name:	Silver Lake Road, MI
	Description:	155' Monopole
	Date:	4/5/2024

**Customer: TOWNORTH DEVELOPMENT, LLC**  
**Site: Silver Lake Road, MI**  
 155' Monopole

**PRELIMINARY -NOT FOR CONSTRUCTION-**



**ELEVATION VIEW**

(62.37 Cu. Yds.)

(1 REQUIRED; NOT TO SCALE)

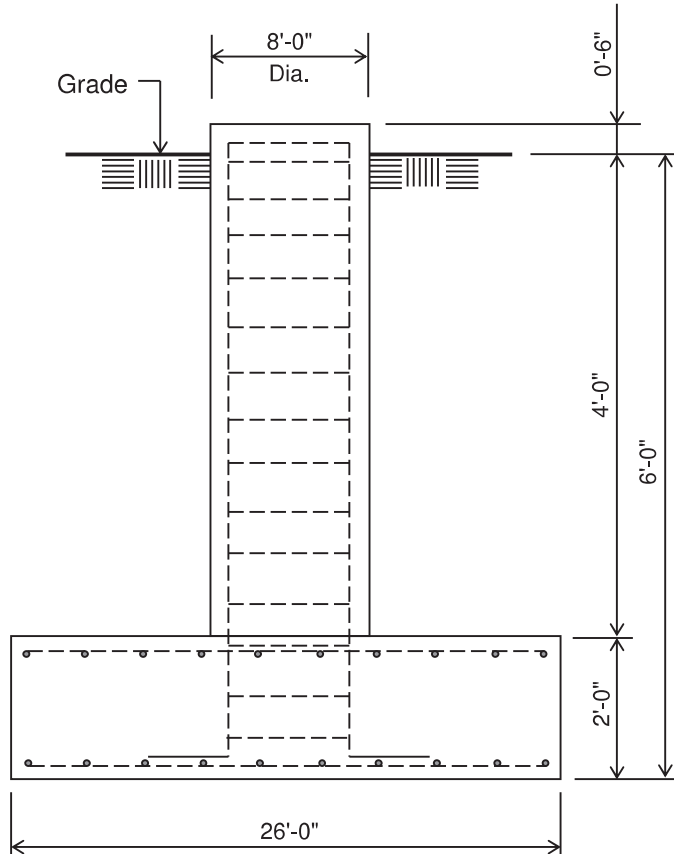
**Notes:**

- 1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
- 2) Rebar to conform to ASTM specification A615 Grade 60.
- 3) All rebar to have a minimum of 3" concrete cover.
- 4) All exposed concrete corners to be chamfered 3/4".
- 5) The foundation design is based on presumptive clay soil as defined in ANSI/TIA-222-H-2017. It is recommended that a soil analysis of the site be performed to verify the soil parameters used in the design.
- 6) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.

<b>Rebar Schedule for Pier</b>	
Pier	(46) #10 vertical rebar w/ #5 ties, (2) within top 5" of pier, then 12" C/C

**Customer: TOWNORTH DEVELOPMENT, LLC**  
**Site: Silver Lake Road, MI**  
155' Monopole

**PRELIMINARY -NOT FOR CONSTRUCTION-**



**ELEVATION VIEW**

(58.45 Cu. Yds.)  
(1 REQUIRED; NOT TO SCALE)

**Notes:**

- 1) Concrete shall have a minimum 28-day compressive strength of 4,500 psi, in accordance with ACI 318-14.
- 2) Rebar to conform to ASTM specification A615 Grade 60.
- 3) All rebar to have a minimum of 3" concrete cover.
- 4) All exposed concrete corners to be chamfered 3/4".
- 5) The foundation design is based on presumptive clay soil as defined in ANSI/TIA-222-H-2017. It is recommended that a soil analysis of the site be performed to verify the soil parameters used in the design.
- 6) 4 ft of soil cover is required over the entire area of the foundation slab.
- 7) The bottom anchor bolt template shall be positioned as closely as possible to the bottom of the anchor bolts.

Rebar Schedule for Pad and Pier	
Pier	(46) #10 vertical rebar w/ hooks at bottom w/ #5 ties, (2) within top 5" of pier, then 4" C/C
Pad	(27) #10 horizontal rebar evenly spaced each way top and bottom (108 total)

Tel: (416) 736-7453 Fax: (416) 736-4372 Web: www.guymast.com

Processed under license at:

Sabre Towers and Poles on: 3 apr 2024 at: 10:02:08  
 =====

155' Monopole / Silver Lake Road, MI

\* All pole diameters shown on the following pages are across corners.  
 See profile drawing for widths across flats.

POLE GEOMETRY  
 =====

ELEV	SECTION	No.	OUTSIDE	THICK	RESISTANCES		SPLICE	..OVERLAP...		w/t
ft	NAME	SIDE	DIAM	-NESS	*Pn	*Mn	TYPE	LENGTH	RATIO	
			in	in	kip	ft-kip		ft		
154.0	A	18	18.53	0.250	1061.2	390.6				11.6
			20.57	0.250	1179.3	483.0				
146.0	A/B	18	20.57	0.250	1179.3	483.0	SLIP	3.00	1.75	
			20.84	0.312	1489.4	614.6				
143.0	B	18	20.84	0.312	1489.4	614.6				10.5
			31.67	0.312	2258.8	1431.5				
100.5	B/C	18	31.67	0.312	2258.8	1431.5	SLIP	4.50	1.70	
			32.21	0.375	2771.4	1779.5				
96.0	C	18	32.21	0.375	2771.4	1779.5				14.0
			43.10	0.375	3561.5	3078.5				
53.2	C/D	18	43.10	0.375	3561.5	3078.5	SLIP	6.25	1.73	
			43.95	0.438	4385.1	3856.0				
47.0	D	18	43.95	0.438	4385.1	3856.0				16.6
			55.94	0.438	5211.0	5857.1				
0.0										

POLE ASSEMBLY  
 =====

SECTION	BASE	BOLTS AT BASE OF SECTION				CALC
NAME	ELEV	NUMBER	TYPE	DIAM	STRENGTH	BASE
	ft			in	ksi	ELEV
						ft
A	143.000	0	A325	0.00	92.0	143.000
B	96.000	0	A325	0.00	92.0	96.000
C	47.000	0	A325	0.00	92.0	47.000
D	0.000	0	A325	0.00	92.0	0.000

POLE SECTIONS  
 =====

SECTION	No. of	LENGTH	OUTSIDE DIAMETER		BEND	MAT-	FLANGE ID		FLANGE WELD	
NAME	SIDES		BOT	TOP	RAD	ERIAL	BOT	TOP	..GROUP.ID..	
		ft	*	*	in	ID			BOT	TOP
			in	in						
A	18	11.00	21.34	18.53	0.625	1	0	0	0	0
B	18	50.00	32.83	20.07	0.625	2	0	0	0	0
C	18	53.50	44.70	31.05	0.625	3	0	0	0	0
D	18	53.25	55.94	42.35	0.625	4	0	0	0	0

\* - Diameter of circumscribed circle

MATERIAL TYPES

=====

TYPE OF SHAPE	TYPE NO	NO OF ELEM.	ORIENT	HEIGHT	WIDTH	.THICKNESS.		IRREGULARITY	
			& deg	in	in	WEB	FLANGE	.PROJECTION. % OF AREA	ORIENT deg
PL	1	1	0.0	21.34	0.25	0.250	0.250	0.00	0.0
PL	2	1	0.0	32.83	0.31	0.312	0.312	0.00	0.0
PL	3	1	0.0	44.70	0.38	0.375	0.375	0.00	0.0
PL	4	1	0.0	55.94	0.44	0.438	0.438	0.00	0.0

& - With respect to vertical

MATERIAL PROPERTIES

=====

MATERIAL TYPE NO.	ELASTIC MODULUS ksi	UNIT WEIGHT pcf	.. STRENGTH ..		THERMAL COEFFICIENT /deg
			Fu ksi	Fy ksi	
1	29000.0	490.0	80.0	65.0	0.00001170
2	29000.0	490.0	80.0	65.0	0.00001170
3	29000.0	490.0	80.0	65.0	0.00001170
4	29000.0	490.0	80.0	65.0	0.00001170

\* Only 5 condition(s) shown in full

=====

LOADING CONDITION A

105 mph wind with no ice. Wind Azimuth: 0° (1.2 D + 1.0 Wo)

LOADS ON POLE

=====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI ft	AT AZI	..... FORCES .....		..... MOMENTS .....	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	152.000	0.00	0.0	0.0	0.0115	0.0067	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.0000	3.7190	0.0000	0.0000
C	149.000	0.00	0.0	0.0	10.0910	16.9836	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0285	0.0168	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.0000	3.4195	0.0000	0.0000
C	137.000	0.00	0.0	0.0	7.3447	8.5836	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0280	0.0168	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0000	1.9020	0.0000	0.0000
C	127.000	0.00	0.0	0.0	5.1194	7.3836	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0276	0.0168	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0000	1.7522	0.0000	0.0000
C	117.000	0.00	0.0	0.0	3.9955	6.1836	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0271	0.0168	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0266	0.0168	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0260	0.0168	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0254	0.0168	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0248	0.0168	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0240	0.0168	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0232	0.0168	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0222	0.0168	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0211	0.0168	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0197	0.0168	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0177	0.0168	0.0000	0.0000
D	154.000	0.00	180.0	0.0	0.0394	0.0600	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0413	0.0632	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0429	0.1466	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0429	0.1466	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0441	0.0852	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0593	0.1218	0.0000	0.0000

D	100.500	0.00	180.0	0.0	0.0610	0.2770	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0610	0.2770	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0620	0.1563	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0717	0.2006	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0722	0.4468	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0722	0.4468	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0727	0.2473	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0680	0.2888	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0683	0.2971	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0702	0.3054	0.0000	0.0000

LOADING CONDITION M

105 mph wind with no ice. Wind Azimuth: 0° (0.9 D + 1.0 Wo)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI	LOAD AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	152.000	0.00	0.0	0.0	0.0115	0.0050	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.0000	2.7893	0.0000	0.0000
C	149.000	0.00	0.0	0.0	10.0910	12.7377	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0285	0.0126	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.0000	2.5646	0.0000	0.0000
C	137.000	0.00	0.0	0.0	7.3447	6.4377	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0280	0.0126	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0000	1.4265	0.0000	0.0000
C	127.000	0.00	0.0	0.0	5.1194	5.5377	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0276	0.0126	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0000	1.3141	0.0000	0.0000
C	117.000	0.00	0.0	0.0	3.9955	4.6377	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0271	0.0126	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0266	0.0126	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0260	0.0126	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0254	0.0126	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0248	0.0126	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0240	0.0126	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0232	0.0126	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0222	0.0126	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0211	0.0126	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0197	0.0126	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0177	0.0126	0.0000	0.0000
D	154.000	0.00	180.0	0.0	0.0394	0.0450	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0413	0.0474	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0429	0.1100	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0429	0.1100	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0441	0.0639	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0593	0.0914	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0610	0.2077	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0610	0.2077	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0620	0.1172	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0717	0.1504	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0722	0.3351	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0722	0.3351	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0727	0.1855	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0680	0.2166	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0683	0.2229	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0702	0.2291	0.0000	0.0000

LOADING CONDITION Y

50 mph wind with 1.5 ice. Wind Azimuth: 0° (1.2 D + 1.0 Di + 1.0 Wi)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI	LOAD AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip



C	152.000	0.00	0.0	0.0	0.0206	0.0187	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.0000	3.7190	0.0000	0.0000
C	149.000	0.00	0.0	0.0	3.9465	38.6068	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0507	0.0288	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.0000	3.4195	0.0000	0.0000
C	137.000	0.00	0.0	0.0	2.8780	17.5661	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0497	0.0288	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0000	1.9020	0.0000	0.0000
C	127.000	0.00	0.0	0.0	2.0164	14.9245	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0485	0.0288	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0000	1.7522	0.0000	0.0000
C	117.000	0.00	0.0	0.0	1.5798	11.9596	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0474	0.0288	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0461	0.0288	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0447	0.0288	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0433	0.0288	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0417	0.0288	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0400	0.0288	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0380	0.0288	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0358	0.0288	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0333	0.0288	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0301	0.0288	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0259	0.0288	0.0000	0.0000
D	154.000	0.00	180.0	0.0	0.0185	0.1044	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0192	0.1097	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0198	0.1949	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0198	0.1949	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0203	0.1347	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0260	0.1890	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0266	0.3464	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0266	0.3464	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0270	0.2270	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0305	0.2859	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0306	0.5339	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0306	0.5339	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0308	0.3355	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0284	0.3808	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0284	0.3864	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0290	0.3890	0.0000	0.0000

