

# CHARTER TOWNSHIP OF GARFIELD PLANNING COMMISSION MEETING

Wednesday, June 12, 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 – May 22, 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
  - i. PD 2024-32 – Planning Department Monthly Report – June 2024
  - ii. Master Plan Announcement

**6. Unfinished Business**

- a. PD 2024-36 – Master Plan – Public Hearing, Adoption, and Recommendation
- b. PD 2024-33 – Potter's Home Retreat B&B Special Use Permit – Public Hearing

**7. New Business**

- a. PD 2024-37 – Tower North Wireless Comm. Facility Special Use Permit – Introduction
- b. PD 2024-35 – TJ Maxx – Planned Dev. / Planned Shopping Center Sign Review
- c. PD 2024-34 – Two Brothers Dog Park Café and Taphouse – Conceptual Review

**8. Public Comment**

**9. Other Business**

**10. Items for Next Agenda – June 26, 2024**

- a. Zoning Ordinance Update Projects – R-3 district and Sign Ordinance

**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  
May 22, 2024**

**Call Meeting to Order:** Chair McManus called the May 22, 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: Molly Agostinelli, Joe Robertson, Pat Cline, John Racine, Chris DeGood, Robert Fudge and Joe McManus

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)**

*Fudge moved and Agostinelli seconded to approve the agenda as presented.*

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

*Nays: None*

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

**a. May 8, 2024 Regular Meeting with Township Board**

*Agostinelli moved and DeGood seconded to approve the May 8, 2024 Regular Meeting minutes as presented.*

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

*Nays: None*

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

None

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

**Township Board Report**

Agostinelli stated that she had no report.

**Planning Commissioners**

**i. Zoning Board of Appeals**

Fudge reported that an appeal was heard in a case involving two neighbors. One neighbor was receiving stormwater runoff and the ZBA determined that the other neighbor needed to obtain proper permits and fix the water issue.

- ii. **Parks and Recreation Commission**  
DeGood had no report.
- iii. **Joint Planning Commission**  
Racine said that there was no report.

### **Staff Report**

- i. **Master Plan Announcement**  
Hannon reported that the Master Plan is still within the 63-day review period. Use by right reviews are now being done in the Planning Department.

## **6. Unfinished Business**

### **a. PD 2024-31 - Master Plan Potential Implementation Projects – Discussion/Prioritization (7:04)**

At their study session on April 24, 2024, the Planning Commission discussed several potential future projects for implementing the Master Plan, especially updates to the Zoning Ordinance. The Commissioners asked Staff for additional information on these potential projects including a draft prioritization to determine which projects to do in 2024 and which to do in future years. Staff listed one priority being housing and suggested updates to the R-3 zoning district. Changes could be made to housing allowed by right to include triplex and quadplex housing. Commissioners discussed the potential changes in housing and agreed that larger complexes, five or more units, would need Planning Commission review through a Special Use Permit application. Staff is working on a new mixed-use center zoning district. Sych gave an update on the Cherryland Center and stated that before any other uses are approved, a comprehensive development plan should be approved, especially for proposed uses which change the original footprint. The three major owners of Cherryland will all need to work together for things such as stormwater, signage, and access.

Other zoning ordinance text amendments were suggested by staff such as minor changes to lighting standards. Drive through business designs were discussed at length considering Chick-fil-A. Staff shared some possible recommendations for permitting food trucks in certain districts. An update to the installation of sidewalks or pathways related to the total cost of the project was discussed and staff recommended a small cleanup amendment to bed and breakfasts to clarify guests. Sych also mentioned that staff was working on an ordinance to ensure that the township was not being exclusionary in terms of home vacation rentals. Staff suggested that the sign ordinance needed some legal review. Commissioners asked to place the sign ordinance as a high priority.



**7. New Business (8:22)**

None

**8. Public Comment (8:22)**

None

**9. Other Business (8:22)**

None

**10. Items for Next Agenda – June 12, 2024 (8:22)**

- a. Garfield Township Master Plan – Public Hearing
- b. Potter’s Home Retreat Bed and Breakfast Special Use Permit – Public Hearing
- c. TJ Maxx – Planned Development/Planned Shopping Center Sign Review
- d. Tower North Wireless Communication Facility Special Use Permit - Introduction
- e. Two Brothers Dog Park Café and Taphouse – Conceptual Review

**11. Adjournment**

*Fudge moved to adjourn the meeting at 8:27pm.*

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

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**From:** Shawn Winter <swinter@traversecitymi.gov>  
**Sent:** Tuesday, June 4, 2024 1:14 PM  
**To:** Kelly Dunham; John Sych; Lanie McManus; Claire Karner; plc@eastbaytwp.org; planner@elmwoodmi.gov; clerk@elmwoodmi.gov; Christopher Forsyth; commissioners@gtcountymi.gov; msrussell@glcrailroad.com; Wagner, Dan (MDOT); janie.mcnabb@networksnorthwest.org; Peninsula Township Planning; Becky Chown; Art Krueger; Brandie Ekren; dwatkins@gtcrc.org; khendges@gtcrc.org  
**Cc:** Katie Miller; Leslie Sickterman; Elizabeth Vogel; Colleen Paveglio  
**Subject:** Traverse City Draft Master Plan & Mobility Action Plan - Public Review Period

Greetings,

The Traverse City Planning Commission has prepared a draft Master Plan to replace the current plan adopted in 2009 and updated in 2017. On June 3, 2024 the City Commission voted to distribute the draft plan and begin the 63-day public review period. Pursuant to MCL 125.3841, you are receiving this notice to inform you of the opportunity to comment on the draft plan. Please send any written comments via email to [planning@traversecitymi.gov](mailto:planning@traversecitymi.gov). The 63-day public review period will end on Tuesday, August 6, 2024. The Planning Commission will hold a public hearing later that month with a notice provided to this distribution list as well.

Please note that the City conducted a parallel planning process for a Mobility Action Plan congruently with the Master Plan. The Mobility Action Plan is proposed to be incorporated into the appendix of the Master Plan as a sub-topic/area plan and will be adopted with the Master Plan.

Below are the links to draft plan elements:

[Master Plan Supplemental Report](#)

[Master Plan Prescriptive Plan](#)

[Mobility Action Plan](#)

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Shawn Winter (he/him)


**Planning Director**



**CITY OF  
TRAVERSE CITY**

400 Boardman Ave  
Traverse City, MI 49684  
P: 231.922.4465

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|  |  |              |                          |
|--|--|--------------|--------------------------|
|  <b>Charter Township of Garfield</b><br><b>Planning Department Report No. 2024-32</b> |  |              |                          |
| Prepared:  | June 4, 2024                                   | Pages:       | 2                        |
| Meeting:   | June 11, 2024 Township Board                   | Attachments: | <input type="checkbox"/> |
| Subject:   | Planning Department Monthly Report – June 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:* The application was introduced to the Planning Commission at their 5/8/2024 meeting. The Planning Commission set a public hearing for their 6/12/2024 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 application will be introduced to the Planning Commission at their 6/12/2024 meeting.

***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 will consider this application 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 will review the concept for this proposal at their 6/12/2024 meeting.

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:* Staff sent comments to applicants, awaiting response

***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 MPEA also requires distribution of the draft Master Plan to required entities including the County, neighboring communities, public utilities, and the railroad company.
- Staff distributed the draft Master Plan to the required entities. The required 63-day review period ended on Wednesday May 29, 2024. No comments on the draft Master Plan were received during this review period.
- Remaining key dates in the timeline for adoption of the Master Plan are as follows:


| <i>Date</i>  | <i>Action</i>   |
|--|---|
| <b>June 12, 2024</b> – Planning Commission Meeting | * Final public hearing on Master Plan<br>* Anticipated adoption of Master Plan and recommendation to the Township Board |
| <b>June 25, 2024</b> – Township Board Meeting      | * Anticipated adoption of Master Plan   |

- 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 study session on 5/22/2024, the Planning Commission and Staff discussed several potential projects for 2024 to start implementation of the Master Plan once it is adopted and to potentially propose amendments to the Zoning Ordinance. This was a continuation of the discussion from the 4/24/2024 study session. The Planning Commission provided feedback on which projects to prioritize. The near-term priorities include updating the R-3 zoning district to allow for greater flexibility of housing types and updating sign ordinance regulations in response to recent court cases regarding signs and free speech.

**STAFF:**

John Sych, AICP, Planning Director  
 Email: [jsych@garfield-twp.com](mailto:jsych@garfield-twp.com)  
 Direct Line: (231) 225-3155

Stephen Hannon, AICP, Deputy Planning Director  
 Email: [shannon@garfield-twp.com](mailto:shannon@garfield-twp.com)  
 Direct Line: (231) 225-3156

|  |   |  |
|--|---|--|
|  <b>Charter Township of Garfield</b><br><b>Planning Department Report No. 2024-36</b> |   |  |
| Prepared:  | June 5, 2024                            | Pages: 1   |
| Meeting:   | June 12, 2024 Planning Commission       | Attachments: <input checked="" type="checkbox"/> |
| Subject:   | Master Plan – Adoption & Recommendation |  |

**NOTE TO PLANNING COMMISSIONERS:** Please bring your hard copy of the draft Master Plan to the meeting.

**BACKGROUND:**

In the winter of 2022, during a joint meeting of the Township Board and the Township Planning Commission, the two bodies focused on the need for the Township’s Master Plan to be updated and the process for doing so. The Planning Commission commenced the process in March 2022.

During 2022, information was gathered, and analyses made. Detailed analysis focused on demographics, existing land use, infrastructure, transportation, and housing. During the process, a community survey was formulated, distributed, and results tabulated.

In 2023, the Planning Commission and the Township Board, during a joint meeting, agreed to advance the planning process with a focus on policy development. The goals of the draft Master Plan are based upon the Township Board’s Strategic Plan. Also, public events and meetings with various stakeholders provided opportunities for additional community input.

Earlier this year, upon completion of the final draft of the Master Plan, the Planning Commission held a third joint meeting with the Township Board and began the review process in accordance with the Michigan Planning Enabling Act of 2008 (MCL 125.3801 et seq.). The complete final draft of the Master Plan is available at: <https://www.garfield-twp.com/masterplan.asp>. A public hearing for the final draft Master Plan was scheduled for the regular Planning Commission meeting on June 12, 2024.

**PLAN ADJUSTMENTS:**

Since the distribution of the draft Master Plan, Staff recommends the following minor adjustments:

1. *All Maps.* All the maps contained within the draft Master Plan and Appendix were adjusted to reflect the recent Township boundary change where all parcels of land south of South Airport Road (except within the Traversefield Industrial Park) are now within the boundaries of the Township.
2. *Cherryland Humane Society, 1750 Ahlberg Drive.* The future land use designation for this location was switched from “Low Density Residential (1-3 units/acre)” to “Industrial” due to the likelihood that the current use or similar use would remain in operation for the foreseeable future and given that the access to this location is via Ahlberg Drive, a street with primarily industrial uses.

***There are no text changes to the draft Master Plan.***

**ACTION:**

Following the public hearing, if the Planning Commission finds the final draft Master Plan acceptable, then the following motion is suggested:

MOTION THAT the resolution adopting the Charter Township of Garfield Master Plan in accordance with the procedures set forth in the Michigan Planning Enabling Act (Act 33 of the Public Acts of 2008, as amended), BE ADOPTED and RECOMMEND ADOPTION of the Master Plan to the Township Board.

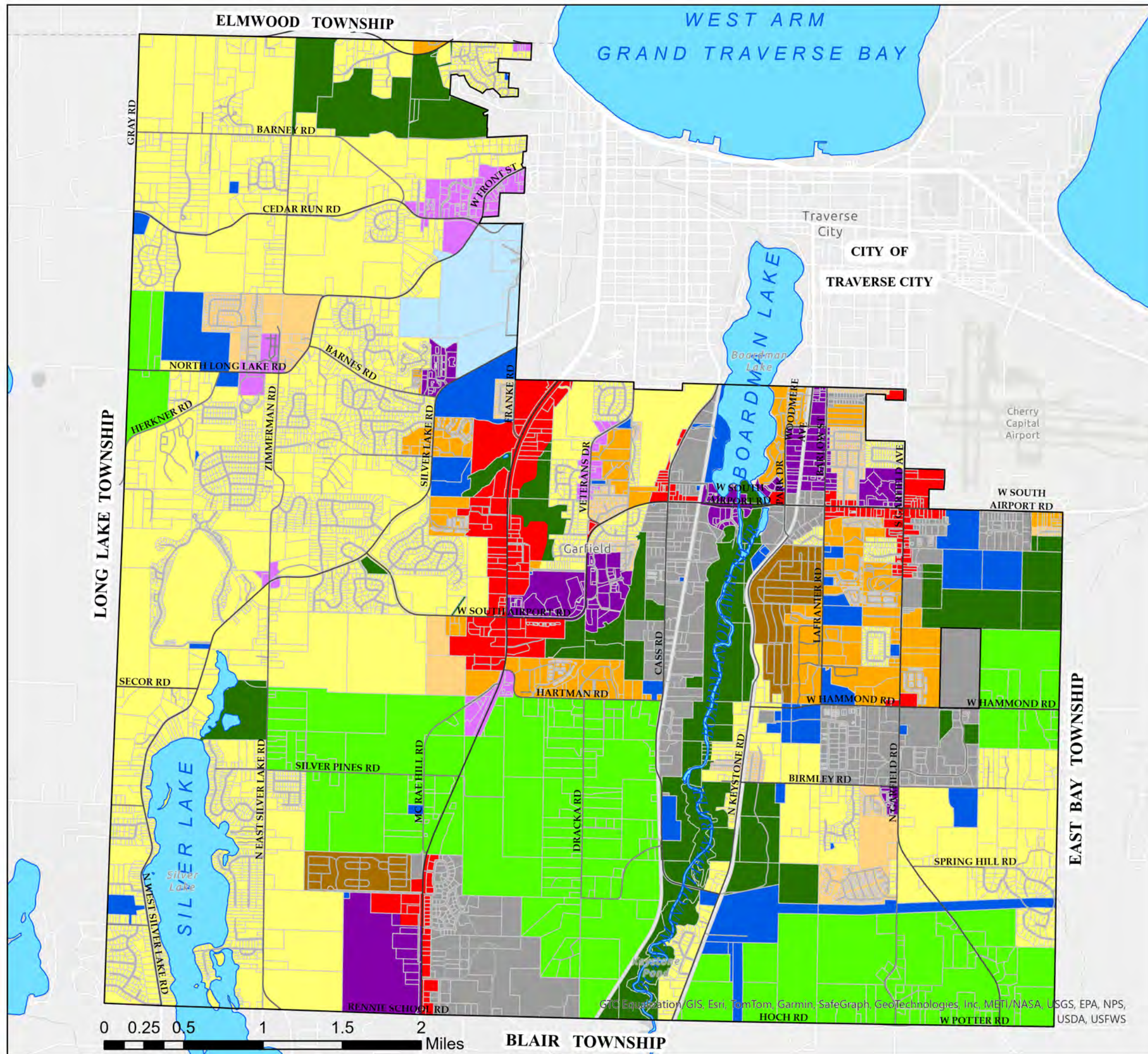
**Attachments:**

1. Charter Township of Garfield Master Plan - Revised Future Land Use Map Only
2. Resolution of Adoption of the Master Plan





# Map 4 Future Land Use



## Legend

- Future Land Use Designations
- Agricultural / Rural Residential (<=1 unit/acre)
  - Low Density Residential (1-3 units/acre)
  - Moderate Density Residential (3-6 units/acre)
  - High Density Residential (6-10 units/acre)
  - Mobile Home Residential
  - Mixed Use Center
  - Mixed Use Neighborhood
  - Commercial
  - Industrial
  - Recreation / Conservation
  - Public / Semi-Public
  - Grand Traverse Commons

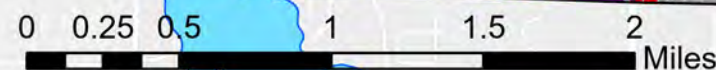
Data Source: Charter Township of Garfield

**Charter Township of Garfield**  
 3848 Veterans Drive  
 Traverse City, MI 49684  
 Phone: 231.941.1620  
 Fax: 231.941.1688




### NOT A LEGAL SURVEY

This map is based on digital databases prepared by the Charter Township of Garfield. The Township does not provide any warranty, either express or implied, or accept any responsibility for any errors, omissions, or that the information contained in the map or the digital databases is currently or positionally accurate. Always contact a surveyor to be sure of where your property lines are located.



GIS: Esri, TomTom, Garmin, SafeGraph, GeoTechnologies, Inc, METI/NASA, USGS, EPA, NPS, USDA, USFWS



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|--|---|--|
|  <b>Charter Township of Garfield</b><br><b>Planning Department Report No. 2024-33</b> |   |  |
| Prepared:  | June 5, 2024  | Pages: 5   |
| Meeting:   | June 12, 2024 Planning Commission   | Attachments: <input checked="" type="checkbox"/> |
| Subject:   | Potter’s Home Retreat Bed & Breakfast Special Use Permit – Public Hearing |  |
| 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. Aerial images of the site are shown below.

*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):*



This application was introduced to the Planning Commission at their May 8, 2024 regular meeting, at which Commissioners asked questions of the applicant and scheduled a public hearing on the application for the June 12, 2024 regular meeting.

**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.*

The single-family residence to be used for the bed and breakfast in this application is owner-occupied, as checked by Staff with Township assessing records.

- (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 in a primarily 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.

- (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.

### **APPROVAL CRITERIA:**

Bed & Breakfast Establishments are permitted via special use permit in the A-Agricultural zoning district. If Commissioners direct Staff to prepare Findings of Fact on this application, the findings will be based on the Approval Criteria for special use permits in Section 423.E. According to this section, 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;
- (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;
- (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;
- (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;
- (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;

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

**ACTION REQUESTED:**

Following the presentation by the applicant and Commissioner discussion, if the Planning Commission is prepared to direct Staff to prepare Findings of Fact, then the following motion is offered for consideration:

MOTION 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.

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

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<br/>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>                            |                          |                                     |                           |
| If yes, show on plan.  | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/>  |
| <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


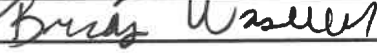
If there is any other information that you think may be useful in the review of this application, please attach it to this application or explain it on a separate page.

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> |
|----------------|

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> |
|----------------|

| <b>Required Site Plan Elements Checklist (See § 956 of the Zoning Ordinance)</b><br>Site Diagram (SD) / Administrative Site Plan (ASP) / Site Development Plan (SDP)   | <b>SD</b>                  | <b>ASP/<br/>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<br><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**

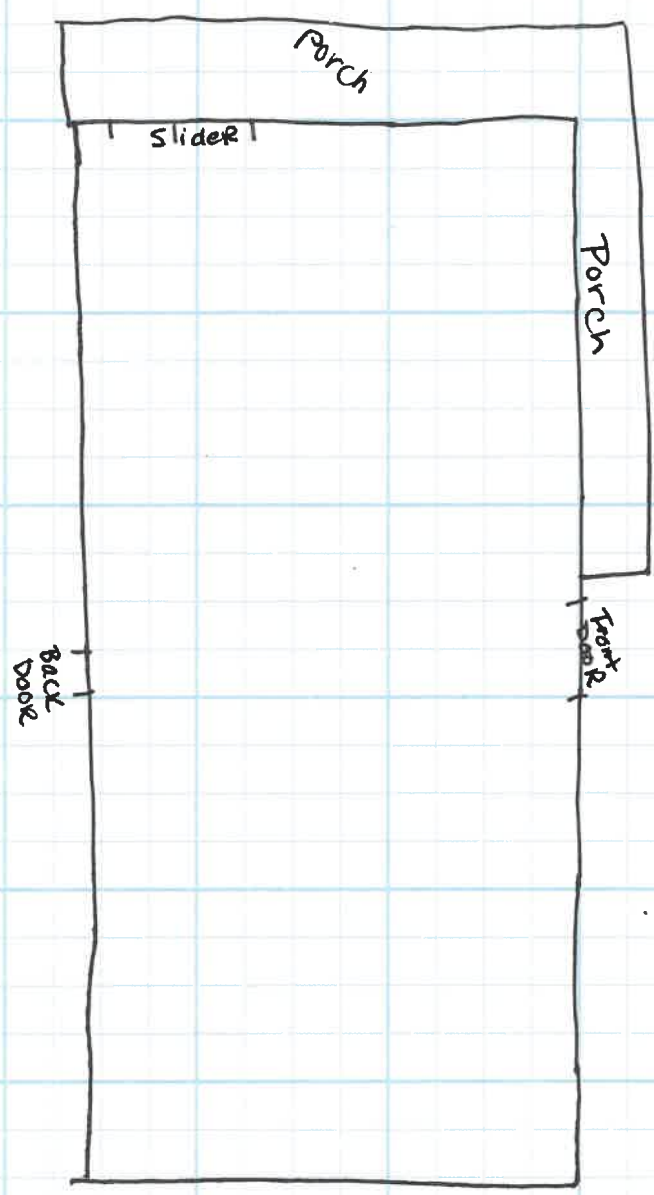
##### **A. REGULATIONS AND CONDITIONS**

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.

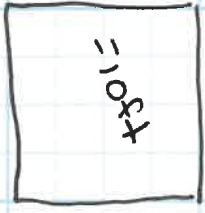
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27  
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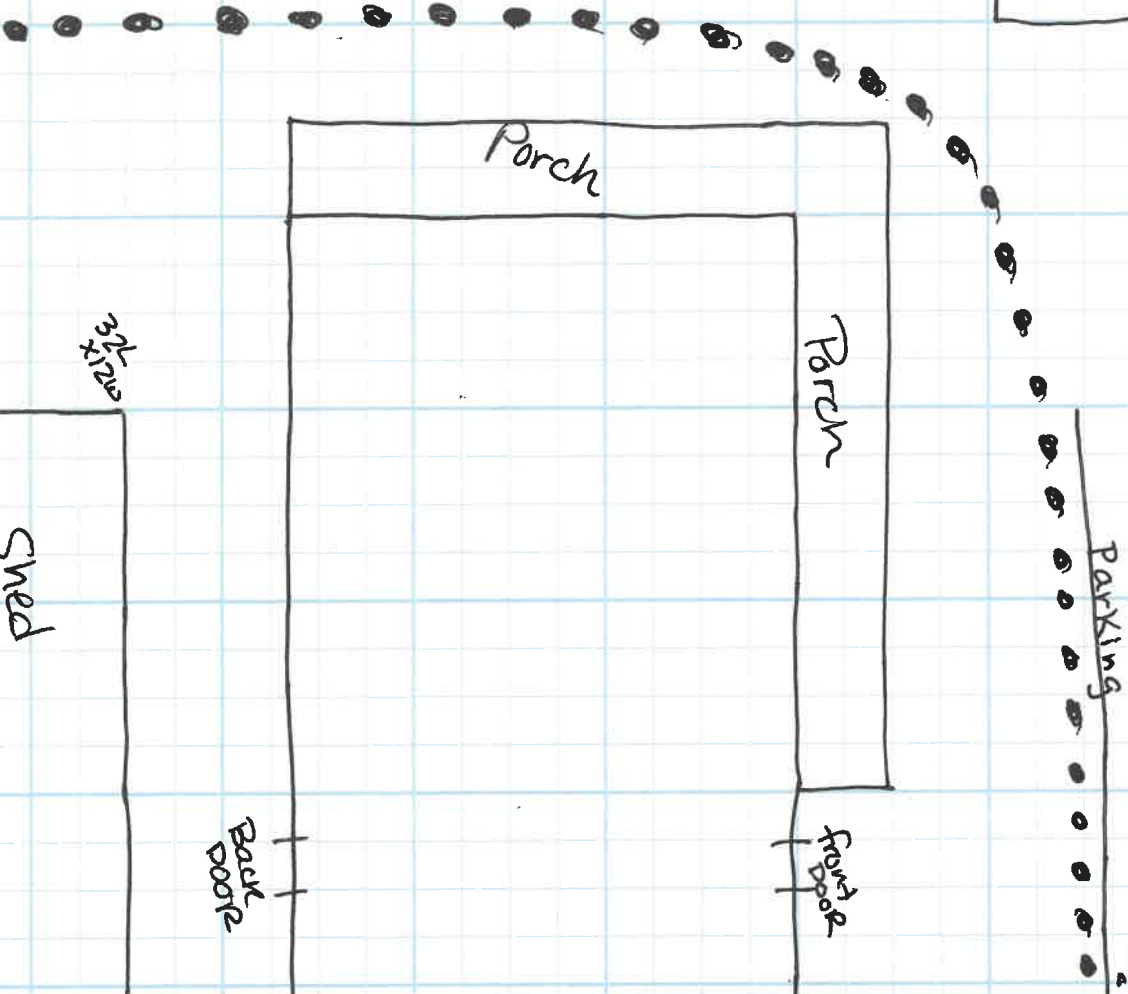




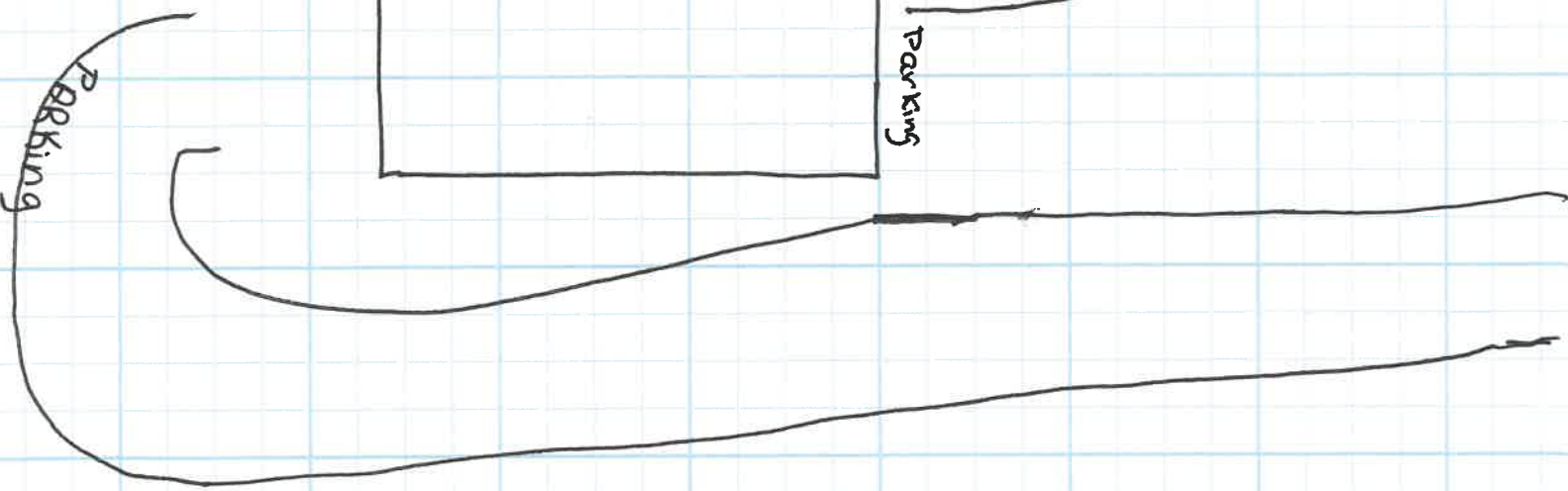
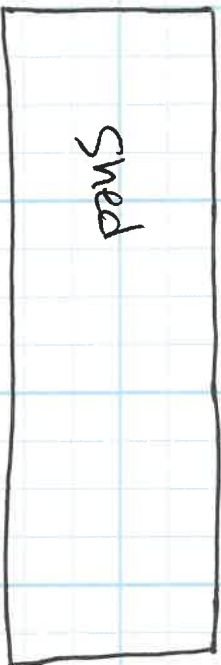
55L  
27W  
1485  
142



Pine  
Trees



3 1/2 x 2 1/2



Shed

Back  
Door

Front  
Door

Parking

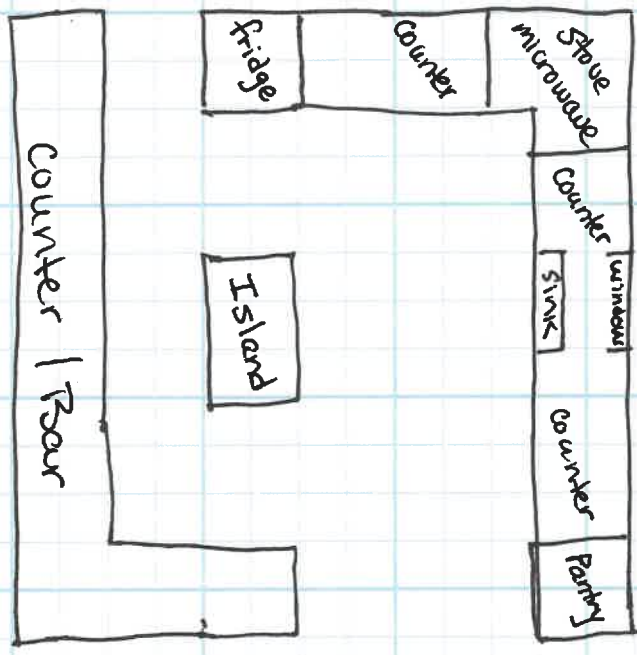
Parking

Porch

Porch

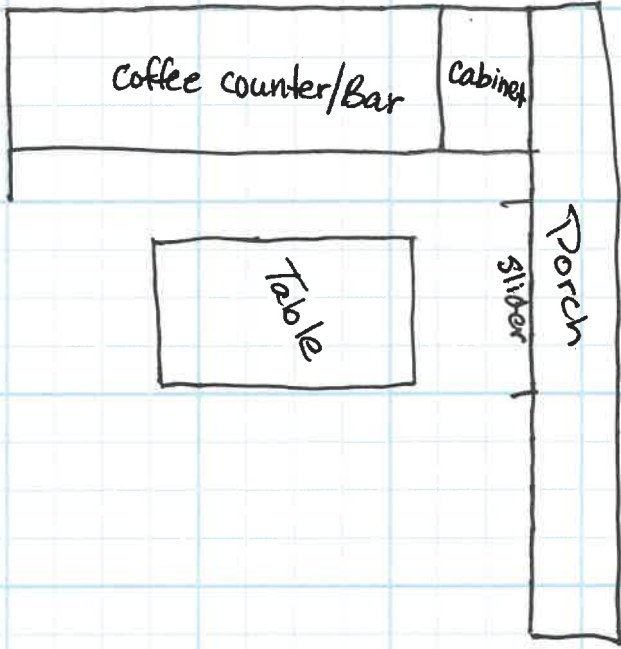
Parking

169  
132  
132  
132



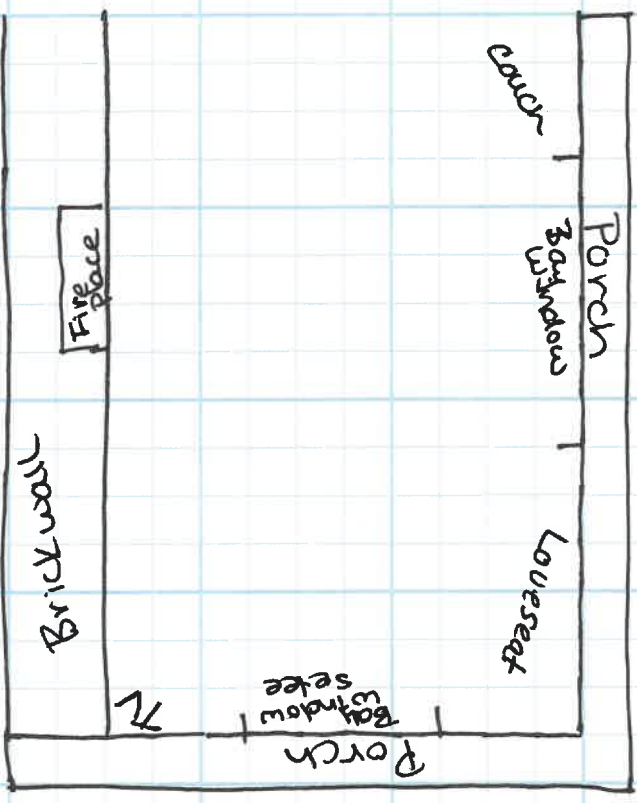
Kitchen

14W  
15W  
13L



Dining Room

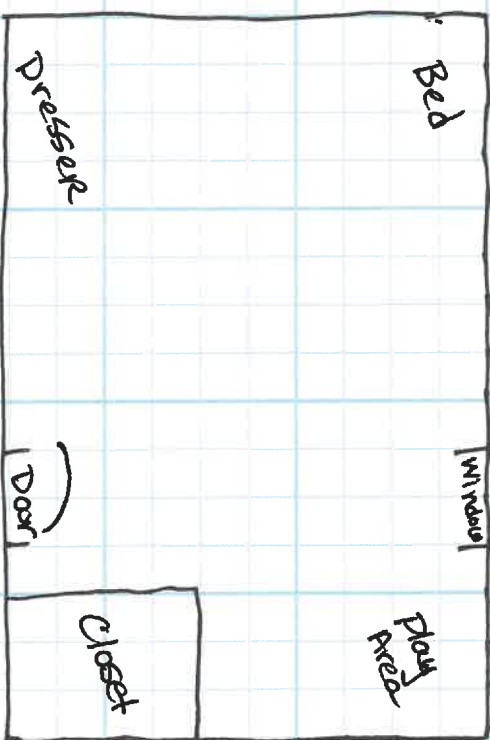
15  
15  
15  
15



Living Room

15/3

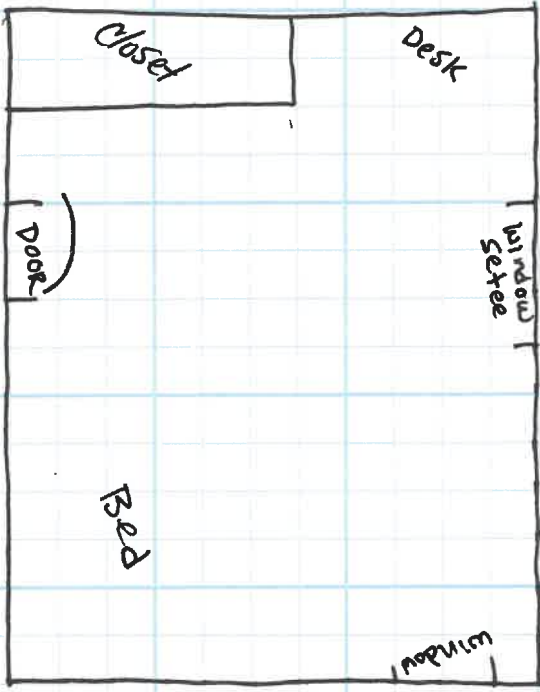
15/2



Bedroom 1



141  
113  
154  
14

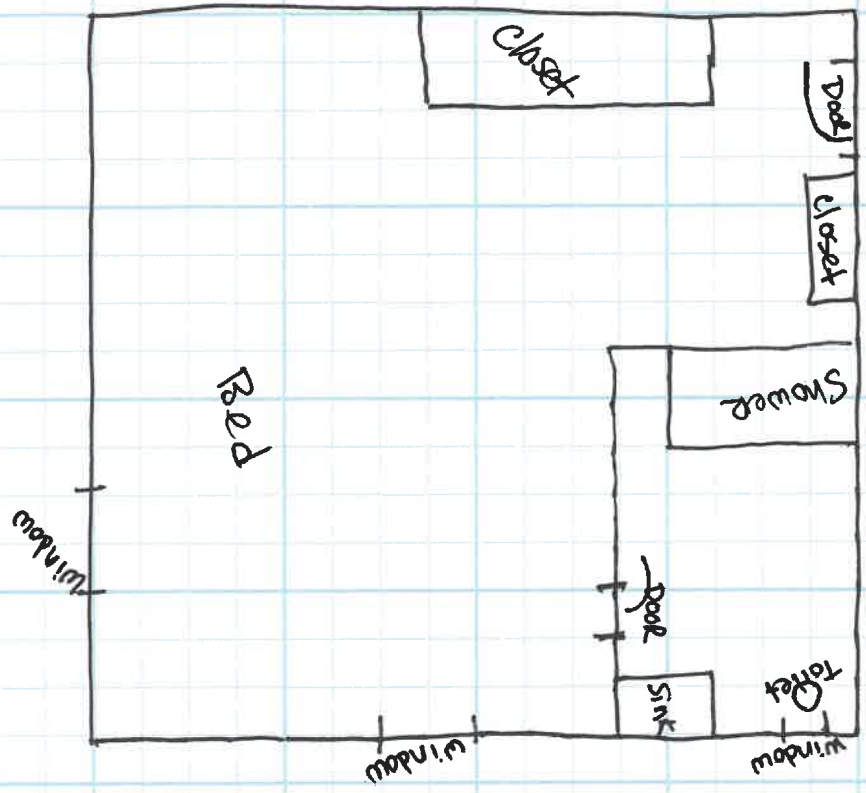


Bedroom 2

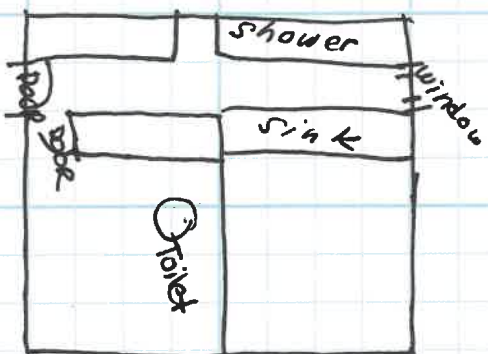
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19  
10