LOADING CONDITION AK

Seismic - Azimuth: 0° (1.2 D + 1.0 Ev + 1.0 Eh)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI ft	LOAD AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	152.000	0.00	0.0	0.0	0.0003	0.0068	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.6868	17.1365	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.1504	3.7525	0.0000	0.0000
C	148.500	0.00	0.0	0.0	0.0277	0.6951	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0006	0.0170	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.2935	8.6609	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.1169	3.4503	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0006	0.0170	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.2169	7.4501	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0559	1.9191	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0005	0.0170	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.1386	5.2438	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.1542	6.2393	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0437	1.7680	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0004	0.0170	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0003	0.0170	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0003	0.0170	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0002	0.0170	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0002	0.0170	0.0000	0.0000
C	73.750	0.00	0.0	0.0	0.0949	9.6615	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0001	0.0170	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000

C	26.620	0.00	0.0	0.0	0.0186	14.5745	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0000	0.0170	0.0000	0.0000
D	154.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

LOADING CONDITION AL

Seismic - Azimuth: 0• (0.9 D - 1.0 Ev + 1.0 Eh)

LOADS ON POLE

LOAD TYPE	ELEV ft	APPLY RADIUS ft	LOAD AT AZI	LOAD AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	152.000	0.00	0.0	0.0	0.0003	0.0049	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.6868	12.5848	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.1504	2.7558	0.0000	0.0000
C	148.500	0.00	0.0	0.0	0.0277	0.5105	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0006	0.0124	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.2935	6.3604	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.1169	2.5338	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0006	0.0124	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.2169	5.4712	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0559	1.4094	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0005	0.0124	0.0000	0.0000
C	121.000	0.00	0.0	0.0	0.1386	3.8509	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.1542	4.5820	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0437	1.2984	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0004	0.0124	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0003	0.0124	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0003	0.0124	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0002	0.0124	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0002	0.0124	0.0000	0.0000
C	73.750	0.00	0.0	0.0	0.0949	7.0953	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0001	0.0124	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0000	0.0124	0.0000	0.0000
C	26.620	0.00	0.0	0.0	0.0186	10.7034	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0000	0.0124	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0000	0.0124	0.0000	0.0000
D	154.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000
D	0.000	0.00	180.0	180.0	0.0000	0.0000	0.0000	0.0000

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155' Monopole / Silver Lake Road, MI

MAXIMUM POLE DEFORMATIONS CALCULATED (w.r.t. wind direction)

MAST ELEV ft	DEFLECTIONS (ft)			ROTATIONS (deg)		
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	TWIST
154.0	13.83K	-0.12U	1.77K	10.18A	-0.10U	-0.01U
149.4	13.05K	-0.12U	1.64K	10.18A	-0.10U	-0.01U

146.0	12.46K	-0.11U	1.53K	10.16A	-0.10U	-0.01U
143.0	11.94K	-0.11U	1.44K	10.11A	-0.09U	-0.01U
136.9	10.91K	-0.10U	1.26K	9.92A	-0.09U	-0.01U
130.9	9.91K	-0.09U	1.09K	9.64A	-0.09U	-0.01U
124.8	8.93K	-0.08U	0.93K	9.26A	-0.09U	0.00U
118.7	8.00K	-0.07U	0.78K	8.79A	-0.08U	0.00U
112.6	7.11K	-0.06U	0.65K	8.27A	-0.07U	0.00U
106.6	6.28K	-0.05U	0.53K	7.70K	-0.07U	0.00U
100.5	5.51K	-0.05U	0.44K	7.10K	-0.06U	0.00U
96.0	4.98K	-0.04U	0.37K	6.73K	-0.06U	0.00F
89.9	4.30K	-0.03U	0.29K	6.18K	-0.05U	0.00F
83.8	3.67K	-0.03U	0.23K	5.64K	-0.05U	0.00F
77.7	3.11K	-0.02U	0.18K	5.11K	-0.04U	0.00F
71.6	2.59K	-0.02U	0.13K	4.59K	-0.04U	0.00F
65.5	2.13K	-0.02F	0.10K	4.08K	-0.03U	0.00F
59.4	1.73K	-0.01F	0.07K	3.59K	-0.03U	0.00F
53.2	1.37K	-0.01F	0.05K	3.11K	-0.02U	0.00F
47.0	1.05K	-0.01F	0.03K	2.71K	-0.02U	0.00F
41.1	0.80K	-0.01F	0.02K	2.32K	-0.02F	0.00F
35.2	0.58K	0.00F	0.01K	1.95K	-0.02F	0.00F
29.4	0.40K	0.00F	0.01K	1.60K	-0.01F	0.00F
23.5	0.25K	0.00F	0.00K	1.25K	-0.01F	0.00F
17.6	0.14K	0.00F	0.00K	0.92K	-0.01F	0.00F
11.7	0.06K	0.00F	0.00K	0.60K	0.00F	0.00F
5.9	0.02K	0.00F	0.00AG	0.30K	0.00F	0.00F
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t. ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t. ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
154.0	-0.02 D	-0.03 T	0.02 X	-0.07 T	0.04 X	-0.01 X
149.4	0.51 AG	0.20 M	0.02 X	-0.55 E	-0.04 X	0.01 X
146.0	0.51 AD	0.29 U	-0.07 W	-0.61 C	-0.10 X	0.01 X
143.0	43.20 AD	10.52 U	-0.07 W	-41.77 A	0.23 H	-0.05 W
136.9	43.20 AD	10.74 H	-0.24 F	-41.84 E	0.37 H	-0.07 W
130.9	43.82 AD	10.89 H	-0.24 F	-83.48 H	0.60 F	0.08 O
124.8	43.82 AG	10.80 A	-0.23 U	-83.31 H	0.67 F	-0.09 B
118.7	65.64 AG	18.42 A	-0.23 U	-170.64 A	1.91 U	0.19 O
112.6	65.64 AA	18.51 A	-0.25 U	-170.56 A	1.95 U	0.20 O

130.9	66.55 AA	18.82 A	-0.25 U	-315.15 A	3.56 U	-0.27 U
	66.55 AJ	18.77 A	-0.29 U	-315.11 A	3.53 U	-0.27 U
124.8	84.34 AJ	24.21 A	-0.29 U	-475.22 A	5.41 U	-0.42 U
	84.34 AA	24.23 A	-0.32 U	-475.24 A	5.35 U	-0.41 U
118.7	85.32 AA	24.54 A	-0.32 U	-661.47 A	7.44 U	-0.56 U
	85.33 AJ	24.55 A	-0.26 U	-661.42 A	7.45 U	-0.56 U
112.6	100.10 AJ	28.89 A	-0.26 U	-870.40 A	9.22 U	-0.64 U
	100.09 Y	28.92 A	-0.28 U	-870.38 A	9.21 U	-0.63 U
106.6	101.17 Y	29.26 A	-0.28 U	-1088.36 A	11.10 U	-0.72 U
	101.17 AD	29.31 A	-0.32 U	-1088.38 A	11.15 U	-0.72 C
100.5	102.32 AD	29.69 A	-0.32 U	-1306.69 A	13.26 U	-0.83 U
	102.33 AD	29.71 A	-0.35 U	-1306.74 A	13.27 U	-0.82 U
96.0	103.89 AD	29.98 A	-0.35 U	-1468.89 A	14.95 U	-0.90 U
	103.89 AD	29.92 K	-0.31 F	-1468.82 A	14.97 U	-0.91 U
89.9	105.33 AD	30.33 K	-0.31 F	-1688.37 A	16.82 U	-0.97 U
	105.33 AD	30.35 K	-0.38 F	-1688.31 A	16.86 U	-0.97 U
83.8	106.82 AD	30.76 K	-0.38 F	-1907.98 A	18.81 U	-1.03 U
	106.82 AD	30.91 K	-0.28 F	-1908.03 A	18.80 U	-1.03 U
77.7	108.33 AD	31.31 K	-0.28 F	-2127.74 A	20.56 U	-1.08 U
	108.33 AD	31.27 K	-0.29 F	-2127.76 A	20.55 U	-1.07 U
71.6	109.93 AD	31.70 K	-0.29 F	-2348.16 A	22.33 U	-1.11 U
	109.93 AD	31.74 K	-0.31 F	-2348.12 A	22.42 U	-1.11 U
65.5	111.54 AD	32.15 K	-0.31 F	-2569.32 K	23.65 U	-1.16 F
	111.54 AD	32.08 K	-0.30 F	-2569.27 K	23.55 U	-1.16 F
59.4	113.24 AD	32.53 K	-0.30 F	-2791.03 K	24.73 U	-1.23 F
	113.24 AD	32.59 K	-0.31 F	-2790.87 K	24.65 U	-1.23 F
53.2	114.99 AD	33.05 K	-0.31 F	-3013.08 K	25.78 U	-1.30 F
	114.99 AD	33.00 K	-0.26 F	-3013.17 K	25.76 U	-1.30 F
47.0	118.32 AD	33.45 K	-0.26 F	-3240.97 K	26.89 U	-1.35 F
	118.32 AD	33.48 K	-0.27 F	-3240.94 K	26.83 U	-1.35 F
41.1	120.34 AD	33.93 K	-0.27 F	-3455.98 K	28.07 U	-1.39 F
	120.34 AD	33.90 K	-0.30 F	-3455.93 K	28.06 U	-1.39 F
35.2	122.38 AD	34.32 K	-0.30 F	-3671.10 K	29.10 U	-1.43 F
	122.38 AD	34.33 Q	-0.31 F	-3671.07 K	29.11 U	-1.43 F
29.4	124.49 AD	34.76 Q	-0.31 F	-3886.60 K	30.10 U	-1.46 F
	124.49 AD	34.74 Q	-0.29 F	-3886.60 K	30.10 U	-1.46 F
23.5	126.65 AD	35.17 Q	-0.29 F	-4102.34 K	31.75 F	-1.49 F
	126.65 AD	35.21 K	-0.29 F	-4102.30 K	31.73 F	-1.49 F
17.6	128.82 AD	35.62 K	-0.29 F	-4318.48 K	33.46 F	-1.50 F
	128.82 AD	35.61 K	-0.31 F	-4318.50 K	33.48 F	-1.50 F
	131.06 AD	36.03 K	-0.31 F	-4534.78 K	35.31 F	-1.52 F

11.7	131.06 AD	36.03 K	-0.31 F	-4534.78 K	35.31 F	-1.52 F
	133.33 AD	36.44 K	-0.31 F	-4751.17 K	37.16 F	-1.53 F
5.9	133.33 AD	36.43 K	-0.32 F	-4751.17 K	37.16 F	-1.53 F
	135.62 AD	36.84 K	-0.32 F	-4967.57 K	39.05 F	-1.53 F
base	135.62 AD	-36.84 K	0.32 F	4967.57 K	-39.05 F	1.53 F
reaction						

COMPLIANCE WITH 4.8.2 & 4.5.4

=====

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t (w/t)	MAX ALLOWED
154.00	0.00D	0.00T	0.00T	0.00T	YES	11.64A	45.2
	0.00AG	0.00E	0.00M	0.00E	YES	12.45A	45.2
149.43	0.00AD	0.00C	0.00U	0.00H	YES	12.45A	45.2
	0.04AD	0.09A	0.02U	0.10A	YES	13.06A	45.2
146.00	0.03AD	0.07E	0.01H	0.08E	YES	10.37A	45.2
	0.03AD	0.13H	0.01H	0.14H	YES	10.80A	45.2
143.00	0.03AG	0.14H	0.01A	0.15H	YES	10.52A	45.2
	0.04AG	0.24A	0.02A	0.26A	YES	11.38A	45.2
136.93	0.04AA	0.24A	0.02A	0.26A	YES	11.38A	45.2
	0.04AA	0.39A	0.02A	0.41A	YES	12.24A	45.2
130.86	0.04AJ	0.39A	0.02A	0.41A	YES	12.24A	45.2
	0.05AJ	0.51A	0.03A	0.54A	YES	13.10A	45.2
124.79	0.05AA	0.51A	0.03A	0.54A	YES	13.10A	45.2
	0.04AA	0.63A	0.03A	0.66A	YES	13.96A	45.2
118.71	0.04AJ	0.63A	0.03A	0.66A	YES	13.96A	45.2
	0.05AJ	0.74A	0.03A	0.77A	YES	14.82A	45.2
112.64	0.05Y	0.74A	0.03A	0.77A	YES	14.82A	45.2
	0.05Y	0.84A	0.03A	0.86A	YES	15.69A	45.2
106.57	0.05AD	0.84A	0.03A	0.86A	YES	15.69A	45.2
	0.05AD	0.91A	0.03A	0.94A	YES	16.55A	45.2
100.50	0.04AD	0.76A	0.02A	0.78A	YES	13.73A	45.2
	0.04AD	0.79A	0.02A	0.81A	YES	14.26A	45.2
96.00	0.04AD	0.83A	0.02K	0.85A	YES	13.97A	45.2
	0.04AD	0.86A	0.02K	0.88A	YES	14.69A	45.2
89.89	0.04AD	0.86A	0.02K	0.88A	YES	14.69A	45.2
	0.04AD	0.89A	0.02K	0.91A	YES	15.41A	45.2
83.79	0.04AD	0.89A	0.02K	0.91A	YES	15.41A	45.2
	0.03AD	0.91A	0.02K	0.93A	YES	16.13A	45.2
77.68	0.03AD	0.91A	0.02K	0.93A	YES	16.13A	45.2
	0.03AD	0.93A	0.02K	0.95A	YES	16.86A	45.2