4

Master Bedroom | Bathroom

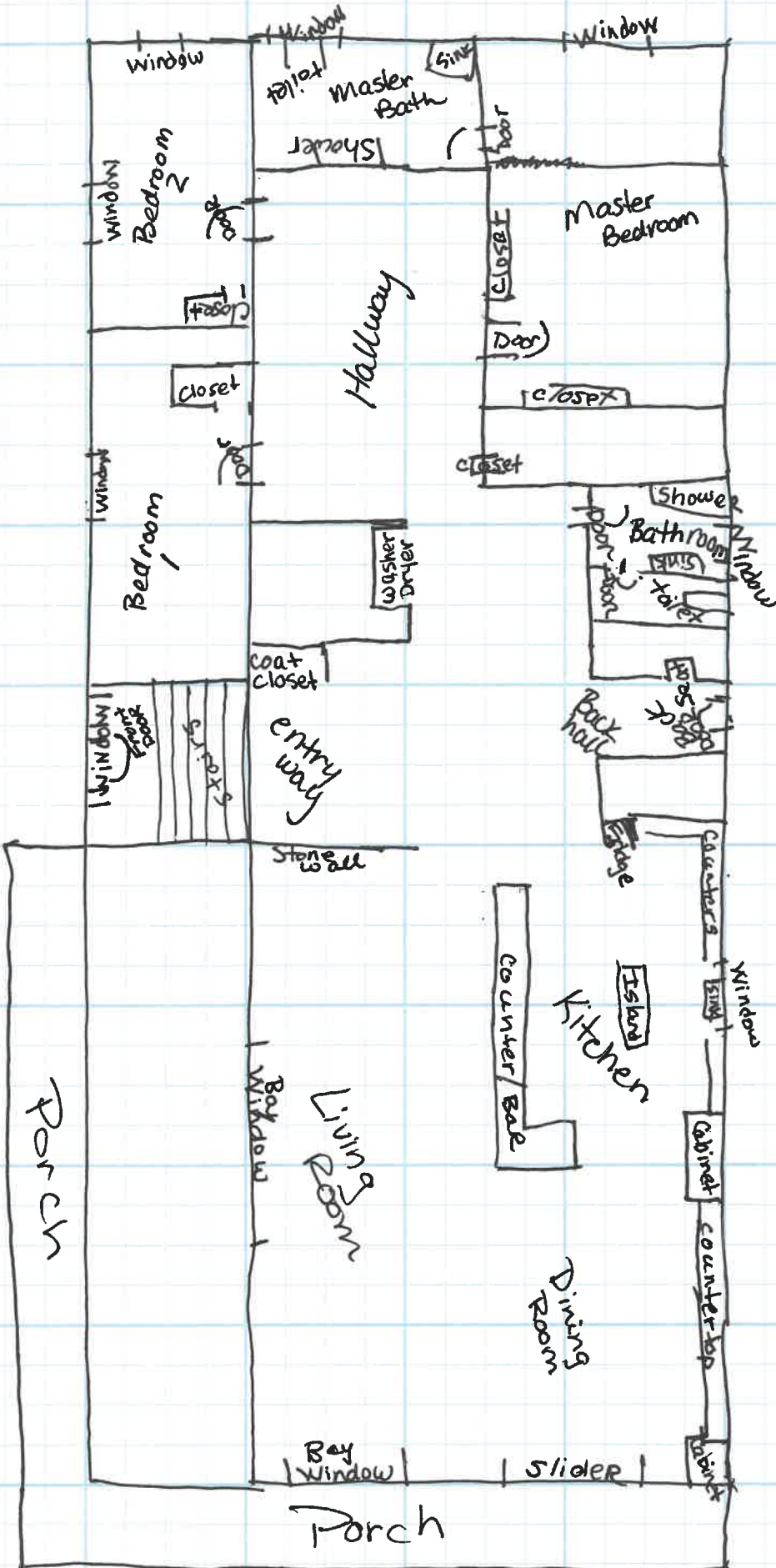


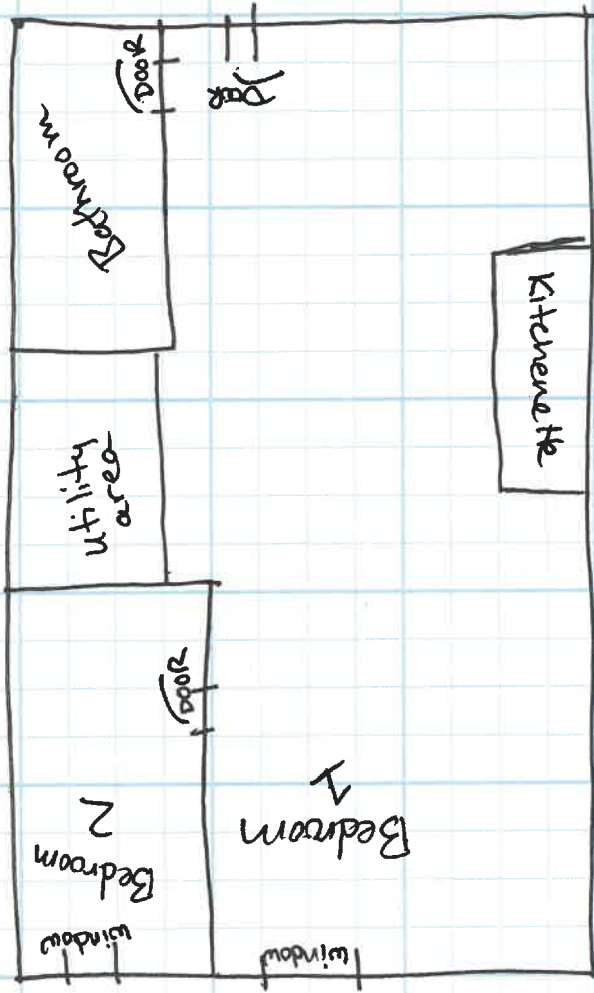
5/23



Bathroom



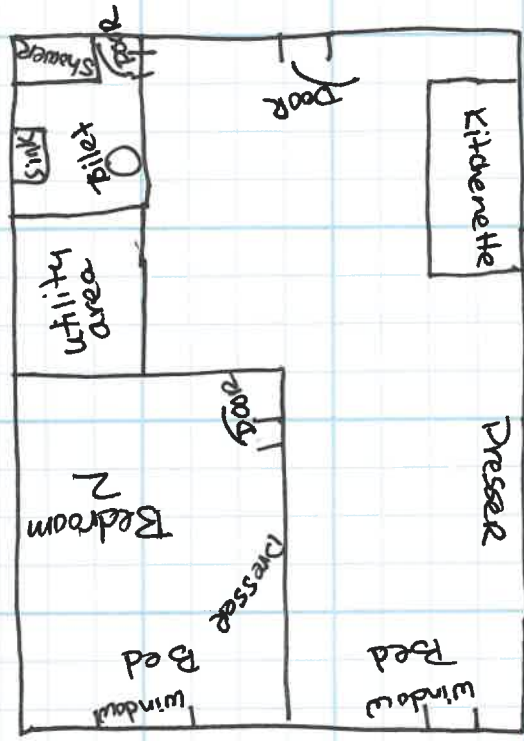
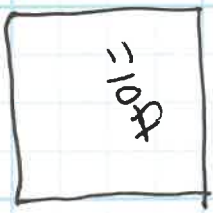




Basement

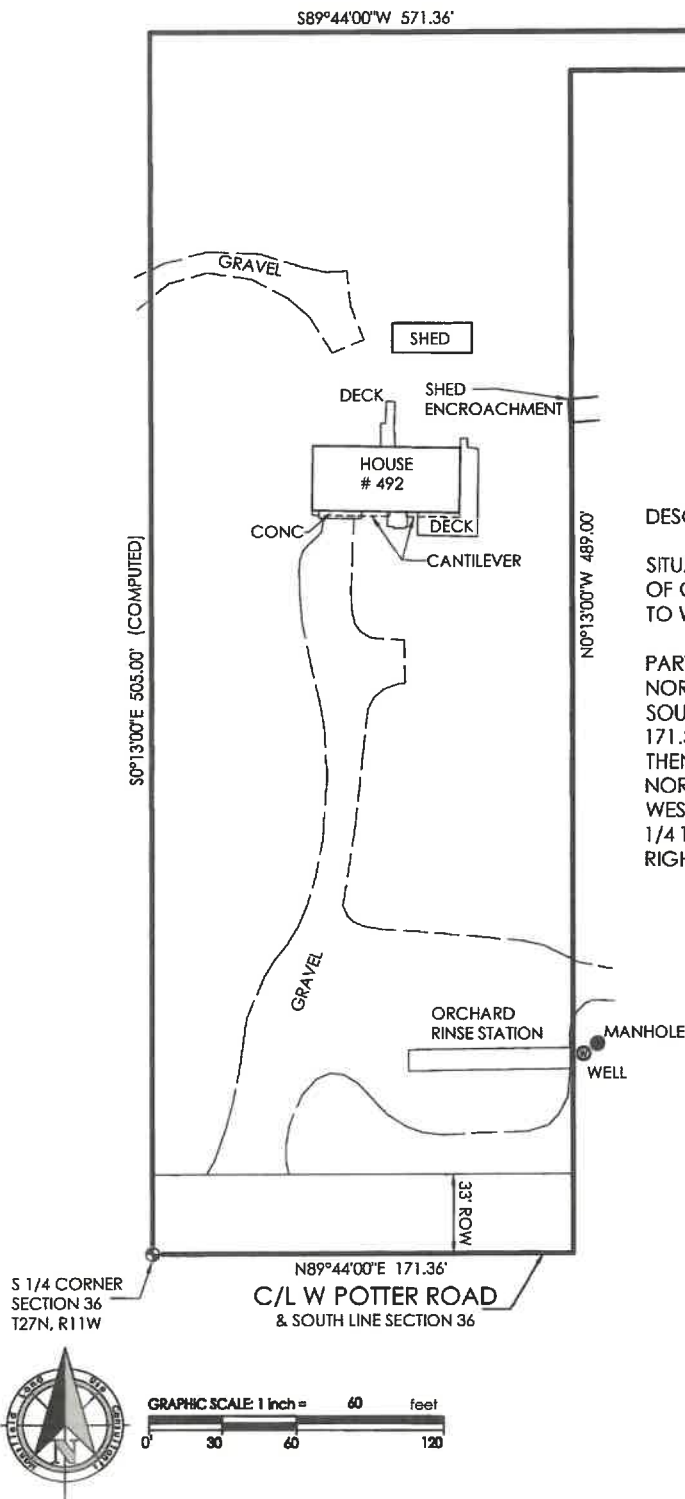
37/13

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



*Handwritten signature of 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 |          |



|  |  |              |                                     |
|--|--|--------------|-------------------------------------|
|  <b>Charter Township of Garfield</b><br><b>Planning Department Report No. 2024-37</b> |  |              |                                     |
| Prepared:  | June 5, 2024   | Pages:       | 7                                   |
| Meeting:   | June 12, 2024 Planning Commission  | Attachments: | <input checked="" type="checkbox"/> |
| Subject:   | TowerNorth Wireless Communication Facility Special Use Permit – Introduction |              |                                     |
| 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

**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.

*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):*



**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 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 on these standards 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 application indicates that “[no] existing towers are located within the 0.5-mile search area or within 1.0 mile of the proposed tower location.” Staff found while researching records that an existing water tower in the Heritage Estates subdivision includes cellular equipment on the water tower. The water tower location was not noted on the RF Statement of Network Need. The applicant needs to clarify if the water tower location was reviewed as a potential location or why it was determined to be inadequate for their needs.

- (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.*

As stated above, the applicant needs to clarify if the water tower location was reviewed as a potential location or why it was determined to be inadequate for their needs.

- (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 applicant needs to clarify if the water tower location was reviewed as a potential location or why it was determined to be inadequate for their needs.

**(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; 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.*

The applicant needs to clarify the setback from the existing house on the parcel and may need to increase the setback from this house.

**(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.*

If any lighting is determined to be needed in the future, it shall meet the lighting standards of Section 517 in the Zoning 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.*

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:**

There are some outstanding questions with this application, however the applicant may be able to answer these questions in advance of the next Planning Commission meeting. 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 July 10, 2024 Planning Commission Regular Meeting.

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

**Attachments:**

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

# Request for Special Land Use Permit

## Proposed Wireless Communication Facility

Prepared By: Kimley-Horn

Prepared For: TowerNorth Development, LLC

**Property Address: 2767 Zimmerman Road, Traverse City, MI 49685**  
**Parcel ID: 05-019-001-00**

**TowerNorth Site ID: MI0004-A Silver Lake Road**  
**Verizon Wireless Site ID: 4090 Silver Lake Road**

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| Exhibit C       | Site Plans                                       |
| Exhibit D       | 1/2-Mile Verizon Wireless Search Ring Map        |
| Exhibit E       | RF Coverage Maps                                 |
| Exhibit F       | RF Statement of Network Need                     |
| Exhibit G       | Certified Fall Zone Letter                       |
| Exhibit H       | Structural Design Report                         |
| Exhibit I       | FCC Licenses                                     |
| Exhibit J       | Affidavit of Intent to Collocate                 |
| Exhibit K       | Zoning Map                                       |
| Exhibit L       | FAA Determination of No Hazard to Air Navigation |
| Exhibit M       | Approval Criteria and Impact Assessment Review   |

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

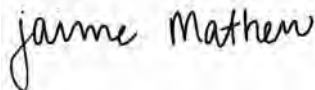
- the owner of the antenna supporting structure for four consecutive years will be presumptive evidence of abandonment. At such time as the Zoning Administrator reasonably determines that an antenna supporting structure or antenna has been abandoned, the Zoning Administrator will provide the property 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)**

**Exhibit A**  
**Signed SUP Application**





# 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:

- 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<br/>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:

*Frank Apau*

Applicant Signature:

Agent Signature:

Date:

5/7/2024

DocuSigned by:

*James Francisco*

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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 G 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 G Bare

Date:

5/7/2024

Applicant Signature:

James Francisco

DocuSigned by:  
James Francisco  
3AED2F521984414...

Date:

5/7/2024



| Required Site Plan Elements Checklist (See § 956 of the Zoning Ordinance)<br>Site Diagram (SD) / Administrative Site Plan (ASP) / Site Development Plan (SDP)  | SD                       | ASP/<br>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<br><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"/> |

**Exhibit B**  
**Site Survey**





**Exhibit C**  
**Site Plans**

R:\23194\MI0004-A (VZ# 4090)\CAD\23194-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



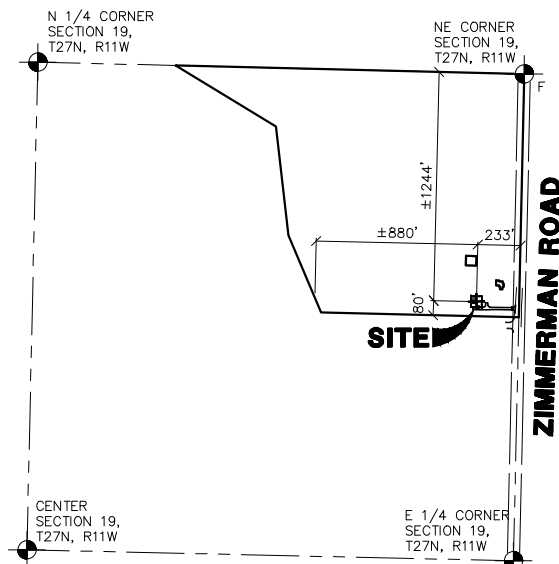
Know what's below.  
Call before you dig.

**LEGEND**

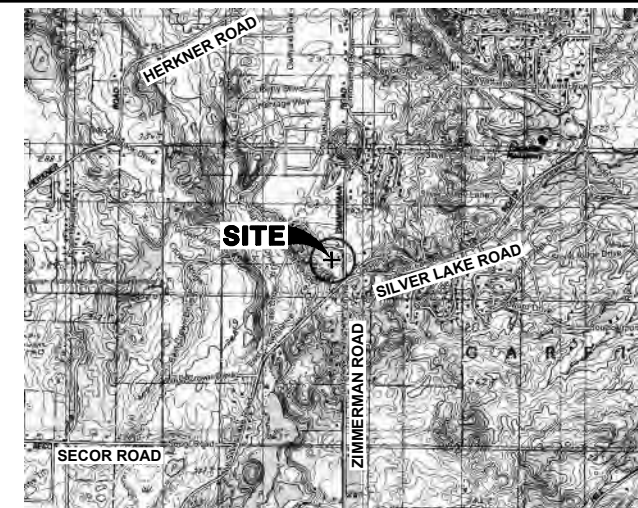
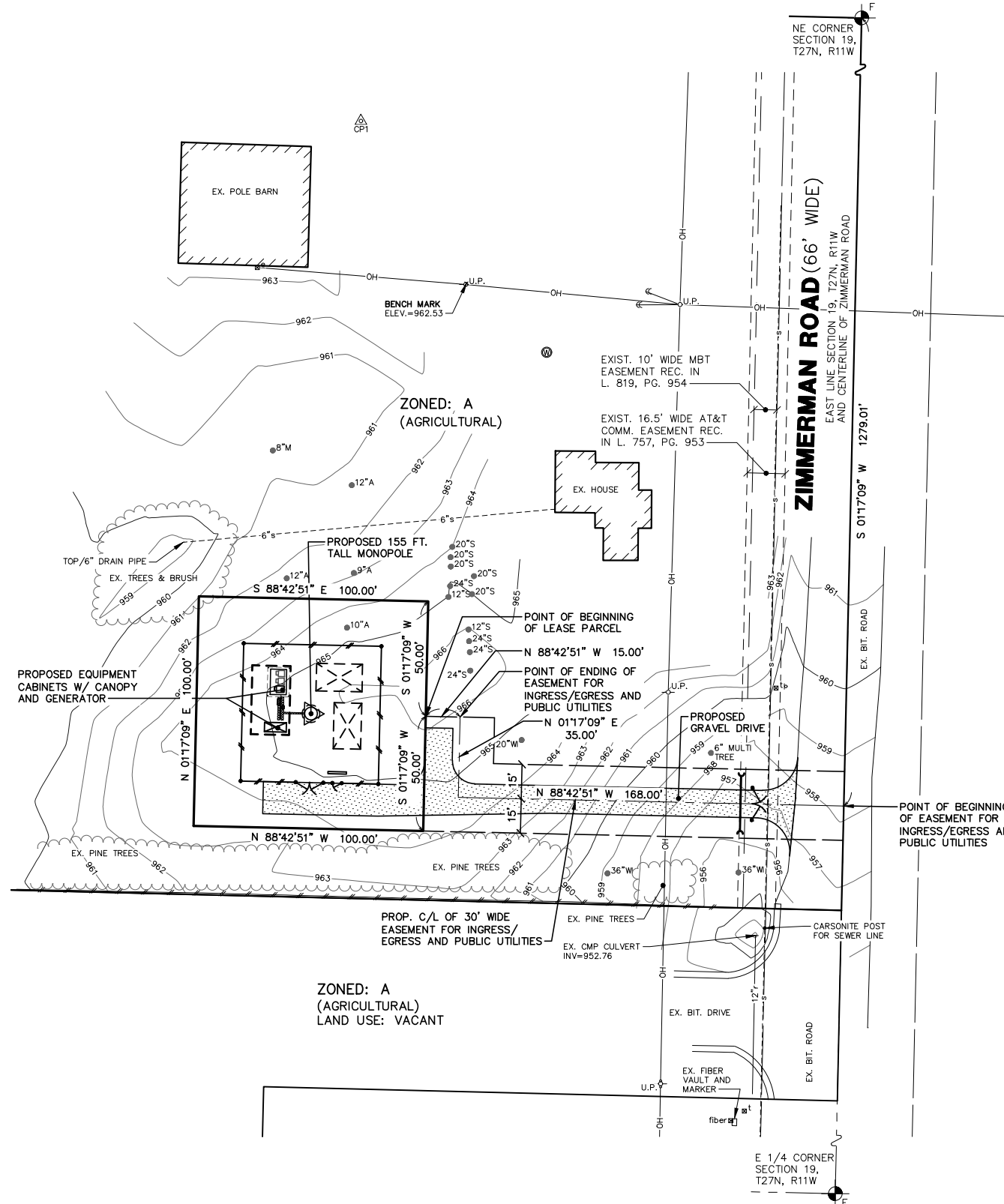
- 921 EXIST. CONTOUR
- 921 PROP. CONTOUR
- x921.2 EXIST. SPOT ELEVATION
- 921.60x PROP. SPOT ELEVATION
- U.P. EXIST. UTILITY POLE
- U.P. EXIST. UTILITY POLE W/ TRANS.
- GUY WIRE
- OH EXIST. OVERHEAD UTILITY LINE
- S-S EXIST. SANITARY SEWER
- END SECTION
- HEAD WALL
- CULVERT
- MAILBOX
- SIGN
- TELEPHONE 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
- W WILLOW



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



**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 26055C0225C, effective date August 28, 2018.
  3. 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  
300 CENTER STREET  
SUITE 301  
W. BRIDGEWATER, MA 02379  
(800) 821-5825 x2

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

**TowerNorth**

**verizon**

**'SILVER LAKE ROAD'  
TN SITE #MI0004-A  
VZV 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  
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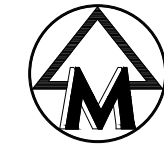
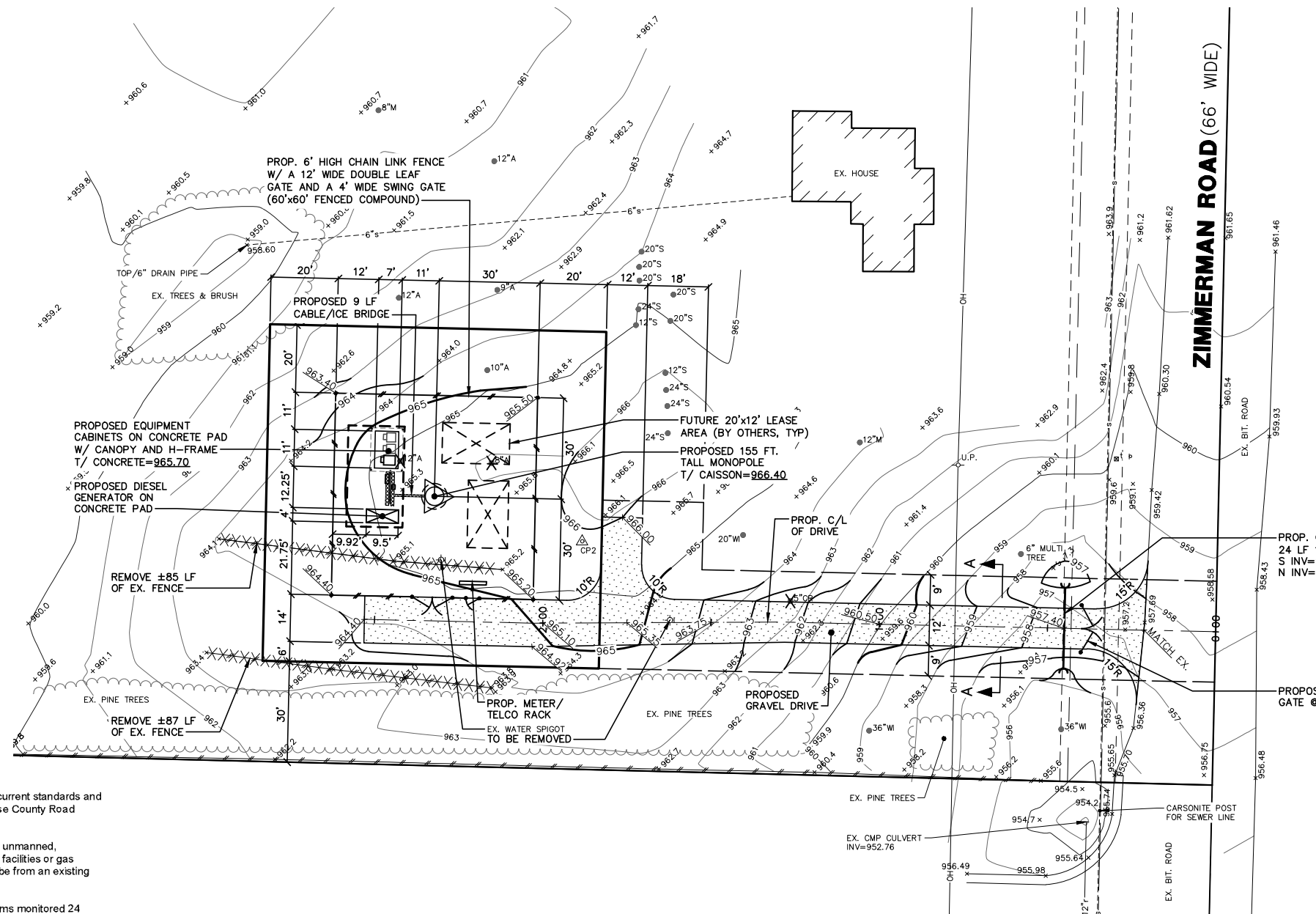
**JOB No. 23194-MI0004**

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

**SITE SURVEY  
GENERAL  
INFORMATION**



R:\31194\MI0004-A (VZM 4090)\ACAD\31194-MI0004-SPT.dwg, 2/27/2024 3:38 PM, Seat1 G. Fisher, SP2, MCLLC PDF, pc3  
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SCALE: 1" = 20'  
 0 20 40 60



**LEGEND**

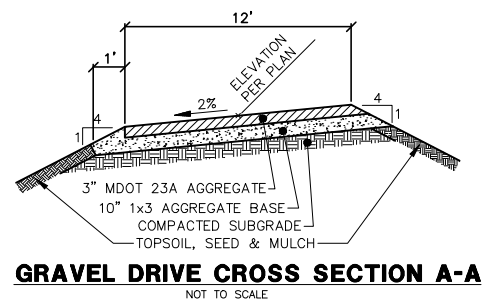
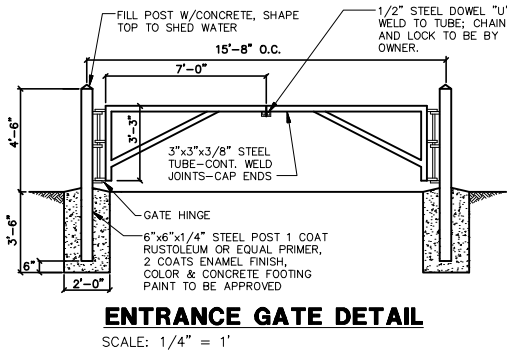
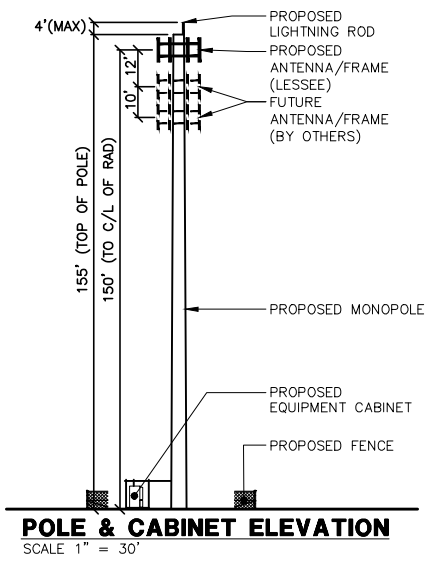
- 921 — EXIST. CONTOUR
- 921 — PROP. CONTOUR
- × 921.2 — EXIST. SPOT ELEVATION
- × 921.60 — PROP. SPOT ELEVATION
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- GUY WIRE — GUY WIRE
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- END SECTION — END SECTION
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- 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 "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 (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  
 300 CENTER STREET  
 SUITE 301  
 W. BRIDGEWATER, MA 02379  
 (800) 821-5825 x2

**TowerNorth**

**verizon**

CELLCO PARTNERSHIP  
 24242 NORTHWESTERN HWY.  
 SOUTHFIELD, MI 48075  
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**'SILVER LAKE ROAD'  
 TN SITE #MI0004-A  
 VZM 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**

385 Plaza Drive  
 Ann Arbor, Michigan 48108  
 www.midwesternconsulting.com  
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Land Development • Land Survey  
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 Wireless Communications  
 Transportation • Landfill Services

**JOB No. 23194-MI0004**

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

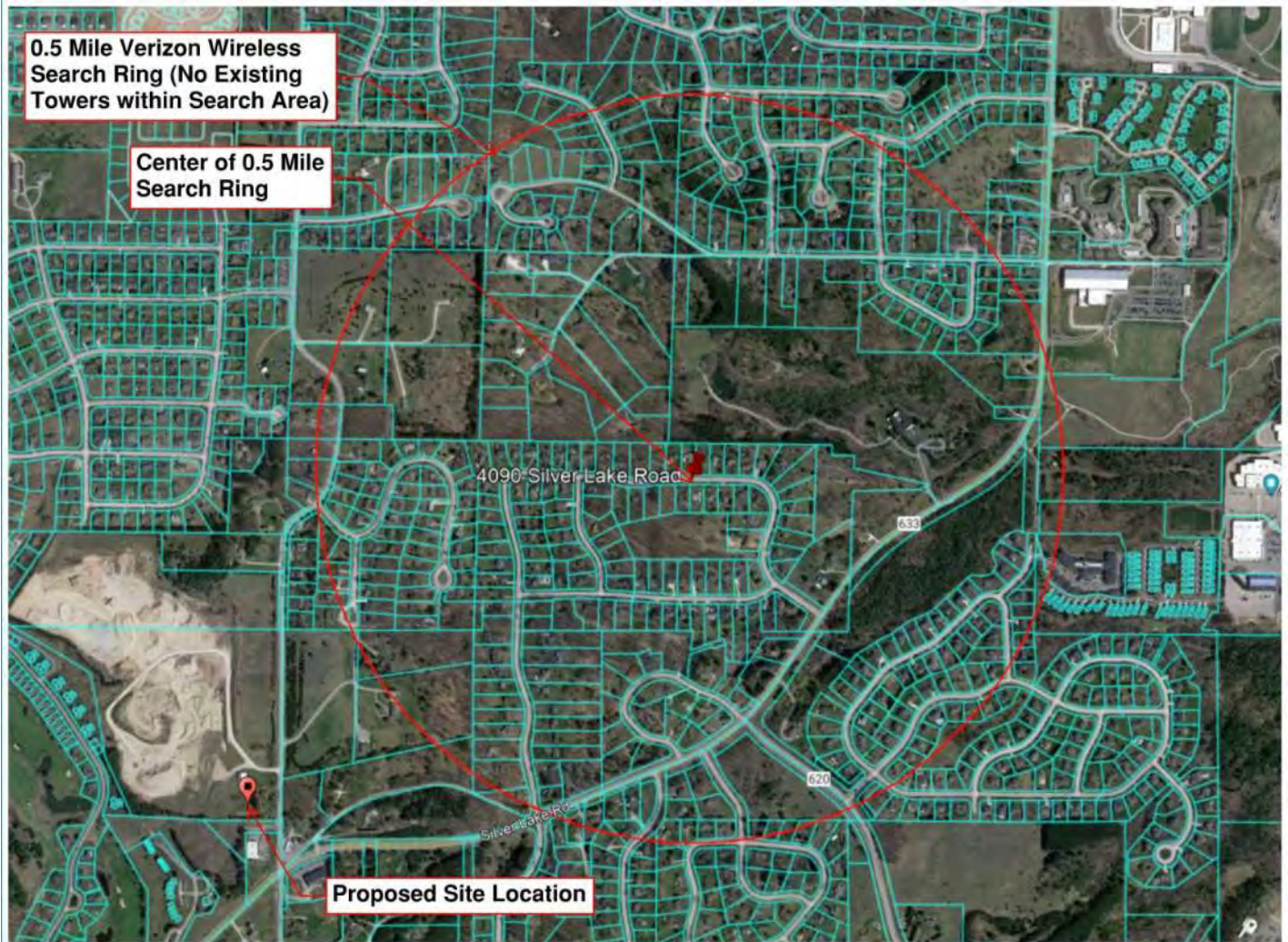
**SITE PLAN  
 DETAIL**

**2**

SHEET 2 OF 2

**Exhibit D**

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



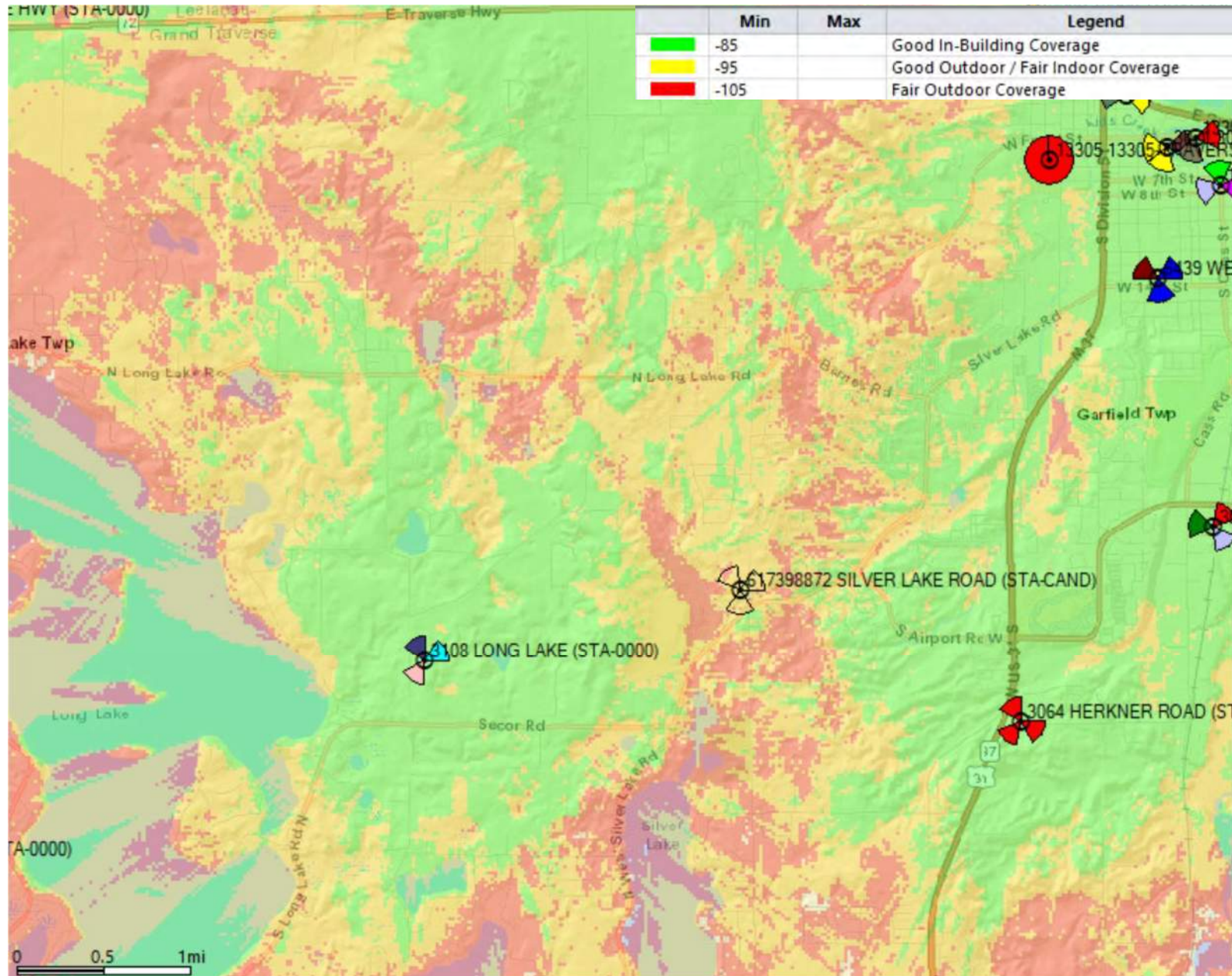
**Exhibit E**  
**RF Coverage Maps**

# Silver Lake Rd

April 2024



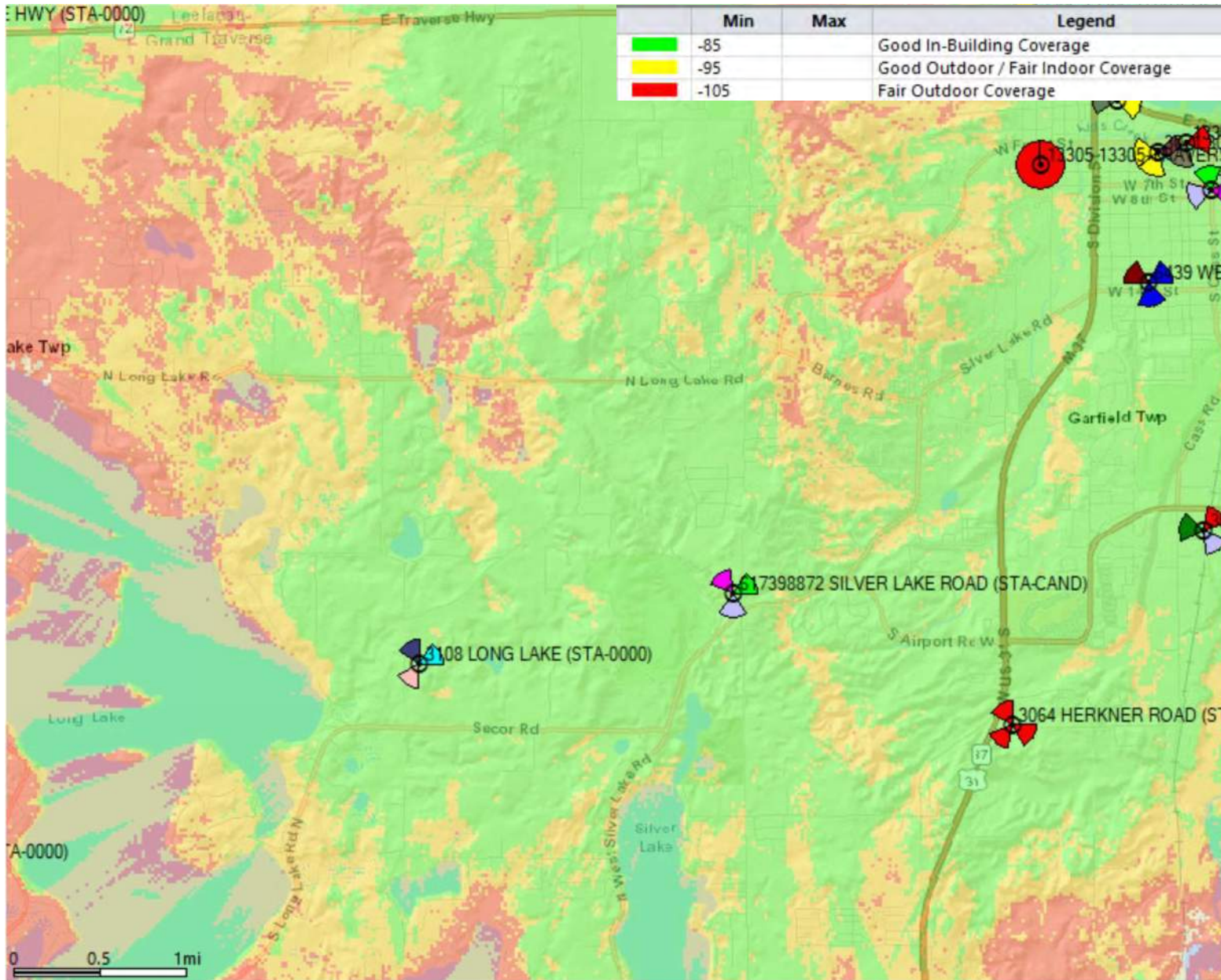
# Current Coverage



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





**Exhibit F**

**RF Statement of Network Need**



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 initial "M".

Michael Avery  
RF Engineer  
Verizon

**Exhibit G**  
**Certified Fall Zone Letter**

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





**Exhibit H**  
**Structural Design Report**



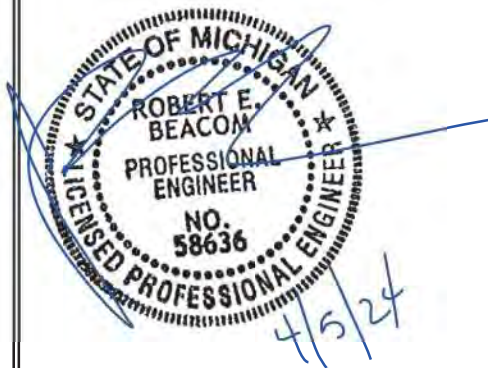
**Structural Design Report**  
155' Monopole  
Site: Silver Lake Road, MI

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

Job Number: 540366

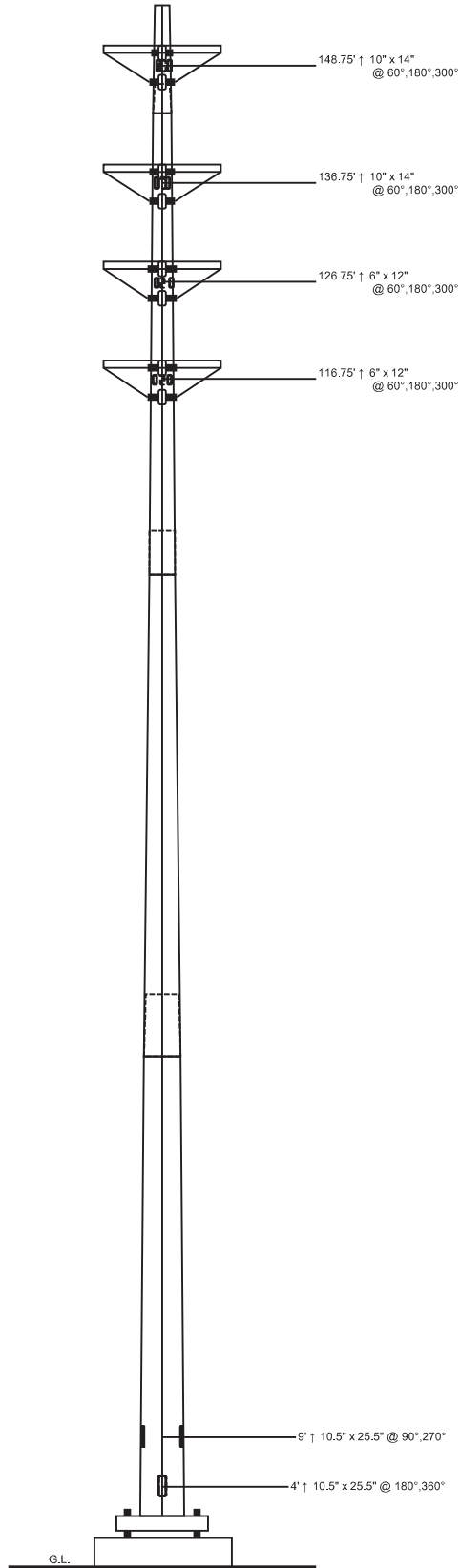
**April 5, 2024**

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



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)      |        |        |        |        |
| Weight (lbs)              |        |        |        |        |
| Overall Steel Height (ft) |        |        |        |        |
| Grade                     |        |        |        |        |
| Bottom Diameter (in)      |        |        |        |        |
| Top Diameter (in)         |        |        |        |        |
| Lap Splice (ft)           |        |        |        |        |
| Thickness (in)            |        |        |        |        |
| Number Of Sides           |        |        |        |        |
| Length (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" |

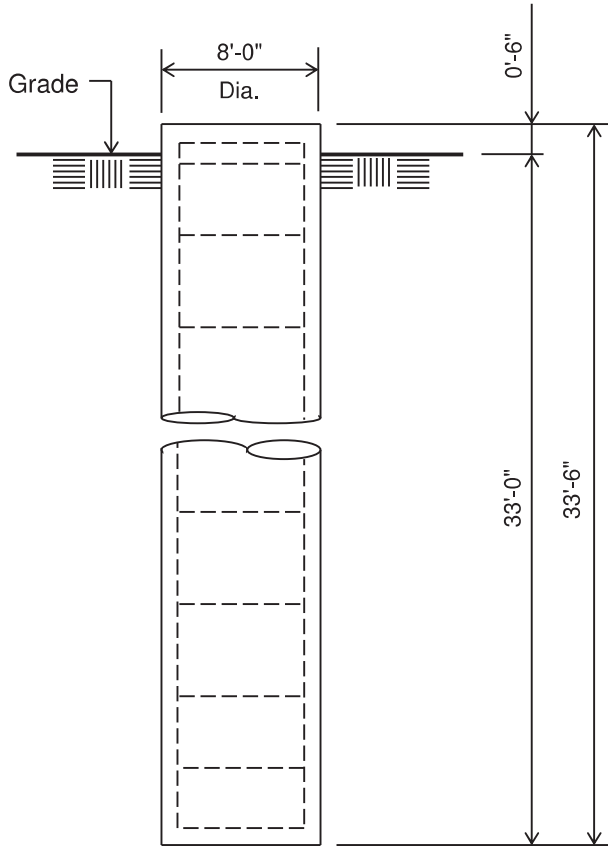
### Notes

- 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><br/>7101 Southbridge Drive<br/>P.O. Box 658<br/>Sioux City, IA 51102-0658<br/>Phone: (712) 258-6890<br/>Fax: (712) 279-0814</p> <p>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.</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)