71.57	0.03AD	0.93A	0.02K	0.95A	YES	16.86A	45.2
	0.03AD	0.95K	0.02K	0.97K	YES	17.58A	45.2
65.46	0.03AD	0.95K	0.02K	0.97K	YES	17.58A	45.2
	0.03AD	0.97K	0.02K	0.98K	YES	18.30A	45.2
59.36	0.03AD	0.97K	0.02K	0.98K	YES	18.30A	45.2
	0.03AD	0.98K	0.02K	1.00K	YES	19.02A	45.2
53.25	0.03AD	0.81K	0.02K	0.82K	YES	16.25A	45.2
	0.03AD	0.82K	0.02K	0.83K	YES	16.89A	45.2
47.00	0.03AD	0.84K	0.02K	0.86K	YES	16.59A	45.2
	0.03AD	0.84K	0.02K	0.86K	YES	17.18A	45.2
41.12	0.03AD	0.84K	0.02K	0.86K	YES	17.18A	45.2
	0.03AD	0.85K	0.01K	0.86K	YES	17.78A	45.2
35.25	0.03AD	0.85K	0.01Q	0.86K	YES	17.78A	45.2
	0.03AD	0.85K	0.01Q	0.86K	YES	18.37A	45.2
29.37	0.03AD	0.85K	0.01K	0.86K	YES	18.37A	45.2
	0.03AD	0.85K	0.01K	0.87K	YES	18.97A	45.2
23.50	0.03AD	0.85K	0.01K	0.87K	YES	18.97A	45.2
	0.03AD	0.85K	0.01K	0.87K	YES	19.56A	45.2
17.62	0.03AD	0.85K	0.01K	0.87K	YES	19.56A	45.2
	0.03AD	0.85K	0.01K	0.87K	YES	20.16A	45.2
11.75	0.03AD	0.85K	0.01K	0.87K	YES	20.16A	45.2
	0.03AD	0.85K	0.01K	0.86K	YES	20.75A	45.2
5.88	0.03AD	0.85K	0.01K	0.86K	YES	20.75A	45.2
	0.03AD	0.85K	0.01K	0.86K	YES	21.35A	45.2
0.00							

MAXIMUM LOADS ONTO FOUNDATION (w.r.t. wind direction)

DOWN	SHEAR w.r.t. WIND.DIR		MOMENT w.r.t. WIND.DIR		TORSION
kip	ALONG	ACROSS	ALONG	ACROSS	ft-kip
	kip	kip	ft-kip	ft-kip	
135.62	36.84	-0.32	-4967.57	39.05	-1.53
AD	K	F	K	F	F

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155' Monopole / Silver Lake Road, MI

\*\*\*\*\*

\*\*\*\*\* Service Load Condition \*\*\*\*\*  
 \*\*\*\*\*

\* Only 1 condition(s) shown in full

LOADING CONDITION A =====

60 mph wind with no ice. Wind Azimuth: 0° (1.0 D + 1.0 Wo)

LOADS ON POLE  
 =====

LOAD TYPE	ELEV ft	APPLY. RADIUS ft	LOAD. AZI	AT AZI	FORCES		MOMENTS	
					HORIZ kip	DOWN kip	VERTICAL ft-kip	TORSNAL ft-kip
C	152.000	0.00	0.0	0.0	0.0034	0.0056	0.0000	0.0000
C	149.000	0.00	0.0	0.0	0.0000	3.0992	0.0000	0.0000
C	149.000	0.00	0.0	0.0	2.9482	14.1530	0.0000	0.0000
C	145.000	0.00	0.0	0.0	0.0083	0.0140	0.0000	0.0000
C	137.000	0.00	0.0	0.0	0.0000	2.8496	0.0000	0.0000
C	137.000	0.00	0.0	0.0	2.1458	7.1530	0.0000	0.0000
C	135.000	0.00	0.0	0.0	0.0082	0.0140	0.0000	0.0000
C	127.000	0.00	0.0	0.0	0.0000	1.5850	0.0000	0.0000
C	127.000	0.00	0.0	0.0	1.4957	6.1530	0.0000	0.0000
C	125.000	0.00	0.0	0.0	0.0081	0.0140	0.0000	0.0000
C	117.000	0.00	0.0	0.0	0.0000	1.4602	0.0000	0.0000
C	117.000	0.00	0.0	0.0	1.1673	5.1530	0.0000	0.0000
C	115.000	0.00	0.0	0.0	0.0079	0.0140	0.0000	0.0000
C	105.000	0.00	0.0	0.0	0.0078	0.0140	0.0000	0.0000
C	95.000	0.00	0.0	0.0	0.0076	0.0140	0.0000	0.0000
C	85.000	0.00	0.0	0.0	0.0074	0.0140	0.0000	0.0000
C	75.000	0.00	0.0	0.0	0.0072	0.0140	0.0000	0.0000
C	65.000	0.00	0.0	0.0	0.0070	0.0140	0.0000	0.0000
C	55.000	0.00	0.0	0.0	0.0068	0.0140	0.0000	0.0000
C	45.000	0.00	0.0	0.0	0.0065	0.0140	0.0000	0.0000
C	35.000	0.00	0.0	0.0	0.0062	0.0140	0.0000	0.0000
C	25.000	0.00	0.0	0.0	0.0057	0.0140	0.0000	0.0000
C	15.000	0.00	0.0	0.0	0.0052	0.0140	0.0000	0.0000
D	154.000	0.00	180.0	0.0	0.0115	0.0500	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0121	0.0527	0.0000	0.0000
D	146.000	0.00	180.0	0.0	0.0125	0.1222	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0125	0.1222	0.0000	0.0000
D	143.000	0.00	180.0	0.0	0.0129	0.0710	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0173	0.1015	0.0000	0.0000
D	100.500	0.00	180.0	0.0	0.0178	0.2308	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0178	0.2308	0.0000	0.0000
D	96.000	0.00	180.0	0.0	0.0181	0.1302	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0210	0.1672	0.0000	0.0000
D	53.250	0.00	180.0	0.0	0.0211	0.3724	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0211	0.3724	0.0000	0.0000
D	47.000	0.00	180.0	0.0	0.0212	0.2061	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0199	0.2407	0.0000	0.0000
D	11.750	0.00	180.0	0.0	0.0199	0.2476	0.0000	0.0000
D	0.000	0.00	180.0	0.0	0.0205	0.2545	0.0000	0.0000

=====

MAXIMUM POLE DEFORMATIONS CALCULATED (w.r.t. wind direction)

=====

MAST ELEV ft	DEFLECTIONS (ft)			ROTATIONS (deg)		
	HORIZONTAL ALONG	ACROSS	DOWN	TILT ALONG	ACROSS	TWIST
154.0	4.03D	0.02F	0.15F	2.92D	-0.01K	0.00K
149.4	3.80D	0.01F	0.14F	2.92D	-0.01K	0.00K
146.0	3.62D	0.01F	0.13F	2.92D	-0.01K	0.00K
143.0	3.47D	0.01F	0.13F	2.90D	-0.01K	0.00K
136.9	3.17D	0.01F	0.11F	2.85D	0.01F	0.00K
130.9	2.87D	0.01F	0.10F	2.77D	0.01F	0.00K

124.8	2.58D	0.01F	0.08F	2.66D	0.01F	0.00K
118.7	2.31D	0.01F	0.07F	2.52D	0.01F	0.00K
112.6	2.05D	0.01F	0.06F	2.37D	0.01F	0.00K
106.6	1.81D	0.01F	0.05F	2.21D	0.01F	0.00K
100.5	1.59D	0.01F	0.04F	2.03D	0.01F	0.00K
96.0	1.43D	0.01F	0.03A	1.93D	0.01F	0.00K
89.9	1.23D	0.00F	0.03A	1.77D	0.01F	0.00K
83.8	1.05D	0.00F	0.02A	1.61D	0.01F	0.00K
77.7	0.89D	0.00F	0.02A	1.46D	0.01F	0.00K
71.6	0.74D	0.00F	0.01A	1.31D	0.01F	0.00K
65.5	0.61D	0.00F	0.01A	1.17D	0.00F	0.00K
59.4	0.49D	0.00F	0.01A	1.02D	0.00F	0.00K
53.2	0.39D	0.00F	0.01A	0.89D	0.00F	0.00K
47.0	0.30D	0.00F	0.00A	0.77D	0.00F	0.00K
41.1	0.23D	0.00F	0.00A	0.66D	0.00F	0.00K
35.2	0.17D	0.00F	0.00A	0.56D	0.00F	0.00K
29.4	0.11D	0.00F	0.00A	0.46D	0.00F	0.00K
23.5	0.07D	0.00F	0.00A	0.36D	0.00F	0.00K
17.6	0.04D	0.00F	0.00A	0.26D	0.00F	0.00K
11.7	0.02D	0.00F	0.00A	0.17D	0.00F	0.00K
5.9	0.00D	0.00F	0.00L	0.08D	0.00F	0.00K
0.0	0.00A	0.00A	0.00A	0.00A	0.00A	0.00A

MAXIMUM POLE FORCES CALCULATED(w.r.t. to wind direction)

MAST ELEV ft	TOTAL AXIAL kip	SHEAR.w.r.t.WIND.DIR ALONG kip	WIND.DIR ACROSS kip	MOMENT.w.r.t.WIND.DIR ALONG ft-kip	WIND.DIR ACROSS ft-kip	TORSION ft-kip
154.0	0.00 K	-0.01 F	0.00 F	-0.01 C	-0.01 F	0.00 F
149.4	0.24 K	0.06 B	0.00 F	-0.18 L	-0.01 B	0.00 F
146.0	0.24 D	0.08 B	0.03 B	-0.18 I	-0.02 K	0.00 F
143.0	17.67 D	3.07 B	0.03 B	-11.98 B	-0.11 B	0.00 H
136.9	17.67 I	3.10 C	-0.04 C	-12.00 D	-0.13 B	0.00 B
130.9	18.05 I	3.15 C	-0.04 C	-23.98 C	-0.13 B	-0.01 H
124.8	18.05 D	3.17 H	0.04 H	-23.97 C	-0.14 B	-0.01 H
118.7	28.50 D	5.40 H	0.04 H	-49.00 H	-0.29 B	-0.01 C
112.6	28.50 L	5.36 D	-0.04 K	-49.01 H	-0.30 B	-0.01 K
106.6	28.99 L	5.45 D	-0.04 K	-90.17 D	0.42 K	-0.02 K
100.5	29.00 L	5.44 H	0.03 H	-90.16 D	0.43 K	-0.02 K
96.0	37.25 L	7.03 H	0.03 H	-135.78 D	0.59 K	-0.03 K
89.9	37.25 L	7.05 D	-0.05 K	-135.75 D	0.59 K	-0.03 K
83.8	37.77 L	7.15 D	-0.05 K	-189.00 D	0.87 K	-0.04 K