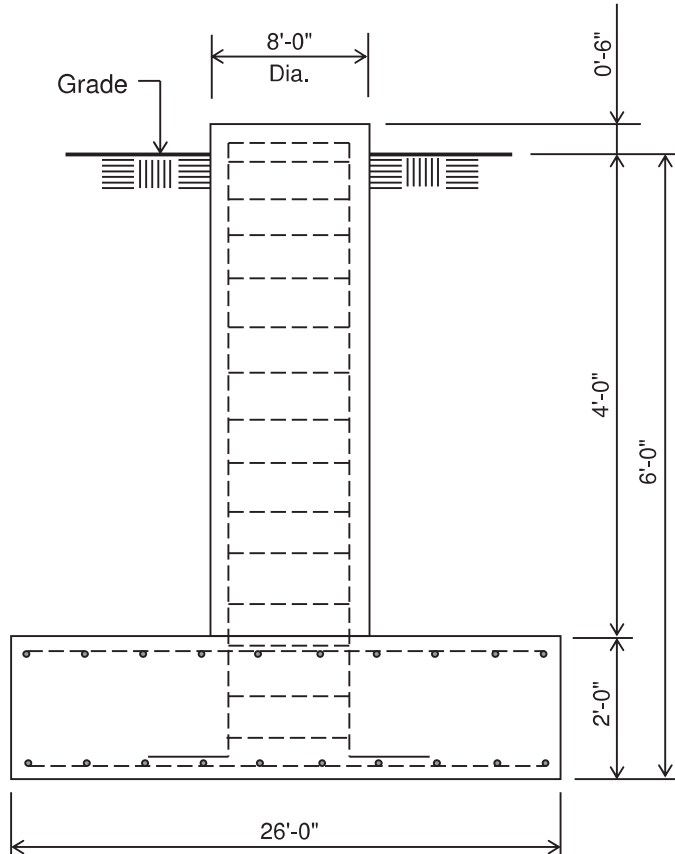
**Notes:**

- 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 | THREADS IN SHEAR PLANE |
|         | ft      |                                    |      | in   | ksi      |                        |
| A       | 143.000 | 0                                  | A325 | 0.00 | 92.0     | 0                      |
| B       | 96.000  | 0                                  | A325 | 0.00 | 92.0     | 0                      |
| C       | 47.000  | 0                                  | A325 | 0.00 | 92.0     | 0                      |
| D       | 0.000   | 0                                  | A325 | 0.00 | 92.0     | 0                      |

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             | * in  | in    | ID    |           |     | BOT          | TOP |
| 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<br>SHAPE | TYPE<br>NO | NO OF<br>ELEM. | ORIENT | HEIGHT | WIDTH | .THICKNESS. |        | IRREGULARITY                 |               |
|------------------|------------|----------------|--------|--------|-------|-------------|--------|------------------------------|---------------|
|                  |            |                | & deg  | in     | in    | WEB         | FLANGE | .PROJECTION.<br>% OF<br>AREA | ORIENT<br>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<br>TYPE NO. | ELASTIC<br>MODULUS<br>ksi | UNIT<br>WEIGHT<br>pcf | .. STRENGTH .. |           | THERMAL<br>COEFFICIENT<br>/deg |
|----------------------|---------------------------|-----------------------|----------------|-----------|--------------------------------|
|                      |                           |                       | Fu<br>ksi      | Fy<br>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<br>TYPE | ELEV<br>ft | APPLY.<br>RADIUS | LOAD.<br>ft | AT<br>AZI | LOAD<br>AZI | ..... FORCES ..... |             | ..... MOMENTS ..... |                   |
|--------------|------------|------------------|-------------|-----------|-------------|--------------------|-------------|---------------------|-------------------|
|              |            |                  |             |           |             | HORIZ<br>kip       | DOWN<br>kip | VERTICAL<br>ft-kip  | TORSNAL<br>ft-kip |
| C            | 152.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0115             | 0.0067      | 0.0000              | 0.0000            |
| C            | 149.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0000             | 3.7190      | 0.0000              | 0.0000            |
| C            | 149.000    | 0.00             | 0.0         | 0.0       | 0.0         | 10.0910            | 16.9836     | 0.0000              | 0.0000            |
| C            | 145.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0285             | 0.0168      | 0.0000              | 0.0000            |
| C            | 137.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0000             | 3.4195      | 0.0000              | 0.0000            |
| C            | 137.000    | 0.00             | 0.0         | 0.0       | 0.0         | 7.3447             | 8.5836      | 0.0000              | 0.0000            |
| C            | 135.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0280             | 0.0168      | 0.0000              | 0.0000            |
| C            | 127.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0000             | 1.9020      | 0.0000              | 0.0000            |
| C            | 127.000    | 0.00             | 0.0         | 0.0       | 0.0         | 5.1194             | 7.3836      | 0.0000              | 0.0000            |
| C            | 125.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0276             | 0.0168      | 0.0000              | 0.0000            |
| C            | 117.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0000             | 1.7522      | 0.0000              | 0.0000            |
| C            | 117.000    | 0.00             | 0.0         | 0.0       | 0.0         | 3.9955             | 6.1836      | 0.0000              | 0.0000            |
| C            | 115.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0271             | 0.0168      | 0.0000              | 0.0000            |
| C            | 105.000    | 0.00             | 0.0         | 0.0       | 0.0         | 0.0266             | 0.0168      | 0.0000              | 0.0000            |
| C            | 95.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0260             | 0.0168      | 0.0000              | 0.0000            |
| C            | 85.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0254             | 0.0168      | 0.0000              | 0.0000            |
| C            | 75.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0248             | 0.0168      | 0.0000              | 0.0000            |
| C            | 65.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0240             | 0.0168      | 0.0000              | 0.0000            |
| C            | 55.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0232             | 0.0168      | 0.0000              | 0.0000            |
| C            | 45.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0222             | 0.0168      | 0.0000              | 0.0000            |
| C            | 35.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0211             | 0.0168      | 0.0000              | 0.0000            |
| C            | 25.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0197             | 0.0168      | 0.0000              | 0.0000            |
| C            | 15.000     | 0.00             | 0.0         | 0.0       | 0.0         | 0.0177             | 0.0168      | 0.0000              | 0.0000            |
| D            | 154.000    | 0.00             | 180.0       | 0.0       | 0.0         | 0.0394             | 0.0600      | 0.0000              | 0.0000            |
| D            | 146.000    | 0.00             | 180.0       | 0.0       | 0.0         | 0.0413             | 0.0632      | 0.0000              | 0.0000            |
| D            | 146.000    | 0.00             | 180.0       | 0.0       | 0.0         | 0.0429             | 0.1466      | 0.0000              | 0.0000            |
| D            | 143.000    | 0.00             | 180.0       | 0.0       | 0.0         | 0.0429             | 0.1466      | 0.0000              | 0.0000            |
| D            | 143.000    | 0.00             | 180.0       | 0.0       | 0.0         | 0.0441             | 0.0852      | 0.0000              | 0.0000            |
| D            | 100.500    | 0.00             | 180.0       | 0.0       | 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<br>ft | APPLY RADIUS<br>ft | LOAD AT AZI | LOAD AZI | FORCES       |             | MOMENTS            |                   |
|-----------|------------|--------------------|-------------|----------|--------------|-------------|--------------------|-------------------|
|           |            |                    |             |          | HORIZ<br>kip | DOWN<br>kip | VERTICAL<br>ft-kip | TORSNAL<br>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<br>ft | APPLY RADIUS<br>ft | LOAD AT AZI | LOAD AZI | FORCES       |             | MOMENTS            |                   |
|-----------|------------|--------------------|-------------|----------|--------------|-------------|--------------------|-------------------|
|           |            |                    |             |          | HORIZ<br>kip | DOWN<br>kip | VERTICAL<br>ft-kip | TORSNAL<br>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<br>TYPE | ELEV<br>ft | APPLY.<br>RADIUS | LOAD.<br>AZI | AT<br>AZI | .....FORCES..... |             | .....MOMENTS.....  |                   |
|--------------|------------|------------------|--------------|-----------|------------------|-------------|--------------------|-------------------|
|              |            |                  |              |           | HORIZ<br>kip     | DOWN<br>kip | VERTICAL<br>ft-kip | TORSNAL<br>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<br>ELEV<br>ft | TOTAL<br>AXIAL<br>kip | SHEAR.w.r.t.<br>ALONG<br>kip | WIND.DIR<br>ACROSS<br>kip | MOMENT.w.r.t.<br>ALONG<br>ft-kip | WIND.DIR<br>ACROSS<br>ft-kip | TORSION<br>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<br>ft | AXIAL  | BENDING | SHEAR +<br>TORSIONAL | TOTAL | SATISFIED | D/t (w/t) | MAX<br>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       |

(USA 222-H) - Monopole Spatial Analysis (c)2017 Guymast Inc.

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Sabre Towers and Poles on: 3 apr 2024 at: 10:02:21

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<br>ft | APPLY.<br>RADIUS<br>ft | LOAD.<br>AZI | AT<br>AZI | FORCES       |             | MOMENTS            |                   |
|-----------|------------|------------------------|--------------|-----------|--------------|-------------|--------------------|-------------------|
|           |            |                        |              |           | HORIZ<br>kip | DOWN<br>kip | VERTICAL<br>ft-kip | TORSNAL<br>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<br>ELEV<br>ft | DEFLECTIONS (ft)    |        |       | ROTATIONS (deg) |        |       |
|--------------------|---------------------|--------|-------|-----------------|--------|-------|
|                    | HORIZONTAL<br>ALONG | ACROSS | DOWN  | TILT<br>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<br>ELEV<br>ft | TOTAL<br>AXIAL<br>kip | SHEAR.w.r.t.WIND.DIR<br>ALONG<br>kip | WIND.DIR<br>ACROSS<br>kip | MOMENT.w.r.t.WIND.DIR<br>ALONG<br>ft-kip | WIND.DIR<br>ACROSS<br>ft-kip | TORSION<br>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<br>ft | AXIAL | BENDING | SHEAR +<br>TORSIONAL | TOTAL | SATISFIED | D/t (w/t) | MAX<br>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     | 0.00D | 0.00I   | 0.00B                | 0.00I | YES       | 12.45A    | 45.2           |
| 143.00     | 0.01D | 0.02B   | 0.01B                | 0.04B | YES       | 13.06A    | 45.2           |
| 136.93     | 0.01I | 0.02D   | 0.00C                | 0.03D | YES       | 10.37A    | 45.2           |
| 130.86     | 0.01I | 0.04C   | 0.00C                | 0.05C | YES       | 10.80A    | 45.2           |
| 124.79     | 0.01D | 0.04C   | 0.00H                | 0.05C | YES       | 10.52A    | 45.2           |
| 118.71     | 0.02D | 0.07H   | 0.01H                | 0.09H | YES       | 11.38A    | 45.2           |
| 112.64     | 0.02L | 0.07H   | 0.01D                | 0.09H | YES       | 11.38A    | 45.2           |
| 106.57     | 0.02L | 0.11D   | 0.01D                | 0.13D | YES       | 12.24A    | 45.2           |
| 100.50     | 0.02L | 0.11D   | 0.01H                | 0.13D | YES       | 12.24A    | 45.2           |
| 96.00      | 0.02L | 0.15D   | 0.01H                | 0.17D | YES       | 13.10A    | 45.2           |
| 89.89      | 0.02L | 0.15D   | 0.01D                | 0.17D | YES       | 13.10A    | 45.2           |
| 83.79      | 0.02L | 0.18D   | 0.01D                | 0.20D | YES       | 13.96A    | 45.2           |
| 77.68      | 0.02L | 0.18D   | 0.01D                | 0.20D | YES       | 13.96A    | 45.2           |
| 71.57      | 0.02L | 0.21D   | 0.01D                | 0.23D | YES       | 14.82A    | 45.2           |
| 65.46      | 0.02L | 0.21D   | 0.01H                | 0.23D | YES       | 14.82A    | 45.2           |
| 59.36      | 0.02L | 0.24D   | 0.01H                | 0.26D | YES       | 15.69A    | 45.2           |
|            | 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                | 0.26D | 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       |





## 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  
 $\Phi_c \cdot R_{nvc}$ : 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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=====  
This copy of LFile is being used by:

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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<br>60.5000 | 110.0000<br>110.0000   | 1000.0000<br>1000.0000 | 0.01000<br>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<br>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<br>kips | Nominal Mom. Cap.<br>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<br>kips | Nominal Moment Cap<br>in-kips | Ult. (Fac) Ax. Thrust<br>kips | Ult. (Fac) Moment Cap<br>in-kips | Bend. Stiff. at Ult Mom<br>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 |
|------------------------|-------|

|                       |       |
|-----------------------|-------|
| V <sub>u</sub> (kips) | 351.5 |
|-----------------------|-------|

**Stability:**

|                                    |        |
|------------------------------------|--------|
| Overturning Design Strength (ft-k) | 6772.9 |
|------------------------------------|--------|

|                        |        |
|------------------------|--------|
| 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                |
| Overturning                   | 1                |
| Flexure                       | 1                |
| Steel Ratio                   | 1                |
| Length of Development in Pad  | 1                |
| Hook Development              | 1                |
| Anchor Bolt Pullout           | 1                |
| Anchor Bolt Punching Shear    | 1                |

**Exhibit I**  
**FCC Licenses**

**REFERENCE COPY**

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

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

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

|                                 |                                     |                                      |                               |                   |
|---------------------------------|-------------------------------------|--------------------------------------|-------------------------------|-------------------|
| <b>Grant Date</b><br>01-28-2020 | <b>Effective Date</b><br>05-07-2020 | <b>Expiration Date</b><br>03-01-2030 | <b>Five Yr Build-Out Date</b> | <b>Print Date</b> |
|---------------------------------|-------------------------------------|--------------------------------------|-------------------------------|-------------------|

**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

|  |                    |
|--|--------------------|
| <b>Call Sign</b><br>KNLG850                | <b>File Number</b> |
| <b>Radio Service</b><br>CW - PCS Broadband |                    |

**FCC Registration Number (FRN):** 0003290673

|   |                                     |                                      |                           |
|---|-------------------------------------|--------------------------------------|---------------------------|
| <b>Grant Date</b><br>03-31-2017         | <b>Effective Date</b><br>03-06-2019 | <b>Expiration Date</b><br>04-28-2027 | <b>Print Date</b>         |
| <b>Market Number</b><br>BTA446          | <b>Channel Block</b><br>F           | <b>Sub-Market Designator</b><br>1    |                           |
| <b>Market Name</b><br>Traverse City, MI |                                     |                                      |                           |
| <b>1st Build-out Date</b><br>04-28-2002 | <b>2nd Build-out Date</b>           | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b> |

**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. 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:** 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

|   |                                  |
|---|----------------------------------|
| <b>Call Sign</b><br>WQPW449   | <b>File Number</b><br>0009980018 |
| <b>Radio Service</b><br>AW - AWS (1710-1755 MHz and<br>2110-2155 MHz) |                                  |

FCC Registration Number (FRN): 0003290673

|                                   |                                     |                                      |                                 |
|-----------------------------------|-------------------------------------|--------------------------------------|---------------------------------|
| <b>Grant Date</b><br>06-01-2022   | <b>Effective Date</b><br>06-01-2022 | <b>Expiration Date</b><br>04-30-2037 | <b>Print Date</b><br>06-01-2022 |
| <b>Market Number</b><br>REA003    | <b>Channel Block</b><br>D           | <b>Sub-Market Designator</b><br>51   |                                 |
| <b>Market Name</b><br>Great Lakes |                                     |                                      |                                 |
| <b>1st Build-out Date</b>         | <b>2nd Build-out Date</b>           | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b>       |

**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. See, e.g., FCC and NTIA Coordination Procedures in the 1710-1755 MHz Band, Public Notice, FCC 06-50, WTB Docket No. 02-353, rel. April 20, 2006.

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. 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:** 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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Wireless Telecommunications Bureau**

**RADIO STATION AUTHORIZATION**

LICENSEE: CELLCO PARTNERSHIP

ATTN: REGULATORY  
CELLCO PARTNERSHIP  
5055 NORTH POINT PKWY, NP2NE NETWORK ENGINEERING  
ALPHARETTA, GA 30022

|   |                    |
|---|--------------------|
| <b>Call Sign</b><br>WQVN957   | <b>File Number</b> |
| <b>Radio Service</b><br>AT - AWS-3 (1695-1710 MHz,<br>1755-1780 MHz, and 2155-2180 MHz) |                    |

FCC Registration Number (FRN): 0003290673

|   |   |                                      |                           |
|---|---|--------------------------------------|---------------------------|
| <b>Grant Date</b><br>04-08-2015         | <b>Effective Date</b><br>11-01-2016     | <b>Expiration Date</b><br>04-08-2027 | <b>Print Date</b>         |
| <b>Market Number</b><br>BEA061          | <b>Channel Block</b><br>J               | <b>Sub-Market Designator</b><br>0    |                           |
| <b>Market Name</b><br>Traverse City, MI |   |                                      |                           |
| <b>1st Build-out Date</b><br>04-08-2021 | <b>2nd Build-out Date</b><br>04-08-2027 | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b> |

**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. 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.

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**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 2 columns: Call Sign (WQXK644), File Number, and Radio Service (CW - PCS Broadband).

FCC Registration Number (FRN): 0003290673

Table with 4 columns: Grant Date (03-31-2017), Effective Date (03-06-2019), Expiration Date (04-28-2027), Print Date, Market Number (BTA446), Channel Block (E), Sub-Market Designator (2), Market Name (Traverse City, MI), 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. 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:** 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

|   |                    |
|---|--------------------|
| <b>Call Sign</b><br>WREF306                                       | <b>File Number</b> |
| <b>Radio Service</b><br>UU - Upper Microwave Flexible Use Service |                    |

**FCC Registration Number (FRN):** 0003290673

|  |                                     |                                      |                           |
|--|-------------------------------------|--------------------------------------|---------------------------|
| <b>Grant Date</b><br>10-02-2019          | <b>Effective Date</b><br>10-02-2019 | <b>Expiration Date</b><br>10-02-2029 | <b>Print Date</b>         |
| <b>Market Number</b><br>C26055           | <b>Channel Block</b><br>L1          | <b>Sub-Market Designator</b><br>0    |                           |
| <b>Market Name</b><br>GRAND TRAVERSE, MI |                                     |                                      |                           |
| <b>1st Build-out Date</b>                | <b>2nd Build-out Date</b>           | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b> |

**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. 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.

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**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

|  |                                  |
|--|----------------------------------|
| <b>Call Sign</b><br>WRHG494  | <b>File Number</b><br>0010283156 |
| <b>Radio Service</b><br>UU - Upper Microwave Flexible Use<br>Service |                                  |

**FCC Registration Number (FRN):** 0003290673

|   |                                     |                                      |                                 |
|---|-------------------------------------|--------------------------------------|---------------------------------|
| <b>Grant Date</b><br>06-04-2020         | <b>Effective Date</b><br>11-18-2022 | <b>Expiration Date</b><br>06-04-2030 | <b>Print Date</b><br>03-15-2023 |
| <b>Market Number</b><br>PEA203          | <b>Channel Block</b><br>M1          | <b>Sub-Market Designator</b><br>0    |                                 |
| <b>Market Name</b><br>Traverse City, MI |                                     |                                      |                                 |
| <b>1st Build-out Date</b>               | <b>2nd Build-out Date</b>           | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b>       |

**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. 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.

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**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

|   |                                  |
|---|----------------------------------|
| <b>Call Sign</b><br>WRHG504                                       | <b>File Number</b><br>0010283156 |
| <b>Radio Service</b><br>UU - Upper Microwave Flexible Use Service |                                  |

**FCC Registration Number (FRN):** 0003290673

|   |                                     |                                      |                                 |
|---|-------------------------------------|--------------------------------------|---------------------------------|
| <b>Grant Date</b><br>06-04-2020         | <b>Effective Date</b><br>11-18-2022 | <b>Expiration Date</b><br>06-04-2030 | <b>Print Date</b><br>03-15-2023 |
| <b>Market Number</b><br>PEA203          | <b>Channel Block</b><br>N1          | <b>Sub-Market Designator</b><br>0    |                                 |
| <b>Market Name</b><br>Traverse City, MI |                                     |                                      |                                 |
| <b>1st Build-out Date</b>               | <b>2nd Build-out Date</b>           | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b>       |

**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. 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.

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**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

|  |                    |
|--|--------------------|
| <b>Call Sign</b><br>WRNG653                  | <b>File Number</b> |
| <b>Radio Service</b><br>PM - 3.7 GHz Service |                    |

FCC Registration Number (FRN): 0003290673

|   |   |                                      |                           |
|---|---|--------------------------------------|---------------------------|
| <b>Grant Date</b><br>07-23-2021         | <b>Effective Date</b><br>07-23-2021     | <b>Expiration Date</b><br>07-23-2036 | <b>Print Date</b>         |
| <b>Market Number</b><br>PEA203          | <b>Channel Block</b><br>A1              | <b>Sub-Market Designator</b><br>0    |                           |
| <b>Market Name</b><br>Traverse City, MI |   |                                      |                           |
| <b>1st Build-out Date</b><br>07-23-2029 | <b>2nd Build-out Date</b><br>07-23-2033 | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b> |

**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.

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**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

|  |                    |
|--|--------------------|
| <b>Call Sign</b><br>WRNG658                  | <b>File Number</b> |
| <b>Radio Service</b><br>PM - 3.7 GHz Service |                    |

FCC Registration Number (FRN): 0003290673

|   |   |                                      |                           |
|---|---|--------------------------------------|---------------------------|
| <b>Grant Date</b><br>07-23-2021         | <b>Effective Date</b><br>07-23-2021     | <b>Expiration Date</b><br>07-23-2036 | <b>Print Date</b>         |
| <b>Market Number</b><br>PEA203          | <b>Channel Block</b><br>B1              | <b>Sub-Market Designator</b><br>0    |                           |
| <b>Market Name</b><br>Traverse City, MI |   |                                      |                           |
| <b>1st Build-out Date</b><br>07-23-2029 | <b>2nd Build-out Date</b><br>07-23-2033 | <b>3rd Build-out Date</b>            | <b>4th Build-out Date</b> |

**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.

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**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> |
|---------------|--------------------|--------------------------|------------------------------|---------------|
|---------------|--------------------|--------------------------|------------------------------|---------------|

Reference Copy



**Exhibit J**

**Affidavit of Intent to Collocate**


**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>CSLT. - 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

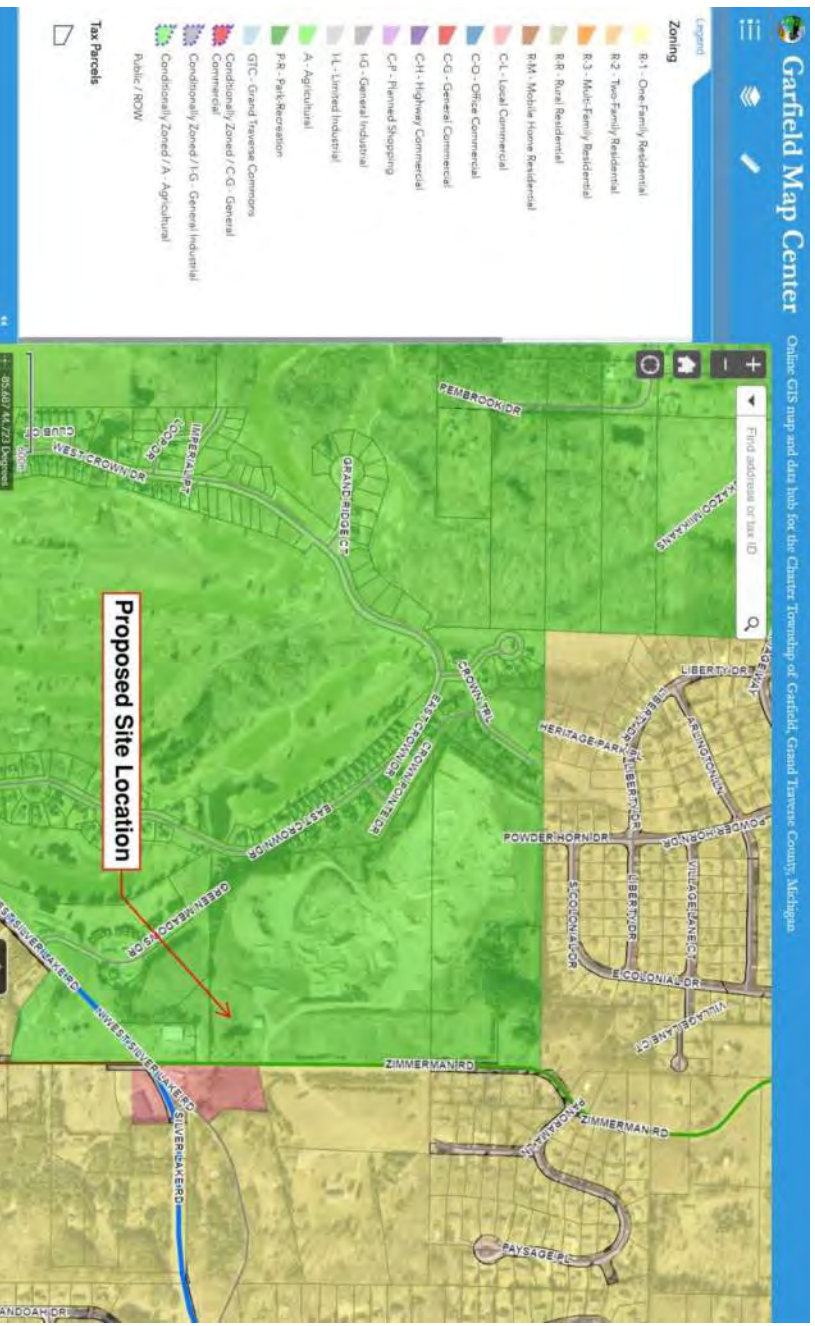
Signed:   
[insert name] Abigail Ball

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



**Exhibit L**

**FAA Determination of No Hazard to Air Navigation**



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)<br>159 feet above ground level (AGL)<br>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<br/>FREQUENCY</b> | <b>HIGH<br/>FREQUENCY</b> | <b>FREQUENCY<br/>UNIT</b> | <b>ERP</b> | <b>ERP<br/>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                   |



**Exhibit M**

**Approval Criteria and Impact Assessment Review**

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.

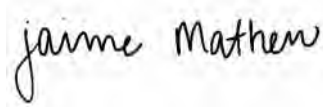
**Response: An FAA Determination of No Hazard to Air Navigation has been completed for the proposed location and marking and lighting are not required. As a result, no lighting on the tower is proposed.**

- 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)**

|  |   |              |                                     |
|--|---|--------------|-------------------------------------|
|  <b>Charter Township of Garfield<br/>Planning Department Report No. 2024-35</b> |   |              |                                     |
| Prepared:  | June 5, 2024                                  | Pages:       | 4                                   |
| Meeting:   | June 12, 2024 Planning Commission             | Attachments: | <input checked="" type="checkbox"/> |
| Subject:   | Sign Application for TJ Maxx/Bison Hollow PUD |              |                                     |
| File No.   | SUP 2001-02-D                                 | Parcel No.   | 05-016-027-60                       |
| Applicant:   | TJ Maxx                                       |              |                                     |
| Agent:   | Pro Image Design                              |              |                                     |
| Owner:   | ARC BHTVCM1001, LLC                           |              |                                     |

**BACKGROUND:**

The TJ Maxx retail store is relocating from the Grand Traverse Mall to the former site of the Bed Bath & Beyond store at 3301 N US 31 South, adjacent to the existing Michaels arts and crafts store. The subject parcel is in the Bison Hollow Planned Unit Development (PUD).

*Aerial photo of subject property (highlighted with thick blue line):*



**SIGN REGULATIONS:**

Commercial uses in planned developments are permitted one (1) wall sign per exterior storefront. The maximum area per sign shall be the lesser of 100 square feet or 20% of the area of the wall to which the sign is attached. Businesses occupying corner spaces are permitted one (1) sign on the additional exterior wall. In this case, TJ Maxx is permitted a wall sign of 100 square feet at its front (east) building elevation and a wall sign of 100 square feet at the side (south) building elevation since it's a corner space.

According to Section 630.G.(3)(b) of the Zoning Ordinance, “the Planning Commission shall have the ability to modify any of the wall sign standards in Section 630.G.(2) provided all the following criteria are met. Any modification of these standards shall be applicable for only the lifespan of the sign in question and shall not be transferable to any other sign or lot, shall not be considered a variance, and shall not run with the land. The decision of the Planning Commission shall be applicable to only the specific application and shall not be considered to set precedent.

- (i) The proposed sign(s) shall be designed as an integral part of the development and compatible with the overall design.
- (ii) Any proposed sign shall be found by the Planning Commission to be appropriate in scale, bulk, and location relative to the site and shall be found to be compatible with surrounding land uses.
- (iii) The sign does not block the view of other nearby signs to the extent that it would harm the ability of other businesses in the surrounding neighborhood to operate.
- (iv) For a wall sign, the building is set back greater than two hundred (200) feet from the centerline of the nearest roadway, or the wall to which the sign is attached is greater than five hundred (500) square feet, and the requested increase in wall sign area is not more than fifty (50) percent greater than that allowed in Section 630.G.(2).
- (v) There are other unique circumstances or existing conditions on the site which warrant consideration by the Planning Commission.”

**REQUEST:**

TJ Maxx has requested to have a wall sign of 128.6 square feet sign on the front (east) building elevation. This proposed wall sign exceeds the permitted sign size by 28.6 square feet. The proposed wall sign on the side (south) building elevation is 98.9 square feet and meets Zoning Ordinance requirements.

**STAFF COMMENTS:**

Staff has reviewed the request in accordance with Section 630.G.(3)(b) of the Zoning Ordinance and offers the following findings regarding the requested sign on the front (east) building elevation:

- (i) *The proposed sign(s) shall be designed as an integral part of the development and compatible with the overall design.*

This standard appears to be **met** based on the following reasons:

- The proposed wall sign is of a similar appearance and design to other commercial signs in the planned development.
- The placement of the wall sign is in an area of the front (east) building elevation designed for signage.

- (ii) *Any proposed sign shall be found by the Planning Commission to be appropriate in scale, bulk, and location relative to the site and shall be found to be compatible with surrounding land uses.*

This standard appears to be **met** based on the following reasons:

- The placement of the wall sign is in an area of the front (east) building elevation designed for signage.
- The applicant has stated that the existing adjacent Michaels arts and crafts store wall sign is larger and taller and provided information that the Michaels wall sign is 291 square feet. Michaels has a front building elevation of approximately 3,500 square feet in area which is similar in area to the proposed TJ Maxx building elevation. Modifying the TJ Maxx wall sign would place the proposed sign at a similar scale with the Michaels wall sign. However, the Michaels wall sign is an existing legal nonconforming sign due to its dimensions.
- Based on Township records, the wall sign for the front building elevation of the nearby Kohl's department store is 174 square feet. The Kohl's wall sign is an existing legal nonconforming sign due to its dimensions.

(iii) *The sign does not block the view of other nearby signs to the extent that it would harm the ability of other businesses in the surrounding neighborhood to operate.*

This standard appears to be **met** based on the following reasons:

- As a proposed wall sign, the sign does not block the view of any other signs.

(iv) *For a wall sign, the building is set back greater than two hundred (200) feet from the centerline of the nearest roadway, or the wall to which the sign is attached is greater than five hundred (500) square feet, and the requested increase in wall sign area is not more than fifty (50) percent greater than that allowed in Section 630.G.(2).*

This standard appears to be **met** based on the following reasons:

- The proposed wall sign is set back approximately 650 feet from the centerline of US-31. Therefore, the setback is greater than two hundred (200) feet from the centerline of the nearest roadway.
- The wall to which the sign is proposed to be attached is roughly 3,500 square feet. Therefore, the wall to which the proposed sign would be attached is greater than five hundred (500) square feet.
- The proposed wall sign is 28.6 percent greater than the wall sign area of 100 square feet that is allowed in Section 630.G(2). Therefore, the requested increase in the wall sign area is not more than fifty (50) percent greater than that allowed in Section 630.G.(2).

(v) *There are other unique circumstances or existing conditions on the site which warrant consideration by the Planning Commission.*

This standard appears to be **not met** based on the following reasons:

- There are no apparent unique circumstances or existing conditions on the site which warrant consideration by the Planning Commission.
- The existing Hobby Lobby wall sign at 3675 Marketplace Circle in the nearby Buffalo Ridge Planned Unit Development is 99.7 square feet and located approximately 975 feet from the centerline of US 31. A request by Hobby Lobby for a wall sign of 148.2 square feet was denied by the Planning Commission at its meeting on January 9, 2019.

- Other commercial use sign cases include the following:
  - At its meeting on April 22, 2020, the Planning Commission denied a request by Burlington department store for a wall sign of 149 square feet at 3450 West South Airport Road (a site zoned C-P Planned Shopping Center).
  - At its meeting on October 14, 2020, the Planning Commission limited the Value City Furniture store to a wall sign of 100 square feet at 1775 Oak Hollow Drive (a site in the Lake Pointe Village Planned Unit Development).
- A commercial freestanding sign for the PUD with an area designated for the TJ Maxx sign is provided at the US 31 right-of-way.

**ACTION:**

The purpose of this item is to consider a request for a modified wall sign. If, following discussion, the Planning Commission is prepared to adopt the Findings of Fact provided above, the following two separate motions are suggested; the first to adopt the Findings, and the second to deny the request based upon those Findings:

MOTION THAT the Findings of Fact for application SUP 2001-02-D, submitted by TJ Maxx for a modified wall sign, as presented in Planning Department Report 2024-35 and being made a part of this motion, BE ADOPTED.

The following motion is recommended to deny the request:

MOTION THAT application SUP 2001-02-D, submitted by TJ Maxx for a modified wall sign, BE DENIED based on the adopted Findings of Fact presented in Planning Department Report 2024-35.

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

**Attachments:**

1. Planned Development / Planned Shopping Center Sign Application and Attachment (May 8, 2024)
2. Memo for Planning Commission Consideration
3. TJ Maxx Sign Design Plan





# Charter Township of Garfield

Grand Traverse County

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

## PLANNED DEVELOPMENT (PD) PLANNED SHOPPING CENTER (PSC) SIGN 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

- Planned Unit Development Sign Review  
 Planned Shopping Center Sign Review

### PROJECT / DEVELOPMENT NAME

TJ Maxx

### APPLICANT INFORMATION

Name:

TJ Maxx

Address:

3301 N US 31 South

Phone Number:

(231) 929-1183

Email:

### AGENT INFORMATION

Name:

Pro Image Design

Address:

331 W. South Airport Road, Traverse City, MI 49686

Phone Number:

231-322-8052 x110

Email:

sarahs@proimagedesign.net

### OWNER INFORMATION

Name:

ARC BHTVCM1001 LLC

Address:

3301 N US 31 SOUTH TRAVERSE CITY, MI 49684-4538

Phone Number:

614-327-4489

Email:

**CONTACT PERSON**

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

|                   |                  |
|-------------------|------------------|
| <i>Applicant:</i> | Pro Image Design |
| <i>Agent:</i>     | Sarah Swanson    |
| <i>Owner:</i>     | Alan Hubbard     |

**PROPERTY INFORMATION**

|   |   |
|---|---|
| <i>Property Address:</i>                        | 3301 N US 31 SOUTH TRAVERSE CITY, MI 49684-4538 |
| <i>Property Identification Number:</i>          | 05-016-027-60                                   |
| <i>Legal Description:</i>                       | Shopping Center                                 |
| <i>Zoning District:</i>                         | Commercial/Shopping District                    |
| <i>Master Plan Future Land Use Designation:</i> | Shopping Center                                 |
| <i>Area of Property (acres or square feet):</i> | 4.93 Acres                                      |
| <i>Existing Use(s):</i>                         | Shopping Center                                 |
| <i>Proposed Use(s):</i>                         | Shopping Center                                 |

**SIGN REQUIREMENTS**

- Refer to Section 630 of the Zoning Ordinance for sign requirements.

**REQUIRED SUBMITTAL ITEMS**

A complete application for a Planned Unit Development Sign Review or a Planned Shopping Center Sign Review 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

Site Diagram:

- Ten complete stapled 11"x17" paper sets
- One digital set (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.

SITE DIAGRAM

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

SIGN INVENTORY

List all existing signs located on the property, including type, sign face area, illumination, height, and location in a written table and on the Site Diagram.

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

- All proposed signs within a Planned Shopping Center Commercial District or a Planned Unit Development shall be submitted to the Planning Commission for final review and approval.
- The Planning Commission may approve, approve with conditions, or deny the proposed sign.

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:

*J*

Applicant Signature:

*Alan Hubbard*

Agent Signature:

*Sarah Swanson*

Date:

05/08/2024

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 ARC BHTVCM1001 LLC 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:



*J*

Date:


05/08/2024

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:     |  |  |
| Date:                | 05/08/2024   |  |
| Applicant Signature: |  |  |
| Date:                | 05/08/2024   |  |

Acknowledged before me this 8th day of May, 2024

  
Notary

Chandra C. Blake  
Notary Public, State of New York  
Reg. No. 01BL6214413  
Qualified in Richmond County  
Commission Expires June 15, 2026

| Required Site Plan Elements Checklist (See § 956 of the Zoning Ordinance)<br>Site Diagram (SD) / Administrative Site Plan (ASP) / Site Development Plan (SDP)  | SD                                  | ASP/<br>SDP              |
|--|-------------------------------------|--------------------------|
| <b>A. Basic Information</b>  |                                     |                          |
| 1. Applicant's name, address, telephone number and signature   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 2. Property owner's name, address, telephone number and signature  | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 3. Proof of property ownership   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 4. Whether there are any options or liens on the property  | <input checked="" 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 checked="" 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 checked="" 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 checked="" type="checkbox"/> | <input type="checkbox"/> |
| 9. Project title or name of the proposed development   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 10. Statement of proposed use of land, project completion schedule, any proposed development phasing   | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| 11. Land uses and zoning classification on the subject parcel and adjoining parcels  | <input checked="" 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 checked="" 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<br><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"/> |

To: Planning Commission for Consideration for additional 28.6 square feet.

TJ Maxx is asking the Planning Commission to consider the a larger sign for the new store location at 3301 North US 31 South in Traverse City, MI 49684.

- (i) The proposed signs(2) shall be designed as an integral part of the development and compatible with the overall design. TJ Maxx sign design is their brand standard across the country for all stores that has provide them with their signature design with good architectural look for customers to recognize their brand in the community.
- (ii) Any proposed sign shall be found by the Planning Commission to be appropriate in scale, bulk, and location relative to the site and shall be found to be compatible with surrounding land issues. TJ Maxx signs as presented on the Design Book will provide customer exposure on the front entrance along with the left side wall that customers will be able to see their location coming in off of Marketplace Circle that leads traffic past IMAX AMC Theaters.
- (iii) The sign does not block the view of other nearby signs to the extent that it would harm the ability of other businesses in the surrounding neighborhood to operate. The TJ Maxx signs are in a good location and are not in the way of obstructing any other businesses.
- (iv) For a wall sign, the building is set back greater than two hundred (200) feet from the centerline of the nearest roadway, or the wall to which the sign is attached is greater than five hundred (500) square feet, and the requested increase in the wall sign area is not more than fifty (50) percent greater than that allowed in Section 630.G.(2). TJ Maxx is in compliance with the set back as provided site plan showing the building well off the freeway.
- (v) There are other unique circumstances or existing conditions on the site which warrant consideration by the Planning Commission.

TJ Maxx is asking for the additional square footage to increase their sign above the 100 max square footage allowed. The new sign proposed is 128.6 square feet. We are not asking for the full additional 50 square feet , just the 28.6 square feet. This would increase the sign enough to gain exposure on the front elevation for customers to see the store from the freeway due to the far away set back.

The neighboring tenant next door is Michaels and overall size of this sign is much larger at 38' wide and tallest letter is 7'-5" high. See photos attached and TJ Maxx sign at 3'-6" with the max at 100 square feet will look really small next to the Michael's store. Increasing our sign up to the 4'-0" letter set (additional 28.6 square feet asking for) would be a much better look and size on the building with TJ Maxx frontage space.