118.7	37.78 L	7.15 D	0.04 H	-188.98 D	0.87 K	-0.04 K
	44.95 L	8.42 D	0.04 H	-248.70 D	1.09 K	-0.05 K
112.6	44.95 L	8.42 H	0.05 H	-248.66 D	-1.09 H	-0.05 K
	45.52 L	8.52 H	0.05 H	-310.84 D	-1.41 H	-0.06 K
106.6	45.53 L	8.52 H	0.05 H	-310.83 D	-1.41 H	-0.06 K
	46.14 L	8.63 H	0.05 H	-373.00 D	-1.71 H	-0.06 K
100.5	46.14 L	8.62 H	0.04 C	-372.99 D	-1.72 H	-0.06 K
	47.18 L	8.70 H	0.04 C	-419.08 D	-1.90 H	-0.07 K
96.0	47.18 L	8.68 C	0.04 C	-419.05 D	-1.92 H	-0.07 K
	48.00 L	8.80 C	0.04 C	-481.73 D	-2.13 H	-0.07 K
89.9	48.00 L	8.79 C	0.04 F	-481.72 D	-2.14 H	-0.07 K
	48.86 L	8.91 C	0.04 F	-544.41 D	-2.31 H	-0.08 K
83.8	48.86 L	8.93 H	0.05 F	-544.39 D	-2.31 H	-0.08 K
	49.74 L	9.05 H	0.05 F	-607.24 D	-2.41 H	-0.08 K
77.7	49.73 L	9.05 D	0.04 F	-607.21 D	-2.44 H	-0.08 K
	50.66 L	9.18 D	0.04 F	-670.23 D	-2.56 H	-0.09 K
71.6	50.66 L	9.19 H	0.04 C	-670.22 D	-2.56 F	-0.09 K
	51.60 L	9.31 H	0.04 C	-733.20 D	-2.79 F	-0.09 K
65.5	51.60 L	9.30 L	0.04 F	-733.17 D	-2.80 F	-0.09 K
	52.58 L	9.44 L	0.04 F	-796.37 D	-3.10 F	-0.10 K
59.4	52.58 L	9.41 L	0.05 C	-796.33 D	-3.11 F	-0.10 K
	53.60 L	9.55 L	0.05 C	-859.53 D	-3.39 F	-0.10 K
53.2	53.60 L	9.55 L	0.04 F	-859.55 D	-3.41 F	-0.10 K
	55.93 L	9.68 L	0.04 F	-924.45 D	-3.67 F	-0.10 K
47.0	55.93 L	9.67 D	0.04 F	-924.46 D	-3.67 F	-0.10 K
	57.17 L	9.80 D	0.04 F	-985.84 D	-3.95 F	-0.11 K
41.1	57.17 L	9.81 D	0.05 F	-985.84 D	-3.94 F	-0.11 K
	58.43 L	9.93 D	0.05 F	-1047.43 D	-4.25 F	-0.11 K
35.2	58.43 L	9.93 D	0.05 I	-1047.43 D	-4.25 F	-0.11 K
	59.74 L	10.05 D	0.05 I	-1109.20 D	-4.53 F	-0.11 K
29.4	59.74 L	10.06 D	0.05 I	-1109.21 D	-4.52 F	-0.11 K
	61.09 L	10.18 D	0.05 I	-1171.16 D	-4.75 F	-0.11 K
23.5	61.09 L	10.19 D	0.05 I	-1171.15 D	-4.75 F	-0.11 K
	62.45 L	10.31 D	0.05 I	-1233.34 D	-4.95 F	-0.11 K
17.6	62.45 L	10.31 D	0.05 I	-1233.34 D	-4.95 F	-0.11 K
	63.86 L	10.43 D	0.05 I	-1295.66 D	-5.14 F	-0.11 K
11.7	63.86 L	10.43 D	0.05 I	-1295.66 D	-5.14 F	-0.11 K
	65.32 L	10.55 D	0.05 I	-1358.11 D	-5.33 F	-0.11 K
5.9	65.32 L	10.55 D	0.05 I	-1358.11 D	-5.33 F	-0.11 K
	66.81 L	10.66 D	0.05 I	-1420.70 D	-5.54 F	-0.11 K

base  
 reaction 66.81 L -10.66 D -0.05 I 1420.70 D 5.54 F 0.11 K

COMPLIANCE WITH 4.8.2 & 4.5.4

ELEV ft	AXIAL	BENDING	SHEAR + TORSIONAL	TOTAL	SATISFIED	D/t (w/t)	MAX ALLOWED
154.00	0.00K	0.00H	0.00F	0.00H	YES	11.64A	45.2
149.43	0.00K	0.00L	0.00B	0.00L	YES	12.45A	45.2
146.00	0.01D	0.02B	0.01B	0.04B	YES	13.06A	45.2
143.00	0.01I	0.02D	0.00C	0.03D	YES	10.37A	45.2
136.93	0.01I	0.04C	0.00C	0.05C	YES	10.80A	45.2
130.86	0.01D	0.04C	0.00H	0.05C	YES	10.52A	45.2
124.79	0.02D	0.07H	0.01H	0.09H	YES	11.38A	45.2
118.71	0.02L	0.07H	0.01D	0.09H	YES	11.38A	45.2
112.64	0.02L	0.11D	0.01D	0.13D	YES	12.24A	45.2
106.57	0.02L	0.11D	0.01H	0.13D	YES	12.24A	45.2
100.50	0.02L	0.15D	0.01H	0.17D	YES	13.10A	45.2
96.00	0.02L	0.15D	0.01D	0.17D	YES	13.10A	45.2
89.89	0.02L	0.18D	0.01D	0.20D	YES	13.96A	45.2
83.79	0.02L	0.18D	0.01D	0.20D	YES	13.96A	45.2
77.68	0.02L	0.21D	0.01D	0.23D	YES	14.82A	45.2
71.57	0.02L	0.21D	0.01H	0.23D	YES	14.82A	45.2
65.46	0.02L	0.24D	0.01H	0.26D	YES	15.69A	45.2
59.36	0.02L	0.24D	0.01H	0.26D	YES	15.69A	45.2
	0.02L	0.26D	0.01H	0.28D	YES	16.55A	45.2
	0.02L	0.22D	0.01H	0.23D	YES	13.73A	45.2
	0.02L	0.23D	0.01H	0.24D	YES	14.26A	45.2
	0.02L	0.24D	0.01C	0.25D	YES	13.97A	45.2
	0.02L	0.25D	0.01C	0.26D	YES	14.69A	45.2
	0.02L	0.25D	0.01C	0.27D	YES	15.41A	45.2
	0.02L	0.25D	0.01H	0.27D	YES	15.41A	45.2
	0.02L	0.26D	0.01H	0.28D	YES	16.13A	45.2
	0.02L	0.26D	0.01D	0.28D	YES	16.13A	45.2
	0.02L	0.27D	0.01D	0.28D	YES	16.86A	45.2
	0.02L	0.27D	0.01H	0.28D	YES	16.86A	45.2
	0.02L	0.27D	0.01H	0.29D	YES	17.58A	45.2
	0.02L	0.27D	0.01L	0.29D	YES	17.58A	45.2
	0.02L	0.28D	0.01L	0.29D	YES	18.30A	45.2

	0.02L	0.28D	0.01L	0.29D	YES	18.30A	45.2
	0.02L	0.28D	0.01L	0.29D	YES	19.02A	45.2
53.25	0.01L	0.23D	0.00L	0.24D	YES	16.25A	45.2
	0.01L	0.23D	0.00L	0.25D	YES	16.89A	45.2
47.00	0.01L	0.24D	0.00D	0.25D	YES	16.59A	45.2
	0.01L	0.24D	0.00D	0.25D	YES	17.18A	45.2
41.12	0.01L	0.24D	0.00D	0.25D	YES	17.18A	45.2
	0.01L	0.24D	0.00D	0.25D	YES	17.78A	45.2
35.25	0.01L	0.24D	0.00D	0.25D	YES	17.78A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	18.37A	45.2
29.37	0.01L	0.24D	0.00D	0.26D	YES	18.37A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	18.97A	45.2
23.50	0.01L	0.24D	0.00D	0.26D	YES	18.97A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	19.56A	45.2
17.62	0.01L	0.24D	0.00D	0.26D	YES	19.56A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	20.16A	45.2
11.75	0.01L	0.24D	0.00D	0.26D	YES	20.16A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	20.75A	45.2
5.88	0.01L	0.24D	0.00D	0.26D	YES	20.75A	45.2
	0.01L	0.24D	0.00D	0.26D	YES	21.35A	45.2
0.00							

MAXIMUM LOADS ONTO FOUNDATION (w.r.t. wind direction)

DOWN	SHEAR w.r.t. WIND.DIR		MOMENT w.r.t. WIND.DIR		TORSION
kip	ALONG	ACROSS	ALONG	ACROSS	ft-kip
	kip	kip	ft-kip	ft-kip	
66.81	10.66	0.05	-1420.70	-5.54	-0.11
L	D	I	D	F	K





SO#: 540366  
 Site Name: Silver Lake Road, MI  
 Date: 4/5/2024

## Square Base Plate and Anchor Rods per ANSI/TIA 222-H

### Pole Data

Diameter: 55.090 in (flat to flat)  
 Thickness: 0.4375 in  
 Yield (Fy): 65 ksi  
 # of Sides: 18 "0" IF Round  
 Strength (Fu): 80 ksi

### Reactions

Moment, Mu: 4967.57 ft-kips  
 Axial, Pu: 80.19 kips  
 Shear, Vu: 36.84 kips

### Anchor Rod Data

Quantity: 16 (multiple of 4)  
 Diameter: 2.25 in  
 Rod Material: A615  
 Strength (Fu): 100 ksi  
 Yield (Fy): 75 ksi  
 BC Diam. (in): 62 BC Override:  
 Rod Spacing: 6 in

### Plate Data

Width (in): 60.25 Width Override:  
 Thickness: 3 in  
 Yield (Fy): 50 ksi  
 Eff. Width: 30.12 in  
 Corner Clip: 12.00 in  
 Drain Hole: 2.625 in. diameter  
 Drain Location: 25.25 in. center of pole to center of drain hole  
 Center Hole: 42.5 in. diameter

### Anchor Rod Results

(per 4.9.9)

Maximum Put: 236.61 Kips  
 $\Phi_t \cdot R_{nt}$ : 243.75 Kips  
 Vu: 2.30 Kips  
 $\Phi_v \cdot R_{nv}$ : 149.10 Kips  
 Tension Interaction Ratio: 0.94  
 Maximum Puc: 245.38 Kips  
 $\Phi_c \cdot R_{nc}$ : 268.39 Kips  
 Vu: 2.30 Kips  
 $\Phi_c \cdot R_{ncv}$ : 120.77 Kips  
 Compression Interaction Ratio: 0.91  
 Maximum Interaction Ratio: **94.2% Pass**

### Base Plate Results

Base Plate (Mu/Z): 38.8 ksi  
 Allowable  $\Phi \cdot F_y$ : 45 ksi (per AISC)  
 Base Plate Interaction Ratio: **86.3% Pass**

=====  
LFile for Windows, Version 2019-11.009

Analysis of Individual Files and Drilled Shafts  
Subjected to Lateral Loading Using the p-y Method  
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=====  
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-----  
Files Used for Analysis  
-----

Path to file locations:  
\Program Files (x86)\Ensoft\Lpile2019\files\

Name of input data file:  
540366.lp11d

Name of output report file:  
540366.lp11o

Name of plot output file:  
540366.lp11p

Name of runtime message file:  
540366.lp11r

-----  
Date and Time of Analysis  
-----

Date: April 5, 2024

Time: 10:26:46

-----  
Problem Title  
-----

Site : Silver Lake Road, MI

Tower : 155' Monopole

Prepared for : TOWERNORTH DEVELOPMENT, LLC

Job Number : 540366

Engineer : TTW

-----  
Program Options and Settings  
-----

Computational Options:

- Conventional Analysis
- Engineering Units Used for Data Input and Computations:
- US Customary System Units (pounds, feet, inches)

Analysis Control Options:

- Maximum number of iterations allowed = 999
- Deflection tolerance for convergence = 1.0000E-05 in
- Maximum allowable deflection = 100.0000 in
- Number of pile increments = 100

- Loading Type and Number of Cycles of Loading:
- Static loading specified
  - Use of p-y modification factors for p-y curves not selected
  - Analysis uses layering correction (Method of Georgiadis)
  - No distributed lateral loads are entered
  - Loading by lateral soil movements acting on pile not selected
  - Input of shear resistance at the pile tip not selected
  - Input of moment resistance at the pile tip not selected
  - Input of side resistance moment along pile not selected
  - Computation of pile-head foundation stiffness matrix not selected
  - Push-over analysis of pile not selected
  - Buckling analysis of pile not selected

- Output Options:
- Output files use decimal points to denote decimal symbols.
  - Report only summary tables of pile-head deflection, maximum bending moment, and maximum shear force in output report file.
  - No p-y curves to be computed and reported for user-specified depths
  - Print using wide report formats

-----  
 Pile Structural Properties and Geometry  
 -----

Number of pile sections defined = 1  
 Total length of pile = 33.500 ft  
 Depth of ground surface below top of pile = 0.5000 ft

Pile diameters used for p-y curve computations are defined using 2 points.

p-y curves are computed using pile diameter values interpolated with depth over the length of the pile. A summary of values of pile diameter vs. depth follows.

Point No.	Depth Below Pile Head feet	Pile Diameter inches
1	0.000	96.0000
2	33.500	96.0000

-----  
 Input Structural Properties for Pile Sections:  
 -----

Pile Section No. 1:

Section 1 is a round drilled shaft, bored pile, or CIDH pile

- Length of section = 33.500000 ft
- Shaft Diameter = 96.000000 in
- Shear capacity of section = 0.0000 lbs

-----  
 Ground Slope and Pile Batter Angles  
 -----

Ground Slope Angle = 0.000 degrees  
 = 0.000 radians

Pile Batter Angle = 0.000 degrees  
 = 0.000 radians

-----  
 Soil and Rock Layering Information  
 -----

-----  
The soil profile is modelled using 1 layers

Layer 1 is stiff clay without free water

Distance from top of pile to top of layer = 0.500000 ft  
Distance from top of pile to bottom of layer = 60.500000 ft  
Effective unit weight at top of layer = 110.000000 pcf  
Effective unit weight at bottom of layer = 110.000000 pcf  
Undrained cohesion at top of layer = 1000.000000 psf  
Undrained cohesion at bottom of layer = 1000.000000 psf  
Epsilon-50 at top of layer = 0.010000  
Epsilon-50 at bottom of layer = 0.010000

(Depth of the lowest soil layer extends 27.000 ft below the pile tip)

-----  
Summary of Input Soil Properties  
-----

Layer Num.	Soil Type Name (p-y Curve Type)	Layer Depth ft	Effective Unit Wt. pcf	Cohesion psf	E50 or krm
1	Stiff Clay w/o Free Water	0.5000 60.5000	110.0000 110.0000	1000.0000 1000.0000	0.01000 0.01000

-----  
Static Loading Type  
-----

Static loading criteria were used when computing p-y curves for all analyses.

-----  
Pile-head Loading and Pile-head Fixity Conditions  
-----

Number of loads specified = 2

Load Analysis No.	Load Type	Condition 1	Condition 2	Axial Thrust Force, lbs	Compute Top y vs. Pile Length	Run
1	1	V = 49120. lbs	M = 79481120. in-lbs	106920.	No	
2	1	V = 10660. lbs	M = 17048400. in-lbs	66810.	No	

V = shear force applied normal to pile axis  
M = bending moment applied to pile head  
y = lateral deflection normal to pile axis  
S = pile slope relative to original pile batter angle  
R = rotational stiffness applied to pile head  
Values of top y vs. pile lengths can be computed only for load types with specified shear loading (Load Types 1, 2, and 3).  
Thrust force is assumed to be acting axially for all pile batter angles.

-----  
Computations of Nominal Moment Capacity and Nonlinear Bending Stiffness  
-----

Axial thrust force values were determined from pile-head loading conditions

Number of Pile Sections Analyzed = 1

File Section No. 1:  
-----

Dimensions and Properties of Drilled Shaft (Bored Pile):  
-----



Length of Section = 33.500000 ft  
 Shaft Diameter = 96.000000 in  
 Concrete Cover Thickness (to edge of long. rebar) = 3.625000 in  
 Number of Reinforcing Bars = 46 bars  
 Yield Stress of Reinforcing Bars = 60000. psi  
 Modulus of Elasticity of Reinforcing Bars = 29000000. psi  
 Gross Area of Shaft = 7238. sq. in.  
 Total Area of Reinforcing Steel = 58.271360 sq. in.  
 Area Ratio of Steel Reinforcement = 0.81 percent  
 Edge-to-Edge Bar Spacing = 4.699846 in  
 Maximum Concrete Aggregate Size = 0.750000 in  
 Ratio of Bar Spacing to Aggregate Size = 6.27  
 Offset of Center of Rebar Cage from Center of Pile = 0.0000 in

Axial Structural Capacities:

-----  
 Nom. Axial Structural Capacity =  $0.85 F_c A_c + F_y A_s$  = 30959.621 kips  
 Tensile Load for Cracking of Concrete = -3356.078 kips  
 Nominal Axial Tensile Capacity = -3496.282 kips

Reinforcing Bar Dimensions and Positions Used in Computations:

Bar Number	Bar Diam. inches	Bar Area sq. in.	X inches	Y inches
1	1.270000	1.266769	43.740000	0.000000
2	1.270000	1.266769	43.332603	5.955929
3	1.270000	1.266769	42.118002	11.800911
4	1.270000	1.266769	40.118822	17.426064
5	1.270000	1.266769	37.372305	22.726602
6	1.270000	1.266769	33.929612	27.603787
7	1.270000	1.266769	29.854874	31.966765
8	1.270000	1.266769	25.223997	35.734263
9	1.270000	1.266769	20.123245	38.836099
10	1.270000	1.266769	14.647634	41.214493
11	1.270000	1.266769	8.899166	42.825138
12	1.270000	1.266769	2.984923	43.638032
13	1.270000	1.266769	-2.984923	43.638032
14	1.270000	1.266769	-8.899166	42.825138
15	1.270000	1.266769	-14.647634	41.214493
16	1.270000	1.266769	-20.123245	38.836099
17	1.270000	1.266769	-25.223997	35.734263
18	1.270000	1.266769	-29.854874	31.966765
19	1.270000	1.266769	-33.929612	27.603787
20	1.270000	1.266769	-37.372305	22.726602
21	1.270000	1.266769	-40.118822	17.426064
22	1.270000	1.266769	-42.118002	11.800911
23	1.270000	1.266769	-43.332603	5.955929
24	1.270000	1.266769	-43.740000	0.000000
25	1.270000	1.266769	-43.332603	-5.955929
26	1.270000	1.266769	-42.118002	-11.800911
27	1.270000	1.266769	-40.118822	-17.426064
28	1.270000	1.266769	-37.372305	-22.726602
29	1.270000	1.266769	-33.929612	-27.603787
30	1.270000	1.266769	-29.854874	-31.966765
31	1.270000	1.266769	-25.223997	-35.734263
32	1.270000	1.266769	-20.123245	-38.836099
33	1.270000	1.266769	-14.647634	-41.214493
34	1.270000	1.266769	-8.899166	-42.825138
35	1.270000	1.266769	-2.984923	-43.638032
36	1.270000	1.266769	2.984923	-43.638032
37	1.270000	1.266769	8.899166	-42.825138
38	1.270000	1.266769	14.647634	-41.214493
39	1.270000	1.266769	20.123245	-38.836099
40	1.270000	1.266769	25.223997	-35.734263
41	1.270000	1.266769	29.854874	-31.966765
42	1.270000	1.266769	33.929612	-27.603787
43	1.270000	1.266769	37.372305	-22.726602
44	1.270000	1.266769	40.118822	-17.426064
45	1.270000	1.266769	42.118002	-11.800911
46	1.270000	1.266769	43.332603	-5.955929

NOTE: The positions of the above rebars were computed by LFile

Minimum spacing between any two bars not equal to zero = 4.700 inches  
 between bars 31 and 32.

Ratio of bar spacing to maximum aggregate size = 6.27

Concrete Properties:

-----

Compressive Strength of Concrete	=	4500. psi
Modulus of Elasticity of Concrete	=	3823676. psi
Modulus of Rupture of Concrete	=	-503.115295 psi
Compression Strain at Peak Stress	=	0.002001
Tensile Strain at Fracture of Concrete	=	-0.0001152
Maximum Coarse Aggregate Size	=	0.750000 in

Number of Axial Thrust Force Values Determined from Pile-head Loadings = 2

Number	Axial Thrust Force kips
1	66.810
2	106.920

-----  
Summary of Results for Nominal Moment Capacity for Section 1  
-----

Moment values interpolated at maximum compressive strain = 0.003  
or maximum developed moment if pile fails at smaller strains.

Load No.	Axial Thrust kips	Nominal Mom. Cap. in-kip	Max. Comp. Strain
1	66.810	143788.563	0.00300000
2	106.920	145210.633	0.00300000

Note that the values of moment capacity in the table above are not factored by a strength reduction factor (phi-factor).

In ACI 318, the value of the strength reduction factor depends on whether the transverse reinforcing steel bars are tied hoops (0.65) or spirals (0.75).

The above values should be multiplied by the appropriate strength reduction factor to compute ultimate moment capacity according to ACI 318, or the value required by the design standard being followed.

The following table presents factored moment capacities and corresponding bending stiffnesses computed for common resistance factor values used for reinforced concrete sections.

Axial Load No.	Resist. Factor	Nominal Ax. Thrust kips	Nominal Moment Cap in-kips	Ult. (Fac) Ax. Thrust kips	Ult. (Fac) Moment Cap in-kips	Bend. Stiff. at Ult Mom kip-in <sup>2</sup>
1	0.65	66.810000	143789.	43.426500	93463.	3.3894E+09
2	0.65	106.920000	145211.	69.498000	94387.	3.4267E+09
1	0.75	66.810000	143789.	50.107500	107841.	3.2671E+09
2	0.75	106.920000	145211.	80.190000	108908.	3.3038E+09
1	0.90	66.810000	143789.	60.129000	129410.	2.1435E+09
2	0.90	106.920000	145211.	96.228000	130690.	2.1712E+09

-----  
Summary of Pile-head Responses for Conventional Analyses  
-----

Definitions of Pile-head Loading Conditions:

- Load Type 1: Load 1 = Shear, V, lbs, and Load 2 = Moment, M, in-lbs
- Load Type 2: Load 1 = Shear, V, lbs, and Load 2 = Slope, S, radians
- Load Type 3: Load 1 = Shear, V, lbs, and Load 2 = Rot. Stiffness, R, in-lbs/rad.
- Load Type 4: Load 1 = Top Deflection, y, inches, and Load 2 = Moment, M, in-lbs
- Load Type 5: Load 1 = Top Deflection, y, inches, and Load 2 = Slope, S, radians

Load Case No.	Load Type	Pile-head Load 1	Load Type 2	Pile-head Load 2	Axial Loading lbs	Pile-head Deflection inches	Pile-head Rotation radians	Max Shear in Pile lbs	Max Moment in Pile in-lbs
1	1								

1	V, lb	49120.	M, in-lb	7.95E+07	106920.	15.1839	-0.06271	-421982.	8.08E+07
2	V, lb	10660.	M, in-lb	1.70E+07	66810.	0.04292	-2.73E-04	-84641.	1.73E+07

Maximum pile-head deflection = 15.1838654109 inches  
Maximum pile-head rotation = -0.0627073970 radians = -3.592869 deg.

The analysis ended normally.

**IBC 1807.3.2.1**

Moment (ft·k)	4,967.57	
Shear (k)	36.84	
Caisson diameter (ft)	8	
Caisson height above ground (ft)	0.5	
Caisson height below ground (ft)	27	
Lateral soil pressure (lb/ft <sup>2</sup> )	300.00	
Ground to application of force, h (ft)	135.34	
Applied lateral force, P (lb)	36,840	
Lateral soil bearing pressure, S <sub>1</sub> (lb/ft)	2,700.00	
Diameter, b (ft)	8	
A	3.99	$= (2.34P)/(S_1 b)$
Minimum depth of embedment, d (ft)	26.34	$= 0.5A [ 1 + ( 1 + ( 4.36h / A ) )^{1/2} ]$

**MAT FOUNDATION DESIGN BY SABRE INDUSTRIES**

155' Monopole TOWNORTH DEVELOPMENT, LLC Silver Lake Road, MI (540366) 04/05/24 TTW

**Overall Loads:**

Factored Moment (ft-kips)	4967.57
Factored Axial (kips)	80.19
Factored Shear (kips)	36.84
Bearing Design Strength (ksf)	3.75
Water Table Below Grade (ft)	999
Width of Mat (ft)	26
Thickness of Mat (ft)	2
Depth to Bottom of Slab (ft)	6
Quantity of Bolts in Bolt Circle	16
Bolt Circle Diameter (in)	62
Effective Anchor	
Bolt Embedment (in)	66.5
Diameter of Pier (ft)	8
Ht. of Pier Above Ground (ft)	0.5
Ht. of Pier Below Ground (ft)	4
Quantity of Bars in Mat	27
Bar Diameter in Mat (in)	1.27
Area of Bars in Mat (in <sup>2</sup> )	34.20
Spacing of Bars in Mat (in)	11.72
Quantity of Bars Pier	46
Bar Diameter in Pier (in)	1.27
Tie Bar Diameter in Pier (in)	0.625
Spacing of Ties (in)	4
Area of Bars in Pier (in <sup>2</sup> )	58.27
Spacing of Bars in Pier (in)	5.97
f'c (ksi)	4.5
fy (ksi)	60
Unit Wt. of Soil (kcf)	0.11
Unit Wt. of Concrete (kcf)	0.15

Max. Net Bearing Press. (ksf)	3.36
Allowable Bearing Pressure (ksf)	2.50
Safety Factor	2.00
Ultimate Bearing Pressure (ksf)	5.00
Bearing Φs	0.75

Minimum Pier Diameter (ft)	8.00
Equivalent Square b (ft)	7.09
Square Pier? (Y/N)	N

Recommended Spacing (in)	5 to 12
--------------------------	---------

Minimum Pier A <sub>s</sub> (in <sup>2</sup> )	36.19
Recommended Spacing (in)	5 to 12

Volume of Concrete (yd<sup>3</sup>) 58.45

**Two-Way Shear Action:**

Average d (in)	19.73
φv <sub>c</sub> (ksi)	0.195
φv <sub>c</sub> = φ(2 + 4/β <sub>c</sub> )f' <sub>c</sub> <sup>1/2</sup>	0.302
φv <sub>c</sub> = φ(α <sub>s</sub> d/b <sub>o</sub> +2)f' <sub>c</sub> <sup>1/2</sup>	0.195
φv <sub>c</sub> = φ4f' <sub>c</sub> <sup>1/2</sup>	0.201
Shear perimeter, b <sub>o</sub> (in)	419.23
β <sub>c</sub>	1

v <sub>u</sub> (ksi)	0.094
----------------------	-------

J (in <sup>3</sup> )	1.528E+07
c + d (in)	104.81
0.40M <sub>sc</sub> (ft-kips)	2053.3

**One-Way Shear:**

φV <sub>c</sub> (kips)	619.4
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V <sub>u</sub> (kips)	351.5
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**Stability:**

Overturning Design Strength (ft-k)	6772.9
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Total Applied M (ft-k)	5207.0
------------------------	--------

**Pier-Slab Transfer by Flexure:**

$b_{slab}$ (ft)	14.00		
$\phi M_n$ (ft-kips)	3127.8	$0.60M_{sc}$ (ft-kips)	3080.0