DESIGNS PREPARED FOR:

**T.J. maxx**

**SITE ADDRESS:**

3618 MARKETPLACE CIRCLE  
TRAVERSE CITY, MI 49684

**JOB NUMBER:**

288798

**SALES REPRESENTATIVE:**

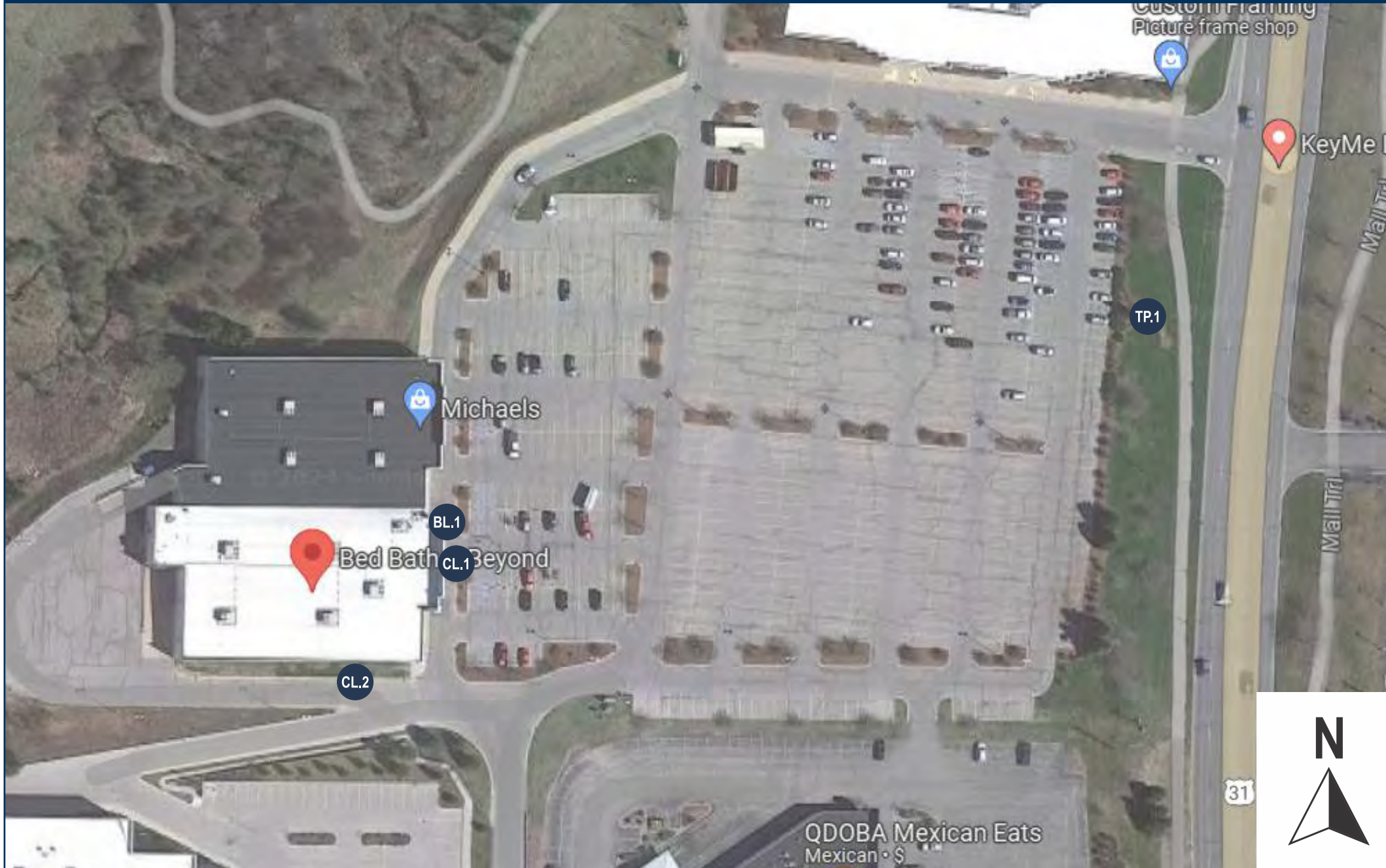
J. GEHRT

**PROJECT MANAGER:**

E. ASSENHEIMER



SITEPLAN



SCOPE OF WORK

| EXTERIOR SIGNS |  | QTY |
|----------------|--|-----|
| CL.1           | 4'-0" TALL FACE LIT CHANNEL LETTERS            | 1   |
| CL.2           | 3'-6" TALL FACE LIT CHANNEL LETTERS            | 1   |
| BL.1           | D/F ILLUMINATED UNDER CANOPY SIGN              | 1   |
| TP.1           | REPLACEMENT PUSH THRU FACES FOR D/F PYLON SIGN | 2   |
|                |  |     |
|                |  |     |
|                |  |     |
|                |  |     |
|                |  |     |

SIGN CODE REVIEW

**# OF BUILDING SIGNS ALLOWED?**  
 ONE (1) SIGN PER EXTERIOR STOREFRONT. BUSINESSES OCCUPYING CORNER SPACES ARE PERMITTED ONE (1) SIGN ON THE ADDITIONAL EXTERIOR WALL.

**HOW IS CODE CALCULATED?**  
 LESSER OF: 100 SF OR 20% OF THE WALL AREA TO WHICH THE SIGN IS ATTACHED

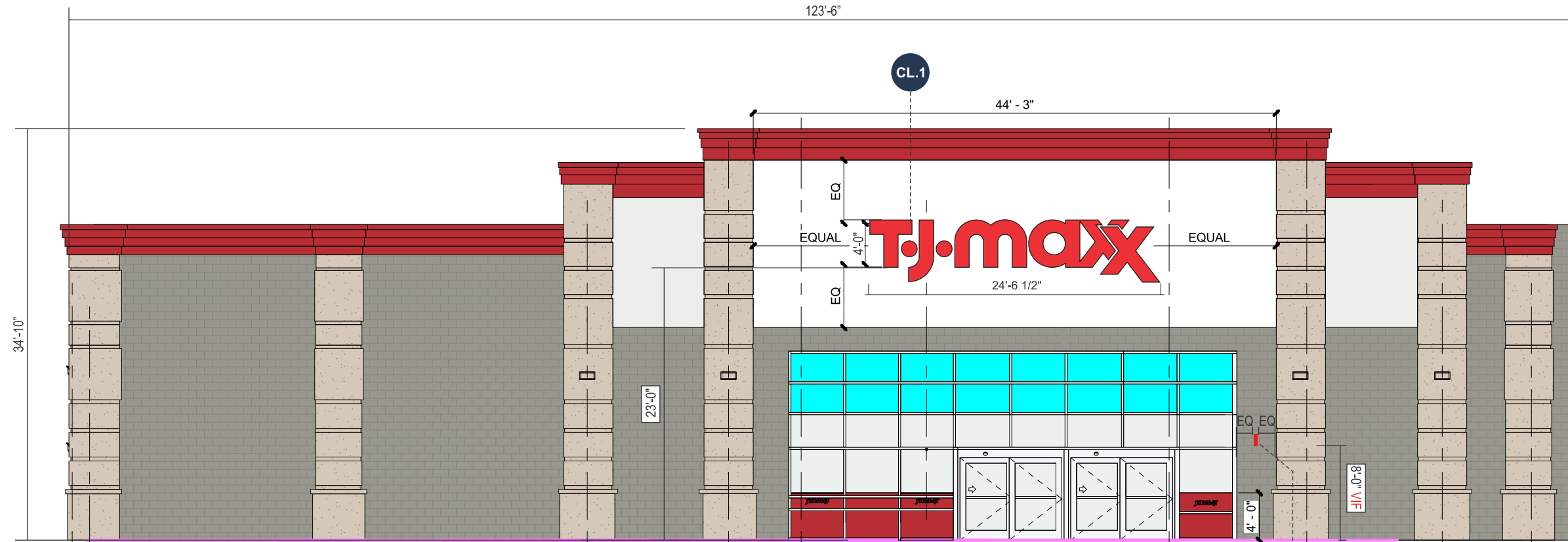
**ARE UNDER CANOPY SIGNS ALLOWED?**  
 YES

SCALE: NTS

|  |   |   |  |  |   |                            |
|--|---|---|--|--|---|----------------------------|
|  | <b>JOB #:</b> 288798_R2<br><b>DATE:</b> 01.19.2024<br><b>DESIGNER:</b> A. GREENSLADE<br><b>SALES REP:</b> J. GEHRT<br><b>PROJ MGR:</b> E. ASSENHEIMER | <b>REQUIRED:</b><br><input type="checkbox"/> FIELD SURVEY <input type="checkbox"/> PAINT COLOR <input type="checkbox"/> FONTS<br><input type="checkbox"/> VECTOR ARTWORK <input type="checkbox"/> CLIENT PMS COLOR <input type="checkbox"/> ENGINEERING | LANDLORD APPROVAL _____ DATE _____<br>CLIENT APPROVAL _____ DATE _____ |  | TJ MAXX<br>3618 MARKETPLACE CIRCLE<br>TRAVERSE CITY, MI 49684 | SHEET NUMBER<br><b>1.0</b> |
|  | <b>OTHER:</b>   |   |  |  |   |                            |

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# EAST ELEVATION



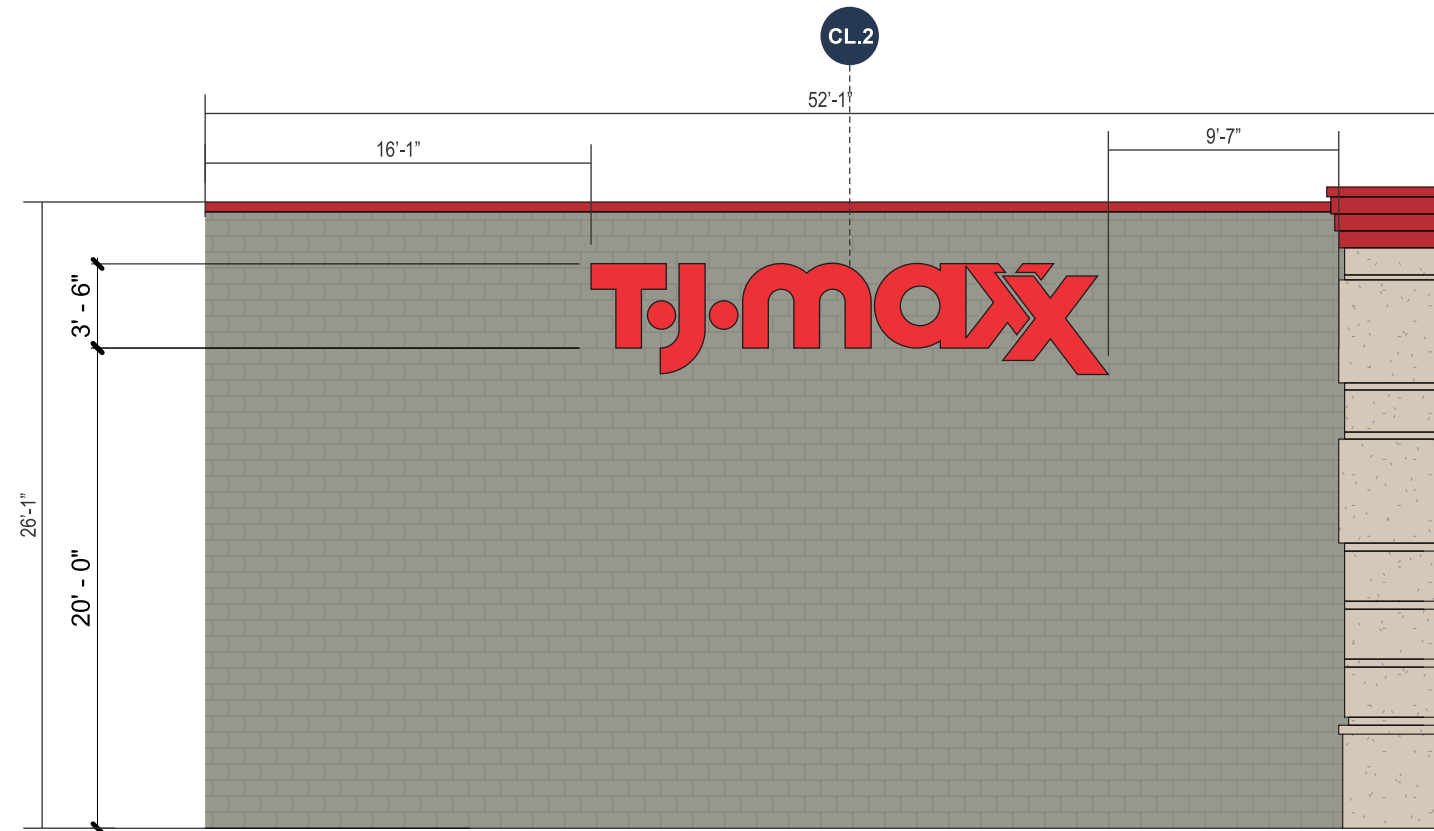
EAST ELEVATION - PROPOSED SIGNAGE  
SCALE: 3/32" = 1'-0"

BL.1 EXACT BLADE PLACEMENT HEIGHT TO BE VERIFIED BY CUSTOMER

|  |   |   |  |  |  |                              |
|--|---|---|--|--|--|------------------------------|
|  | <b>JOB #:</b> 288798_R2<br><b>DATE:</b> 01.19.2024<br><b>DESIGNER:</b> A. GREENSLADE<br><b>SALES REP:</b> J. GEHRT<br><b>PROJ MGR:</b> E. ASSENHEIMER | <b>REQUIRED:</b><br><input type="checkbox"/> FIELD SURVEY <input type="checkbox"/> PAINT COLOR <input type="checkbox"/> FONTS<br><input type="checkbox"/> VECTOR ARTWORK <input type="checkbox"/> CLIENT PMS COLOR <input type="checkbox"/> ENGINEERING | LANDLORD APPROVAL _____ DATE _____<br>CLIENT APPROVAL _____ DATE _____ |  | <b>TJ MAXX</b><br>3618 MARKETPLACE CIRCLE<br>TRAVERSE CITY, MI 49684 | SHEET NUMBER<br><h1>2.0</h1> |
|  | <b>OTHER:</b><br><div style="border: 1px solid black; height: 20px; width: 100%;"></div>  |   |  |  |  |                              |

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WEST ELEVATION



SOUTH ELEVATION - PROPOSED SIGNAGE  
SCALE: 1/8" = 1'-0"

|  |   |              |  |  |   |   |
|--|---|--------------|--|--|---|---|
|  | JOB #: <b>288798_R2</b><br>DATE: 01.19.2024<br>DESIGNER: A. GREENSLADE<br>SALES REP: J. GEHRT<br>PROJ MGR: E. ASSENHEIMER   | REQUIRED:    | LANDLORD APPROVAL _____ DATE _____<br><br>CLIENT APPROVAL _____ DATE _____ |  | TJ MAXX<br>3618 MARKETPLACE CIRCLE<br>TRAVERSE CITY, MI 49684 | SHEET NUMBER<br><h1 style="margin: 0;">3.0</h1> |
|  | <input type="checkbox"/> FIELD SURVEY <input type="checkbox"/> PAINT COLOR <input type="checkbox"/> FONTS<br><input type="checkbox"/> VECTOR ARTWORK <input type="checkbox"/> CLIENT PMS COLOR <input type="checkbox"/> ENGINEERING | OTHER: _____ |  |  |   |   |

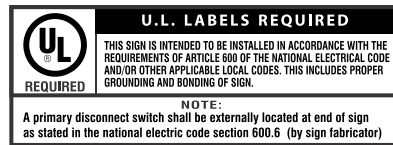
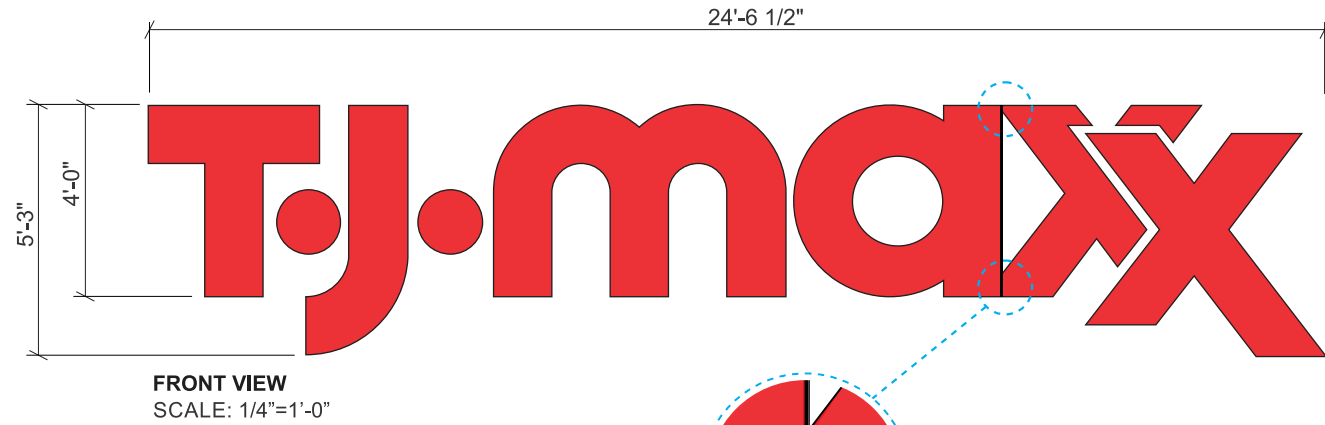
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# CL.1 4'-0" FACE LIT CHANNEL LETTERS (Qty 1) PART# TJ1CL48-295-5L

|  |       |
|--|-------|
| Allowable Square Footage this Elevation: | 100 - |
| Boxed Square Footage this Elevation:     | 128.6 |
| Actual Square Footage this Elevation:    | 112.3 |

BOXED - UP TO 150 TO BE REVIEWED FOR CONSIDERATION FOR MEETING THE 5 STANDARDS UNDER SECTION 630 SECTION G.2



**ELECTRICAL NOTES:**

- U.L. LISTED
- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH "NEC" REF. SECTION 600 TO MEET LOCAL CODE.
- ALL ELECTRICAL SIGN SECTIONS TO HAVE U.L. LABELS IN ACCORDANCE WITH "NEC" 600.3 AND MANUFACTURERS LABEL LOCATED NEXT TO DISCONNECT SWITCH
- ALL NON-CURR/BWENT CARR/BWYING METAL PARTS OF SIGN SHALL BE GROUNDED & BONDED IN ACCORDANCE WITH "NEC" 250
- SPlicing OF CONDUCTORS SHALL BE MADE IN JUNCTION BOXES OR SIMILAR METAL ENCLOSURES
- AT THE POINT THAT ELECTRICAL CABLE PASSES THRU THE SIGN BOX, IT SHALL PASS THRU A U.L. LISTED GROMMET.
- FINAL PRIMARY HOOK-UP BY SIGN INSTALLER WHERE ALLOWED BY CODE.

**GENERAL NOTES:**

- NO EXPOSED FASTENERS TO BE USED. IF EXPOSED FASTENERS MUST BE USED THEN THEY MUST BE COUNTER SUNK AND PAINTED TO MATCH ADJACENT FINISH, UNLESS NOTED OTHERWISE.
- ALL HARDWARE TO BE NON CORR/BWOSIVE.
- ALL VISIBLE EDGES TO BE FILLED AND FINISHED.
- ALL WELDS TO BE GROUND SMOOTH.
- SIGNAGE TO CONTAIN BAFFLES AND DRAIN HOLES AS NEEDED.
- INSTALL TEMPLATE TO BE INCLUDED WITH LETTER BY FABRICATOR.

.040" ALUMINUM RETURNS BLACK PRE-FINISHED EXTERIOR W/ WHITE INTERIOR . RETURNS LETTER LOCK/STAPLED TO .063 BACKS W/ ADHESIVE SILICONE TO PREVENT LIGHT LEAKS AND WATER PENETRATION.

1" BLACK JEWELITE TRIMCAP CHEMICALLY WELDED TO FACE W/ #8 PAN HEAD SCREWS AS NEEDED. TYP. @ ALL LETTERS.

3/8" Ø GALVANIZED THRU BOLT W/ ALUMINUM SPACER INTO BLOCKING BEHIND WALL. **FINAL HARDWARE DETERMINED BY ACTUAL WALL CONSTRUCTION.**

PREFERRED MOUNTING 2"x 2" x 3/16" ANGLE MOUNTING CLIPS (MIN 4 PER LTR REQ'D) HELD W/ 3/8" GALV. THRU BOLTS W/ METAL SPACER SILICONE CAULK SEALAT WALL PENETRATIONS) ALL H'WARE CONTINGENT ON ACTUAL WALL CONSTRUCTION. PROVIDE BLOCKING AS REQUIRED

1/2" Ø WATER TIGHT WALL BUSTER @ WIRE PENETRATIONS. **ALL ELECTRICAL PENETRATIONS MUST BE FILLED WITH DAP® RELY-ON® LATEX POLYMER CAULK FINISHED TO MATCH ADJACENT FASCIA COLOR AS REQUIRED.**

MINIMUM 18 AWG. LOW VOLTAGE WIRES.