**Pier Design:**

$\phi V_n$ (kips)	1276.1	$V_u$ (kips)	36.8
$\phi V_c = \phi 2(1 + N_u / (2000 A_g)) f'_c {}^{1/2} b_w d$	746.0		
$V_s$ (kips)	706.9	*** $V_s \max = 4 f'_c {}^{1/2} b_w d$ (kips)	1978.3
Maximum Spacing (in)	7.62	(Only if Shear Ties are Required)	
Actual Hook Development (in)	18.46	Req'd Hook Development $l_{dh}$ (in) - Tension	15.90
		Req'd Hook Development $l_{dc}$ (in) - Compression	17.15

**Flexure in Slab:**

$\phi M_n$ (ft-kips)	2904.4	$M_u$ (ft-kips)	2213.9
$a$ (in)	1.72		
Steel Ratio	0.00556		
$\beta_1$	0.825		
Maximum Steel Ratio ( $\rho_t$ )	0.0197		
Minimum Steel Ratio	0.0018		
Rebar Development in Pad (in)	105.00	Required Development in Pad (in)	34.08

Condition	1 is OK, 0 Fails
Maximum Soil Bearing Pressure	1
Pier Area of Steel	1
Pier Shear	1
Interaction Diagram	1
Two-Way Shear Action	1
One-Way Shear Action	1
Overtuning	1
Flexure	1
Steel Ratio	1
Length of Development in Pad	1
Hook Development	1
Anchor Bolt Pullout	1
Anchor Bolt Punching Shear	1

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**Federal Communications Commission  
Wireless Telecommunications Bureau**

**RADIO STATION AUTHORIZATION**

LICENSEE: ALLTEL CORPORATION

ATTN: REGULATORY  
ALLTEL CORPORATION  
5055 NORTH POINT PKWY, NP2NE ENGINEERING  
ALPHARETTA, GA 30022

<b>Call Sign</b> KNKN698	<b>File Number</b>
<b>Radio Service</b> CL - Cellular	
<b>Market Numer</b> CMA474	<b>Channel Block</b> B
<b>Sub-Market Designator</b> 0	

**FCC Registration Number (FRN):** 0002942159

<b>Market Name</b> Michigan 3 - Emmet
--

<b>Grant Date</b> 01-28-2020	<b>Effective Date</b> 05-07-2020	<b>Expiration Date</b> 03-01-2030	<b>Five Yr Build-Out Date</b>	<b>Print Date</b>
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**Site Information:**

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
1	44-46-13.0 N	085-41-43.3 W	320.0		

**Address:** TRAVERSE CITY CELL SITE 5677 GRAY ROAD  
**City:** TRAVERSE CITY **County:** GRAND TRAVERSE **State:** MI **Construction Deadline:**

**Antenna: 1**

<b>Maximum Transmitting ERP in Watts:</b> 191.960								
Azimuth(from true north)	0	45	90	135	180	225	270	315
<b>Antenna Height AAT (meters)</b>	235.400	260.000	260.900	195.800	167.800	180.100	180.000	237.100
<b>Transmitting ERP (watts)</b>	191.960	123.940	25.890	2.710	1.010	1.920	21.050	115.670

**Antenna: 2**

<b>Maximum Transmitting ERP in Watts:</b> 186.950								
Azimuth(from true north)	0	45	90	135	180	225	270	315
<b>Antenna Height AAT (meters)</b>	235.400	260.000	260.900	195.800	167.800	180.100	180.000	237.100
<b>Transmitting ERP (watts)</b>	4.480	39.060	148.500	178.540	81.610	12.640	0.550	0.920

**Antenna: 3**

<b>Maximum Transmitting ERP in Watts:</b> 191.960								
Azimuth(from true north)	0	45	90	135	180	225	270	315
<b>Antenna Height AAT (meters)</b>	235.400	260.000	260.900	195.800	167.800	180.100	180.000	237.100
<b>Transmitting ERP (watts)</b>	6.360	0.700	0.580	10.070	72.980	175.070	159.670	48.220

**Conditions:**

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
2	45-05-01.0 N	085-16-58.2 W	280.0		

Address: APPROXIMATELY 400 FT. NORTH OF STATE HWY 88 1.3 MI NORTHEAST OF

City: CENTRAL LAKE County: ANTRIM State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	167.700							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	43.700	50.100	39.400	45.100	52.100	59.400	62.500	56.400
Transmitting ERP (watts)	159.670	159.670	159.670	159.670	159.670	159.670	159.670	159.670

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
3	45-30-08.0 N	085-01-44.2 W	369.1		

Address: 3399 Wressel Road

City: Stutsmanville County: EMMET State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	161.140							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	211.300	239.200	207.200	256.600	280.400	304.000	300.900	259.600
Transmitting ERP (watts)	116.740	128.000	137.150	22.760	65.650	88.550	64.150	94.890

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
4	44-45-43.0 N	085-10-53.0 W	313.9	106.0	1021183

Address: (Kalkaska) 3333 Beebe Road

City: Kalkaska County: KALKASKA State: MI Construction Deadline: 08-20-2014

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.400	80.000	64.600	72.800	82.700	114.500	142.600	183.100
Transmitting ERP (watts)	119.470	119.880	14.020	0.810	0.540	0.540	0.540	14.480

Antenna: 2

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.400	80.000	64.600	72.800	82.700	114.500	142.600	183.100
Transmitting ERP (watts)	0.540	16.800	186.380	182.980	15.650	0.780	0.540	0.540

Antenna: 3

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	120.400	80.000	64.600	72.800	82.700	114.500	142.600	183.100
Transmitting ERP (watts)	0.540	0.540	1.250	32.920	233.560	126.590	6.830	0.770



Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
5	45-19-27.0 N	084-52-44.2 W	378.0	153.3	1000622

Address: Petoskey Cell Site 595 Krause Road

City: Petoskey County: EMMET State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	242.800	279.000	202.000	178.400	256.800	246.100	245.400	283.600
Transmitting ERP (watts)	41.980	129.720	215.280	142.230	110.410	89.740	205.590	230.670

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
6	45-37-33.0 N	084-47-33.2 W	264.9	60.6	1056667

Address: 6123 Reed Rd

City: Levering County: EMMET State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	96.300							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	117.000	98.000	90.000	112.000	97.000	88.000	83.000	82.000
Transmitting ERP (watts)	18.000	2.000	2.000	9.000	42.000	40.000	37.000	47.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
7	44-49-16.0 N	085-59-47.3 W			

Address: 1127 Airport Road

City: Glen Arbor County: LEELANAU State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	189.900							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	216.000	203.000	153.000	150.000	152.000	209.000	230.000	202.000
Transmitting ERP (watts)	56.000	131.000	138.000	141.000	131.000	60.000	14.000	15.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
8	45-41-11.0 N	085-31-38.3 W			

Address: Approximately 100 feet West of Kings Highway and 900ft. South of Pogenog

City: St. James County: CHARLEVOIX State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	49.300							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	51.000	54.000	54.000	54.000	40.000	36.000	51.000	52.000
Transmitting ERP (watts)	86.000	223.000	500.000	177.000	99.000	194.000	500.000	199.000

Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
9	45-20-04.0 N	085-14-50.2 W			

Address: 09011 Mt. McSauba Road  
City: Charlevoix County: CHARLEVOIX State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 55.200  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 69.000 69.000 22.000 57.000 33.000 51.000 69.000 69.000  
Transmitting ERP (watts) 105.000 105.000 105.000 105.000 105.000 105.000 105.000 105.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
10	44-42-57.0 N	084-59-00.0 W	358.4	106.3	1021171

Address: (Cub Lake) 9321 M-72 NE  
City: CUB LAKE County: KALKASKA State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 140.820  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 69.500 77.700 86.300 101.300 106.300 111.300 107.200 103.600  
Transmitting ERP (watts) 204.640 91.200 8.170 0.410 0.410 1.450 16.220 112.980

Antenna: 2  
Maximum Transmitting ERP in Watts: 140.820  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 69.500 77.700 86.300 101.300 106.300 111.200 107.200 103.600  
Transmitting ERP (watts) 2.910 34.040 158.120 182.810 47.860 2.780 0.410 0.410

Antenna: 3  
Maximum Transmitting ERP in Watts: 140.820  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 69.500 77.700 86.300 101.300 106.300 111.200 107.200 103.600  
Transmitting ERP (watts) 1.070 0.410 0.800 7.180 63.530 194.540 140.930 21.280

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
11	45-01-48.0 N	084-56-26.2 W	371.8	113.4	1121180

Address: 7658 FRANCIS ROAD  
City: ELMIRA County: ANTRIM State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 134.200  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 196.000 103.900 60.900 64.900 81.400 147.900 229.700 188.800  
Transmitting ERP (watts) 135.900 2.840 0.330 0.550 57.970 129.780 45.000 83.790

Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
12	45-10-49.0 N	085-05-50.2 W			

Address: DUTCHMAN BAY ROAD (WKHQ TOWER)  
City: CHA RIEVOIX County: CHARLEVOIX State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 223.000  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 253.000 224.000 221.000 175.000 223.000 211.000 230.000 244.000  
Transmitting ERP (watts) 129.000 93.000 63.000 25.000 79.000 107.000 148.000 159.000

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
13	44-35-33.0 N	085-31-07.2 W	306.0		

Address: KINGSLEY CELL SITE: 6422 SUMMIT CITY ROAD  
City: KINGSLEY County: GRAND TRAVERSE State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 225.530  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 149.400 141.100 99.900 99.200 100.000 90.600 86.200 148.800  
Transmitting ERP (watts) 42.970 205.690 163.390 115.670 205.690 115.670 163.390 205.690

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
14	44-38-07.0 N	085-45-53.3 W	260.8		

Address: INTERLOCHEN CELL SITE: 1 LYON STREET  
City: INTERLOCHEN County: GRAND TRAVERSE State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 129.780  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 96.600 101.600 87.200 35.200 35.300 107.100 100.700 101.500  
Transmitting ERP (watts) 129.780 129.780 129.780 129.780 129.780 129.780 129.780 129.780

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
16	44-54-04.0 N	085-01-45.0 W	417.0	100.5	1008541

Address: Mancelona/Antrim Cell Site 005 Mancelona Rd  
City: Mancelona County: ANTRIM State: MI Construction Deadline:

Antenna: 1  
Maximum Transmitting ERP in Watts: 140.820  
Azimuth(from true north) 0 45 90 135 180 225 270 315  
Antenna Height AAT (meters) 202.400 124.400 102.000 97.400 118.300 176.400 229.600 221.400  
Transmitting ERP (watts) 190.550 223.870 125.890 104.710 245.470 173.780 154.880 112.200

Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
17	44-49-22.2 N	084-53-21.8 W	397.1	106.4	1204253

Address: (Starvation Lake) 7536 Blue Lake Rd

City: Mancelona County: KALKASKA State: MI Construction Deadline: 08-20-2014

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	91.600	82.800	80.000	109.700	95.000	109.700	102.600	93.800
Transmitting ERP (watts)	217.270	96.830	8.670	0.430	0.430	1.540	17.220	119.950

Antenna: 2

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	91.600	82.000	80.000	109.700	95.000	109.700	102.600	93.800
Transmitting ERP (watts)	3.090	36.140	167.880	194.090	50.820	2.950	0.430	0.430

Antenna: 3

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	91.600	82.800	80.000	109.700	95.000	109.700	102.600	93.800
Transmitting ERP (watts)	1.140	0.430	0.850	7.620	67.450	206.540	149.620	22.590

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
18	44-42-25.5 N	084-52-57.2 W	386.2	69.2	1056763

Address: Cub Lake/Grayling Cell Site 4368 Moral S. E.

City: Grayling County: KALKASKA State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	53.400	66.800	90.500	91.900	83.600	88.800	88.100	74.800
Transmitting ERP (watts)	52.700	141.850	89.500	107.610	120.740	112.680	79.770	138.630

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
19	44-33-57.3 N	085-39-54.1 W	340.4	106.4	1226569

Address: Buckley Cell Site 310M-37 South

City: Kingsley County: GRAND TRAVERSE State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:	140.820							
Azimuth(from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	150.600	156.000	114.100	130.100	134.100	106.200	139.600	159.900
Transmitting ERP (watts)	127.060	127.060	127.060	127.060	127.060	127.060	127.060	127.060

Licensee Name: ALLTEL CORPORATION

Call Sign: KNKN698

File Number:

Print Date:

Location	Latitude	Longitude	Ground Elevation (meters)	Structure Hgt to Tip (meters)	Antenna Structure Registration No.
20	45-46-17.0 N	084-45-04.0 W	193.5	99.1	1001560

Address: Mackinaw Cell Site 212 N. Huron Ave

City: Mackinaw City County: CHEBOYGAN State: MI Construction Deadline:

Antenna: 1

Maximum Transmitting ERP in Watts:

Azimuth (from true north)	0	45	90	135	180	225	270	315
Antenna Height AAT (meters)	91.900	94.400	104.400	59.100	60.900	70.800	104.400	103.900
Transmitting ERP (watts)	215.260	170.990	142.220	87.690	205.570	66.520	98.390	191.850

Control Points:

Control Pt. No. 1

Address: 500 W Dove Road

City: South Lake County: TARRANT State: TX Telephone Number: (800)264-6620

Waivers/Conditions:

THIS AUTHORIZATION IS SUBJECT TO THE CONDITION THAT, IN THE EVENT THAT CELLULAR SYSTEMS USING THE SAME FREQUENCY BLOCK AS GRANTED HEREIN ARE AUTHORIZED IN ADJACENT TERRITORY IN CANADA, COORDINATION OF ANY OF THE LICENSEE'S TRANSMITTER INSTALLATIONS WHICH ARE WITHIN 45 MILES OF THE U.S. CANADA BORDER SHALL BE REQUIRED TO ELIMINATE ANY HARMFUL INTERFERENCE THAT MIGHT OTHERWISE EXIST AND TO INSURE CONTINUANCE OF EQUAL ACCESS TO THE FREQUENCY BLOCK BY BOTH COUNTRIES.

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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (KNLG850), File Number, and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This authorization is subject to the condition that, in the event that systems using the same frequencies as granted herein are authorized in an adjacent foreign territory (Canada/United States), future coordination of any base station transmitters within 72 km (45 miles) of the United States/Canada border shall be required to eliminate any harmful interference to operations in the adjacent foreign territory and to ensure continuance of equal access to the frequencies by both countries.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** KNLG850

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQGA717), File Number (0009798778), and Radio Service (AW - AWS (1710-1755 MHz and 2110-2155 MHz)).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).



Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGA717

File Number: 0009798778

Print Date: 02-23-2022

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQGD651), File Number (0009789958), and Radio Service (AW - AWS (1710-1755 MHz and 2110-2155 MHz)).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

Licensee Name: CELLCO PARTNERSHIP

Call Sign: WQGD651

File Number: 0009789958

Print Date: 02-15-2022

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQJQ691), File Number, and Radio Service (WU - 700 MHz Upper Band (Block C)).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

If the facilities authorized herein are used to provide broadcast operations, whether exclusively or in combination with other services, the licensee must seek renewal of the license either within eight years from the commencement of the broadcast service or within the term of the license had the broadcast service not been provided, whichever period is shorter in length. See 47 CFR §27.13(b).

This authorization is conditioned upon compliance with section 27.16 of the Commission's rules

Conditions: Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WQJQ691

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: LICENSING MANAGER
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQPW449), File Number (0009980018), and Radio Service (AW - AWS (1710-1755 MHz and 2110-2155 MHz)).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This authorization is conditioned upon the licensee, prior to initiating operations from any base or fixed station, making reasonable efforts to coordinate frequency usage with known co-channel and adjacent channel incumbent federal users operating in the 1710-1755 MHz band whose facilities could be affected by the proposed operations.

AWS operations must not cause harmful interference across the Canadian or Mexican Border. The authority granted herein is subject to future international agreements with Canada or Mexico, as applicable.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WQPW449

**File Number:** 0009980018

**Print Date:** 06-01-2022

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQVN957), File Number, and Radio Service (AT - AWS-3) details.

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

NONE

Conditions: Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).



**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WQVN957

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WQXK644), File Number, and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WQXK644

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WREF306), File Number, and Radio Service (UU - Upper Microwave Flexible Use Service).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WREF306

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WRHG494), File Number (0010283156), and Radio Service (UU - Upper Microwave Flexible Use Service).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

NONE

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WRHG494

**File Number:** 0010283156

**Print Date:** 03-15-2023

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WRHG504), File Number (0010283156), and Radio Service (UU - Upper Microwave Flexible Use Service).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

NONE

Conditions: Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).



**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WRHG504

**File Number:** 0010283156

**Print Date:** 03-15-2023

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with Call Sign (WRNG653), File Number, and Radio Service (PM - 3.7 GHz Service).

FCC Registration Number (FRN): 0003290673

Table with columns: Grant Date, Effective Date, Expiration Date, Print Date, Market Number, Channel Block, Sub-Market Designator, Market Name, 1st Build-out Date, 2nd Build-out Date, 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS).

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WRNG653

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Federal Communications Commission
Wireless Telecommunications Bureau

RADIO STATION AUTHORIZATION

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY
CELLCO PARTNERSHIP
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING
ALPHARETTA, GA 30022

Table with 2 columns: Call Sign (WRNG658), File Number, and Radio Service (PM - 3.7 GHz Service).

FCC Registration Number (FRN): 0003290673

Table with 4 columns: Grant Date (07-23-2021), Effective Date (07-23-2021), Expiration Date (07-23-2036), Print Date, Market Number (PEA203), Channel Block (B1), Sub-Market Designator (0), Market Name (Traverse City, MI), 1st Build-out Date (07-23-2029), 2nd Build-out Date (07-23-2033), 3rd Build-out Date, 4th Build-out Date.

Waivers/Conditions:

This final license provides authorization during the full 15-year license term. Operation under this final license may begin on the earlier of (1) 12/5/2025 or (2) the date that the certification for accelerated relocation for this PEA is validated by the FCC pursuant to 47 CFR § 27.1412(g).

License is conditioned on compliance with all applicable FCC rules and regulations, including licensee making payments required by 47 C.F.R. §§ 27.1401- 27.1424 as described in FCC 20-22. See FCC 20-22, paras. 178-331.

Conditions:

Pursuant to §309(h) of the Communications Act of 1934, as amended, 47 U.S.C. §309(h), this license is subject to the following conditions: This license shall not vest in the licensee any right to operate the station nor any right in the use of the frequencies designated in the license beyond the term thereof nor in any other manner than authorized herein. Neither the license nor the right granted thereunder shall be assigned or otherwise transferred in violation of the Communications Act of 1934, as amended. See 47 U.S.C. § 310(d). This license is subject in terms to the right of use or control conferred by §706 of the Communications Act of 1934, as amended. See 47 U.S.C. §606.

This license may not authorize operation throughout the entire geographic area or spectrum identified on the hardcopy version. To view the specific geographic area and spectrum authorized by this license, refer to the Spectrum and Market Area information under the Market Tab of the license record in the Universal Licensing System (ULS). To view the license record, go to the ULS homepage at http://wireless.fcc.gov/uls/index.htm?job=home and select License Search . Follow the instructions on how to search for license information.

**Licensee Name:** CELLCO PARTNERSHIP

**Call Sign:** WRNG658

**File Number:**

**Print Date:**

**700 MHz Relicensed Area Information:**

<b>Market</b>	<b>Market Name</b>	<b>Buildout Deadline</b>	<b>Buildout Notification</b>	<b>Status</b>
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Reference Copy


**AFFIDAVIT OF INTENT TO COLLOCATE**

I, Abigail Ball, am over 18 years old and can affirmatively state and testify to the following:

1. I am currently employed as Sr. Engr <sup>Colt. - Ntwk Reg/RE</sup> for Verizon. My office address is 1 Towne Square 9th Fl  
Southfield MI 48076
2. I am responsible for ensuring that Verizon executes collocation agreements to enable it to deploy new communications facilities to enhance its network.
3. Verizon intends to collocate on the proposed tower to be built by TowerNorth located at 2767 Zimmerman Road, Traverse City in Grand Traverse County, Michigan, which is commonly referred to as the Silver Lake Road site.
4. If the Silver Lake Road site is approved, Verizon plans to install its equipment on the tower.

Further affiant sayeth not.

Date: 4/16/2024

Signed:   
[insert name] Abigail Ball

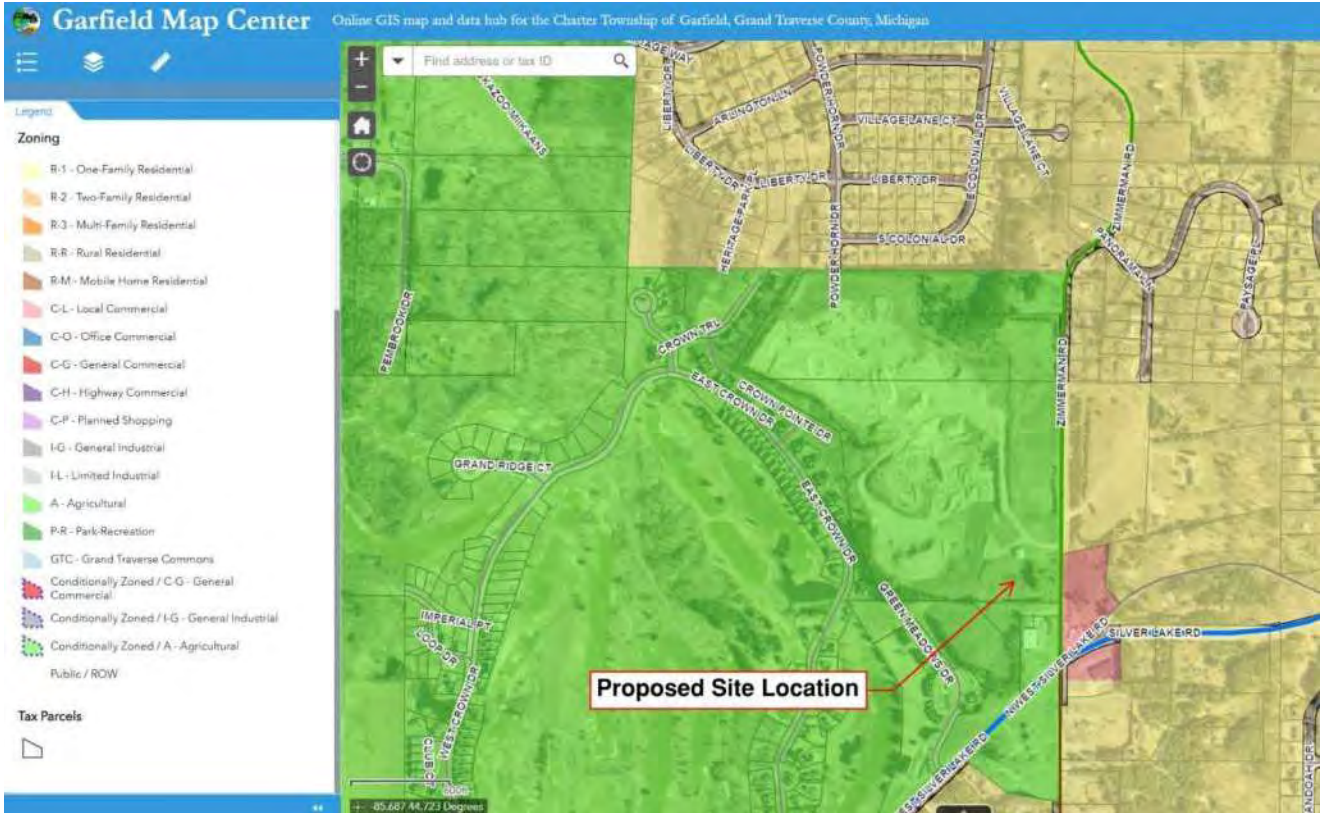
STATE OF Michigan )  
 )  
COUNTY OF Oakland )

Subscribed and sworn before me this 16 day of April, 2024.

BRIANNE JUTIS  
NOTARY PUBLIC, STATE OF MI  
COUNTY OF OAKLAND  
My Commission Expires JUNE 19, 2026  
Acting in County of Oakland

# Exhibit K

## Zoning Map





Mail Processing Center  
Federal Aviation Administration  
Southwest Regional Office  
Obstruction Evaluation Group  
10101 Hillwood Parkway  
Fort Worth, TX 76177

Aeronautical Study No.  
2024-AGL-1817-OE

Issued Date: 03/04/2024

Leslie Lindeman  
Palm-Tech Consulting, LLC  
11365 Little Bear Way  
Boca Raton, FL 33428

**\*\* DETERMINATION OF NO HAZARD TO AIR NAVIGATION \*\***

The Federal Aviation Administration has conducted an aeronautical study under the provisions of 49 U.S.C., Section 44718 and if applicable Title 14 of the Code of Federal Regulations, part 77, concerning:

Structure: Antenna Tower MI0004-A "Silver Lake Road"  
Location: Garfield Township, MI  
Latitude: 44-43-36.80N NAD 83  
Longitude: 85-40-38.80W  
Heights: 966 feet site elevation (SE)  
159 feet above ground level (AGL)  
1125 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

Emissions from this site must be in compliance with the parameters set by collaboration between the FAA and telecommunications companies and reflected in the FAA 5G C band compatibility evaluation process (such as power, frequencies, and tilt angle). Operational use of this frequency band is not objectionable provided the Wireless Providers (WP) obtain and adhere to the parameters established by the FAA 5G C band compatibility evaluation process. **Failure to comply with this condition will void this determination of no hazard.**

**See attachment for additional condition(s) or information.**

Based on this evaluation, marking and lighting are not necessary for aviation safety. However, if marking/lighting are accomplished on a voluntary basis, we recommend it be installed in accordance with FAA Advisory circular 70/7460-1 M.

This determination expires on 09/04/2025 unless:

- (a) the construction is started (not necessarily completed) and FAA Form 7460-2, Notice of Actual Construction or Alteration, is received by this office.
- (b) extended, revised, or terminated by the issuing office.
- (c) the construction is subject to the licensing authority of the Federal Communications Commission (FCC) and an application for a construction permit has been filed, as required by the FCC, within



6 months of the date of this determination. In such case, the determination expires on the date prescribed by the FCC for completion of construction, or the date the FCC denies the application.

NOTE: REQUEST FOR EXTENSION OF THE EFFECTIVE PERIOD OF THIS DETERMINATION MUST BE E-FILED AT LEAST 15 DAYS PRIOR TO THE EXPIRATION DATE. AFTER RE-EVALUATION OF CURRENT OPERATIONS IN THE AREA OF THE STRUCTURE TO DETERMINE THAT NO SIGNIFICANT AERONAUTICAL CHANGES HAVE OCCURRED, YOUR DETERMINATION MAY BE ELIGIBLE FOR ONE EXTENSION OF THE EFFECTIVE PERIOD.

This determination is based, in part, on the foregoing description which includes specific coordinates, heights, frequency(ies) and power. Any changes in coordinates, heights, and frequencies or use of greater power, except those frequencies specified in the Colo Void Clause Coalition; Antenna System Co-Location; Voluntary Best Practices, will void this determination. Any future construction or alteration, including increase to heights, power, or the addition of other transmitters, requires separate notice to the FAA. This determination includes all previously filed frequencies and power for this structure.

If construction or alteration is dismantled or destroyed, you must submit notice to the FAA within 5 days after the construction or alteration is dismantled or destroyed.

This determination does include temporary construction equipment such as cranes, derricks, etc., which may be used during actual construction of the structure. However, this equipment shall not exceed the overall heights as indicated above. Equipment which has a height greater than the studied structure requires separate notice to the FAA.

This determination concerns the effect of this structure on the safe and efficient use of navigable airspace by aircraft and does not relieve the sponsor of compliance responsibilities relating to any law, ordinance, or regulation of any Federal, State, or local government body.

A copy of this determination will be forwarded to the Federal Communications Commission (FCC) because the structure is subject to their licensing authority.

If we can be of further assistance, please contact Robert Kiser, at (404) 305-6616, or Robert.K-CTR.Kiser@faa.gov. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2024-AGL-1817-OE.

**Signature Control No: 612237024-614602149**

( DNE )

David Maddox

Manager, Obstruction Evaluation Group

Attachment(s)

Additional Information

Frequency Data

Map(s)

cc: FCC

## Additional information for ASN 2024-AGL-1817-OE

Part 77 authorizes the FAA to evaluate a structure or object's potential electromagnetic effects on air navigation, communication facilities, and other surveillance systems. It also authorizes study of impact on arrival, departure, and en route procedures for aircraft operating under visual or instrument flight rules, as well as the impact on airport traffic capacity at existing public use airports. Broadcast in the 3.7 to 3.98 GHz frequency (5G C band) currently causes errors in certain aircraft radio altimeters and the FAA has determined they cannot be relied upon to perform their intended function when experiencing interference from wireless broadband operations in the 5G C band. The FAA has adopted Airworthiness Directives for all transport and commuter category aircraft equipped with radio altimeters that prohibit certain operations when in the presence of 5G C band

This determination of no hazard is based upon those mitigations implemented by the FAA and operators of transport and commuter category aircraft, and helicopters operating in the vicinity of your proposed location. It is also based on telecommunication industry and FAA collaboration on acceptable power levels and other parameters as reflected in the FAA 5G C band evaluation process.

The FAA 5G C band compatibility evaluation is a data analytics system used by FAA to evaluate operational hazards related to aircraft design. The FAA 5G C band compatibility evaluation process refers to the process in which the telecommunication companies and the FAA have set parameters, such as power output, locations, frequencies, and tilt angles for antenna that mitigate the hazard to aviation. As the telecommunication companies and FAA refine the tools and methodology, the allowable frequencies and power levels may change in the FAA 5G C band compatibility evaluation process. Therefore, your proposal will not have a substantial adverse effect on the safe and efficient use of the navigable airspace by aircraft provided the equipment and emissions are in compliance with the parameters established through the FAA 5G C band compatibility evaluation process.

Any future changes that are not consistent with the parameters listed in the FAA 5G C band compatibility evaluation process will void this determination of no hazard.

**Frequency Data for ASN 2024-AGL-1817-OE**

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
6	7	GHz	55	dBW
6	7	GHz	42	dBW
10	11.7	GHz	55	dBW
10	11.7	GHz	42	dBW
17.7	19.7	GHz	55	dBW
17.7	19.7	GHz	42	dBW
21.2	23.6	GHz	55	dBW
21.2	23.6	GHz	42	dBW
614	698	MHz	2000	W
614	698	MHz	1000	W
698	806	MHz	1000	W
806	901	MHz	500	W
806	824	MHz	500	W
824	849	MHz	500	W
851	866	MHz	500	W
869	894	MHz	500	W
896	901	MHz	500	W
901	902	MHz	7	W
929	932	MHz	3500	W
930	931	MHz	3500	W
931	932	MHz	3500	W
932	932.5	MHz	17	dBW
935	940	MHz	1000	W
940	941	MHz	3500	W
1670	1675	MHz	500	W
1710	1755	MHz	500	W
1850	1910	MHz	1640	W
1850	1990	MHz	1640	W
1930	1990	MHz	1640	W
1990	2025	MHz	500	W
2110	2200	MHz	500	W
2305	2360	MHz	2000	W
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W
2496	2690	MHz	500	W
3700	3980	MHz	1640	W



May 9, 2024

The Charter Township of Garfield  
3848 Veterans Drive  
Traverse City, MI 49684

**RE: Request for Special Use Permit Approval to locate a Wireless Communication Facility (Cell Tower) at Property Address: 2767 Zimmerman Road, Traverse City, MI 49685**

Dear Members of the Planning Commission:

Please see our Approval Criteria and Impact Assessment review for the aforementioned Special Use Permit application.

I. APPROVAL CRITERIA

- The proposed use will be consistent with the purpose and intent of the master plan and this ordinance, including all regulations of the applicable zoning district;  
**Response: The proposed wireless facility is located in the Agricultural (A) zoning district which permits wireless communication facilities as a Special Use per Section 325 of the Zoning Ordinances.**
- The proposed use will be designed, constructed, operated and maintained so as to be compatible, harmonious and appropriate with the existing or planned character and uses of the neighborhood, adjacent properties and the natural environment;  
**Response: The proposed wireless facility is designed per the zoning ordinances to be compatible and harmonious with the existing and planned character of the adjacent properties and neighborhood.**
- The proposed use will not be detrimental, hazardous or disturbing to existing or future adjacent uses or to the public welfare by reason of excessive traffic, noise, dust, gas, smoke, vibration, odor, glare, visual clutter, electrical or electromagnetic interference;  
**Response: The wireless facility will not generate any traffic, noise, dust, gas, smoke, vibration, odor, glare, visual clutter, electrical or electromagnetic interference. The facility will be an unmanned and unstaffed communications tower.**
- Potential adverse effects arising from the proposed use on the neighborhood and adjacent properties will be minimized through the provision of adequate parking, the placement of buildings, structures and entrances, as well as the provision and location of screening, fencing, landscaping, buffers or setbacks;  
**Response: A parking spot and turnaround area will be installed to provide adequate parking. The facility will be unmanned and unstaffed and no buildings or shelters are proposed. There are existing pine trees along the south property line that will provide natural screening of the wireless facility.**

- The proposed use will retain as many natural features of the property as practicable, particularly where the natural features assist in preserving the general character of the neighborhood;  
**Response: The wireless facility is located on an overall flat parcel which will require minimal grading, reshaping, and minimal tree removal.**
- Adequate public and private infrastructure and services such as streets, water and sewage facilities, drainage structures, police and fire protection, and schools, already exist or will be provided without excessive additional requirements at public cost;  
**Response: A 12ft wide gravel access road will be installed off of Zimmerman Road to the facility. No water, sewage, drainage services are required for the wireless facility. The proposed wireless facility will be a self-supported tower which will be unstaffed and unmanned and will not place any additional demands on the fire, police, or other public services.**
- The establishment, maintenance, or operation of the proposed use shall not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;  
**Response: The proposed wireless facility will not be detrimental or endanger the public health, safety, morals, comfort, or general welfare.**
- The public interest and welfare supporting the proposed use shall be sufficient to outweigh individual interests that are adversely affected by the establishment of the proposed use;  
**Response: The proposed wireless facility will provide enhanced communication capabilities and an emergency communications infrastructure to the Charter Township of Garfield.**
- Adequate measures shall be taken to provide ingress and egress so designed as to minimize traffic hazards and to minimize traffic congestion on the public roads;  
**Response: The proposed wireless facility will be unmanned and unstaffed and will not increase traffic congestion on the public roads.**
- Adequate measures shall be taken to provide vehicular and pedestrian traffic within the site, and in relation to streets and sidewalks servicing the site in a safe and convenient manner; and  
**Response: The proposed wireless facility will be unmanned and unstaffed and will not increase traffic congestion on the public roads.**
- The proposed use shall not impede the orderly development and improvement of surrounding property for uses permitted within the zoning district.  
**Response: The proposed use will not impede the orderly development and improvement of the surrounding properties for their intended uses.**

## II. IMPACT ASSESSMENT

- A written illustrative description of the environmental characteristics of the site prior to development, i.e., topography, soils, vegetative cover, drainage, streams, creeks or ponds.  
**Response: Please see the attached site plans for the existing and proposed site conditions.**
- Types of uses and other man-made facilities.  
**Response: A proposed 155ft monopole wireless communication tower located within a 60'x60' fenced compound with a 6ft tall chain link fence.**
- The number of people to be housed, employed, visitors or patrons and vehicular and pedestrian traffic.  
**Response: The proposed facility is unmanned and unstaffed and may be visited by maintenance personnel approximately 2-4 times per month or as needed for servicing**
- Phasing of the project including ultimate development proposals.  
**Response: Construction is anticipated to be completed in one phase, within 2-3 months.**
- Natural features which will be retained, removed and/or modified including vegetation, drainage, hillsides, streams wetlands, woodlands, wildlife and water. The description of the areas to be changed shall include their effect on the site and adjacent properties. An aerial photo may be used to delineate the areas of change.  
**Response: The wireless facility is located on an overall flat parcel which will require minimal grading, reshaping, and minimal tree removal.**
- The method to be used to serve the development with water and sanitary sewer facilities.  
**Response: No water or sanitary services are required for the wireless facility.**
- The method to be used to control drainage on the site and from the site. This shall include runoff control during periods of construction.  
**Response: A silt fence will be used during construction to control soil erosion and runoff.**
- If the public sewers are not available to the site, the Applicant shall submit a current approval from the Health Department or other responsible public agency indicating approval of plans for sewage treatment.  
**Response: No sewage facility is required for the wireless facility.**
- The method to be used to control any increase in effluent discharge to the air or any increase in noise level emanating from the site. Consideration of any nuisance that would be created within the site or external to the site whether by reason of dust, noise, fumes vibration, smoke or lights.  
**Response: The wireless facility will be an unmanned and unstaffed communications tower and will not generate dust, noise, fumes, vibration, smoke, or lights.**
- An indication of how the proposed use conforms with existing and potential development patterns and any adverse effects.

**Response: The proposed wireless facility will provide enhanced communication capabilities and an emergency communications infrastructure to the Charter Township of Garfield.**

- The proposed density in units per acre for residential developments.

**Response: N/A.**

- Name(s) and address(es) of person(s) responsible for preparation of statement.

**Response: This statement has been prepared by Jaime Mathew with Kimley-Horn and Associates, Inc. an agent on behalf of TowerNorth Development, LLC. Address: 4201 Winfield Road, Suite 600, Warrenville, IL 60555**

- Description of measures to control soil erosion and sedimentation during grading and construction operations and until a permanent ground cover is established. Recommendations for such measures may be obtained from the County Soil Erosion and Sedimentation office.

**Response: A silt fence will be used during the construction of the tower at a minimum. Soil erosion control measures will comply with the terms of the County Soil Erosion and Sedimentation Control Standards.**

- Type, direction, and intensity of outside lighting.

**Response: An FAA Determination of No Hazard to Air Navigation has been completed for the proposed location and marking and lighting are not required. As a result, no lighting on the tower is proposed.**

- General description of deed restrictions, if any.

**Response: N/A**

If you have any questions or require any additional information, please reach out to me directly.

Sincerely,



**Jaime Mathew, P.E. (IL)**  
**Kimley-Horn and Associates, Inc.**  
**Ph: (630) 487-3489**  
**Email: [jaime.mathew@kimley-horn.com](mailto:jaime.mathew@kimley-horn.com)**