RED LED MODULES.

POWER SUPPLY HOUSED IN POWER SUPPLY BOX (OR EQUAL),W/ MINIMUM IP67 RATING AND U.L. RECOGNIZED. FINAL PLACEMENT TBD

120V 20 AMP SINGLE POLE U.L. RECOGNIZED DISCONNECT SWITCH ON OUTSIDE POWER SUPPLY BOX. UL LABEL APPLIED ADJACENT TO SWITCH.

3/16" THK. #2793 RED TRANSLUCENT ACRYLIC FACE.

WEEP HOLES AS REQUIRED FOR EACH LOW POINT IN LETTER

PRIMARY FEED JUNCTION BOX, POWER MUST BE WITHIN 6' OF SIGN'S FINAL PLACEMENT @ TIME OF INSTALL. FINAL HOOK-UP BY SIGN INSTALLER WHERE PERMITTED BY LOCAL CODE. (BY OTHERS)

CHANNEL LETTER - VERTICAL SECTION  
SCALE: 3"=1'-0"

**SPECIFICATIONS:**

1. FABRICATE FACE-LIT CHANNEL LETTERS M-1
2. RETURNS: 5" P-1
3. TRIMCAP: 1" BLACK JEWELITE
4. LED'S: RED

**COLORS / FINISHES:**

- M-1 3/16" #2793 RED PLEX FACES.
- P-1 MP BLACK (SATIN FINISH)

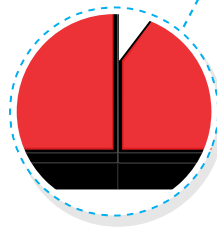
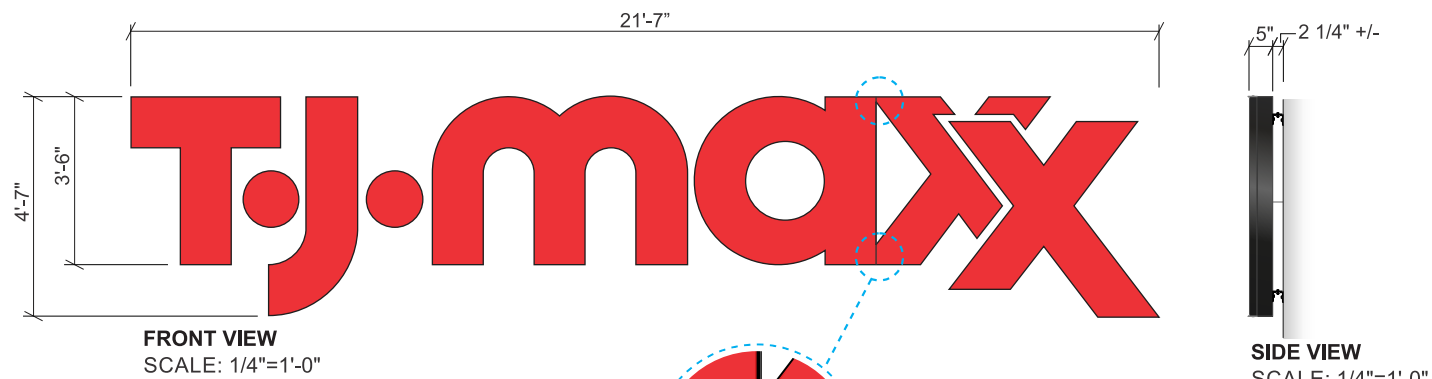
ALL CONDITIONS MUST BE FIELD VERIFIED

|  |   |  |  |  |   |                              |
|--|---|--|--|--|---|------------------------------|
|  | JOB #: 288798_R2<br>DATE: 01.19.2024<br>DESIGNER: A. GREENSLADE<br>SALES REP: J. GEHRT<br>PROJ MGR: E. ASSENHEIMER  | <b>REQUIRED:</b><br><input type="checkbox"/> FIELD SURVEY <input type="checkbox"/> PAINT COLOR <input type="checkbox"/> FONTS<br><input type="checkbox"/> VECTOR ARTWORK <input type="checkbox"/> CLIENT PMS COLOR <input type="checkbox"/> ENGINEERING<br><b>OTHER:</b> | LANDLORD APPROVAL _____ DATE _____<br>CLIENT APPROVAL _____ DATE _____ |  | TJ MAXX<br>3618 MARKETPLACE CIRCLE<br>TRAVERSE CITY, MI 49684 | SHEET NUMBER<br><h1>4.0</h1> |
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# CL.2 3'-6" FACE LIT CHANNEL LETTERS (Qty 2) TJ1CL42-259-5L

|  |       |
|--|-------|
| Allowable Square Footage this Elevation: | 100 - |
| Boxed Square Footage this Elevation:     | 98.9  |
| Actual Square Footage this Elevation:    | 84.9  |

BOXED - UP TO 150 TO BE REVIEWED FOR CONSIDERATION FOR MEETING THE 5 STANDARDS UNDER SECTION 630 SECTION G.2



ENLARGED LETTER SPACING TRIM CAP DETAIL. INDIVIDUAL LETTERS TO BE INSTALLED TO APPEAR AS ONE.



BOXED SQ. FOOTAGE - 98.9 SQ. FT.



ACTUAL SQ. FOOTAGE - 84.9 SQ. FT.



NIGHT VIEW  
SCALE: NTS

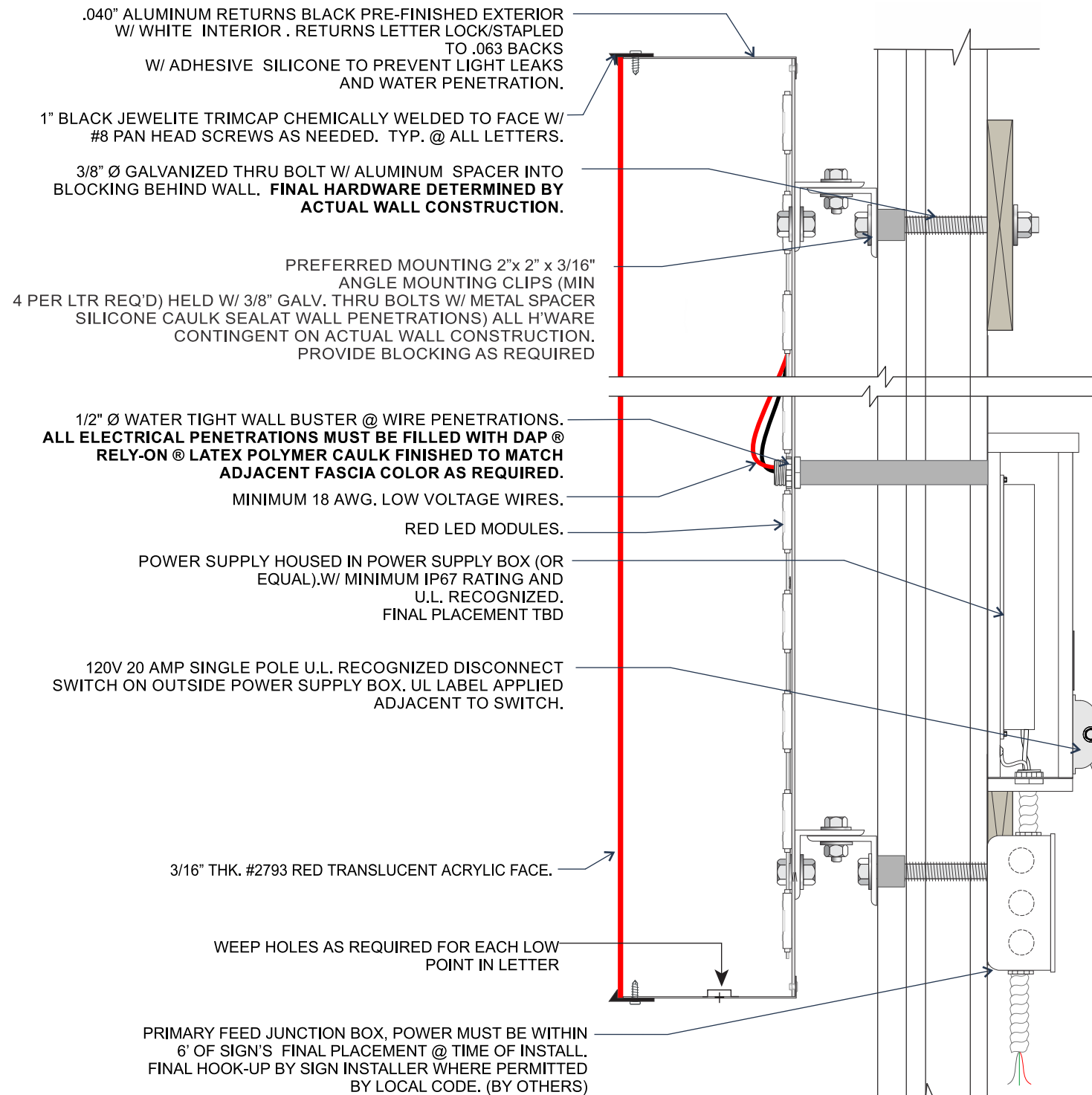


### ELECTRICAL NOTES:

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- ALL ELECTRICAL SIGN SECTIONS TO HAVE U.L. LABELS IN ACCORDANCE WITH "NEC" 600.3 AND MANUFACTURERS LABEL LOCATED NEXT TO DISCONNECT SWITCH
- ALL NON-CURR/BWENT CARR/BWYING METAL PARTS OF SIGN SHALL BE GROUNDED & BONDED IN ACCORDANCE WITH "NEC" 250
- SPlicing OF CONDUCTORS SHALL BE MADE IN JUNCTION BOXES OR SIMILAR METAL ENCLOSURES
- AT THE POINT THAT ELECTRICAL CABLE PASSES THRU THE SIGN BOX, IT SHALL PASS THRU A U.L. LISTED GROMMET.
- FINAL PRIMARY HOOK-UP BY SIGN INSTALLER WHERE ALLOWED BY CODE.

### GENERAL NOTES:

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- ALL HARDWARE TO BE NON CORR/BWOSIVE.
- ALL VISIBLE EDGES TO BE FILLED AND FINISHED.
- ALL WELDS TO BE GROUND SMOOTH.
- SIGNAGE TO CONTAIN BAFFLES AND DRAIN HOLES AS NEEDED.
- INSTALL TEMPLATE TO BE INCLUDED WITH LETTER BY FABRICATOR.



CHANNEL LETTER - VERTICAL SECTION  
SCALE: 3"=1'-0"

### SPECIFICATIONS:

1. FABRICATE FACE-LIT CHANNEL LETTERS M-1
2. RETURNS: 5" P-1
3. TRIMCAP: 1" BLACK JEWELITE
4. LED'S: RED

ALL CONDITIONS MUST BE FIELD VERIFIED

### COLORS / FINISHES:

- M-1 3/16" #2793 RED PLEX FACES.
- P-1 MP BLACK (SATIN FINISH)

**JONES SIGN**  
Your Vision. Accomplished.  
A MORTENSEN COMPANY

JOB #: 288798\_R2  
DATE: 01.19.2024  
DESIGNER: A. GREENSLADE  
SALES REP: J. GEHRT  
PROJ MGR: E. ASSENHEIMER

**REQUIRED:**

FIELD SURVEY     PAINT COLOR     FONTS  
 VECTOR ARTWORK     CLIENT PMS COLOR     ENGINEERING

**OTHER:**

LANDLORD APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_

CLIENT APPROVAL \_\_\_\_\_ DATE \_\_\_\_\_



TJ MAXX  
3618 MARKETPLACE CIRCLE  
TRAVERSE CITY, MI 49684

SHEET NUMBER  
**5.0**

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JOB #: **288798\_R2**  
DATE: 01.19.2024  
DESIGNER: A. GREENSLADE  
SALES REP: J. GEHRT  
PROJ MGR: E. ASSENHEIMER

| REQUIRED:                               |   |                                      |
|---|---|--------------------------------------|
| <input type="checkbox"/> FIELD SURVEY   | <input type="checkbox"/> PAINT COLOR      | <input type="checkbox"/> FONTS       |
| <input type="checkbox"/> VECTOR ARTWORK | <input type="checkbox"/> CLIENT PMS COLOR | <input type="checkbox"/> ENGINEERING |
| OTHER:                                  |   |                                      |

|                   |      |
|-------------------|------|
| LANDLORD APPROVAL | DATE |
| CLIENT APPROVAL   | DATE |



TJ MAXX  
3618 MARKETPLACE CIRCLE  
TRAVERSE CITY, MI 49684

SHEET NUMBER  
**6.0**



# TP.1 D/F TENANT PYLON FACES - ROUTED & PUSH THRU (QTY. 2)

Square Footage: **38.4**



FRONT VIEW  
SCALE: 1/2"=1'-0"



NIGHT VIEW  
SCALE: N.T.S.



EXISTING  
N.T.S.




PROPOSED  
N.T.S.

## SPECIFICATIONS:

1. .125 ROUTED ALUMINUM FACE PAINTED P-2
2. PUSH THRU 1/2" WHITE ACRYLIC LETTERS

## COLORS / FINISHES:

- P-2 MP RED ENAMEL TO MATCH PMS 186C (SATIN FINISH)

|   |   |   |  |   |   |                              |
|---|---|---|--|---|---|------------------------------|
| <b>JONES SIGN</b><br>Your Vision. Accomplished.<br><small>A MORTENSEN COMPANY</small> | JOB #: <b>288798_R2</b><br>DATE: 01.19.2024<br>DESIGNER: A. GREENSLADE<br>SALES REP: J. GEHRT<br>PROJ MGR: E. ASSENHEIMER | <b>REQUIRED:</b><br><input type="checkbox"/> FIELD SURVEY <input type="checkbox"/> PAINT COLOR <input type="checkbox"/> FONTS<br><input type="checkbox"/> VECTOR ARTWORK <input type="checkbox"/> CLIENT PMS COLOR <input type="checkbox"/> ENGINEERING | LANDLORD APPROVAL _____ DATE _____<br><br>CLIENT APPROVAL _____ DATE _____ |  | TJ MAXX<br>3618 MARKETPLACE CIRCLE<br>TRAVERSE CITY, MI 49684 | SHEET NUMBER<br><h1>7.0</h1> |
|   | <b>OTHER:</b><br>_____  |   |  |   |   |                              |

**DESIGN REVISIONS:**


| REV. # | DATE    | DESIGNER | REVISION COMPLETED                                      | INTERNAL | PERMIT | CLIENT | REV. # | DATE | DESIGNER | REVISION COMPLETED | INTERNAL | PERMIT | CLIENT |
|--------|---------|----------|---|----------|--------|--------|--------|------|----------|--------------------|----------|--------|--------|
| 1      | 2.16.23 | JM       | MAKE CL.1 4', REMOVE UC SIGN, ADD BLADE SIGN, ADD NOTES |          |        |        | 13     |      |          |                    |          |        |        |
| 2      | 4.24.24 | JM       | ADD SPECS FOR TENANT PANEL                              |          |        |        | 14     |      |          |                    |          |        |        |
| 3      |         |          |   |          |        |        | 15     |      |          |                    |          |        |        |
| 4      |         |          |   |          |        |        | 16     |      |          |                    |          |        |        |
| 5      |         |          |   |          |        |        | 17     |      |          |                    |          |        |        |
| 6      |         |          |   |          |        |        | 18     |      |          |                    |          |        |        |
| 7      |         |          |   |          |        |        | 19     |      |          |                    |          |        |        |
| 8      |         |          |   |          |        |        | 20     |      |          |                    |          |        |        |
| 9      |         |          |   |          |        |        | 21     |      |          |                    |          |        |        |
| 10     |         |          |   |          |        |        | 22     |      |          |                    |          |        |        |
| 11     |         |          |   |          |        |        | 23     |      |          |                    |          |        |        |
| 12     |         |          |   |          |        |        | 24     |      |          |                    |          |        |        |


**DESIGNER NOTES**

| DATE     | DESIGNER | NOTE |
|----------|----------|------|
| XX.XX.XX | XXX      | XXX  |
|          |          |      |
|          |          |      |
|          |          |      |
|          |          |      |
|          |          |      |

**PRE-FLIGHT PRINT LIST**

| GOOD TO GO | PRIMARY CHECKS  | GOOD TO GO | ADDITIONAL CHECKS   |
|------------|---|------------|---|
|            | NO MISSING / UNPACKAGED / UNLINKED IMAGES   |            | REMOVE ANY NON-PRINTING DATA  |
|            | ENSURE IMAGE RESOLUTION 100 PPI AT FULL SCALE - REFER TO JONES ART REQUIREMENTS REGARDING POSSIBLE EXCEPTIONS         |            | FLATTEN TRANSPARENCIES (FLATTEN RASTER IMAGES AND EFFECTS, LEAVE VECTOR COPY, LOGOS ETC. INTACT AS VECTORS) |
|            | COLORS - MUST BE CMYK OR PANTONE  |            | CONVERT FONTS TO PATHS (OR CURVES)  |
|            | ENSURE IMAGE SIZE & PROPORTIONS ARE CORRECT FOR FINAL PRODUCT, AND ANY INCLUDED BLEED & TRIM MARKS MATCH CLIENT SPECS |            | EMBED IMAGES OR ENSURE UNEMBEDDED IMAGES ARE PROPERLY LOCATED FOR SYSTEM USE                                |

|   |  |  |   |   |  |                                    |
|---|--|--|---|---|--|------------------------------------|
|  <p><b>JONES SIGN</b><br/>Your Vision. Accomplished.<br/><small>A MORTENSEN COMPANY</small></p> | <p><b>JOB #: 288798_R2</b><br/>DATE: 01.19.2024<br/>DESIGNER: A. GREENSLADE<br/>SALES REP: J. GEHRT<br/>PROJ MGR: E. ASSENHEIMER</p> | <p><b>REQUIRED:</b></p> <p> <input type="checkbox"/> FIELD SURVEY    <input type="checkbox"/> PAINT COLOR    <input type="checkbox"/> FONTS<br/> <input type="checkbox"/> VECTOR ARTWORK    <input type="checkbox"/> CLIENT PMS COLOR    <input type="checkbox"/> ENGINEERING                 </p> | <p>LANDLORD APPROVAL _____ DATE _____</p> |  | <p>TJ MAXX<br/>3618 MARKETPLACE CIRCLE<br/>TRAVERSE CITY, MI 49684</p> | <p>SHEET NUMBER<br/><b>8.0</b></p> |
|   |  | <p><b>OTHER:</b></p> <div style="border: 1px solid black; height: 20px; width: 100%;"></div>   | <p>CLIENT APPROVAL _____ DATE _____</p>   |   |  |                                    |

|  |   |              |                                     |
|--|---|--------------|-------------------------------------|
|  <b>Charter Township of Garfield</b><br><b>Planning Department Report No. 2024-34</b> |   |              |                                     |
| Prepared:  | June 5, 2024  | Pages:       | 4                                   |
| Meeting:   | June 12, 2024 Planning Commission                         | Attachments: | <input checked="" type="checkbox"/> |
| Subject:   | Two Brothers Dog Park Café & Taphouse – Conceptual Review |              |                                     |
| Applicant:   | Eric Engel  |              |                                     |
| Agent:   | Eric Sandman, Machin Engineering                          |              |                                     |
| Owner:   | Cherryland Center LLC                                     |              |                                     |

**BACKGROUND:**

The applicant is seeking feedback on a proposed bar/restaurant and dog park at 1776 South Garfield Avenue in the Cherryland Center on parcel 05-014-049-08. The project is proposed for the rear of the former Younkens department store and west of the recently approved Traverse Symphony Orchestra school and rehearsal facility. The site is owned by Cherryland Center LLC and is about 3.57 acres.

Approximately 5,400 square feet of the existing facility is proposed to be a restaurant/bar and indoor dog park with an adjoining outdoor dog park area proposed at approximately 5,400 square feet. Use of the remainder of the facility remains undesignated. The proposed outdoor dog park will occupy what is currently a parking area and maneuvering lanes. While a dog park is not clearly defined in the Zoning Ordinance, Staff is considering that portion of the project to be defined as a recreational facility. Approximately 260 square feet of the indoor portion of the facility is proposed for kennel and grooming services. It is assumed that these uses are minor in nature and accessory to the proposed primary uses.

Cherryland Center, including the subject site, is zoned C-P Planned Shopping Center. Bar and restaurant, without drive-through, and recreational facility are uses permitted by right. Applications for development within the C-P Planned Shopping Center shall be reviewed by the Planning Commission for compliance with Article 4, § 424 – Site Plans and Article 5 – Development Standards.

*Aerial photo of subject property (highlighted with thick blue line):*

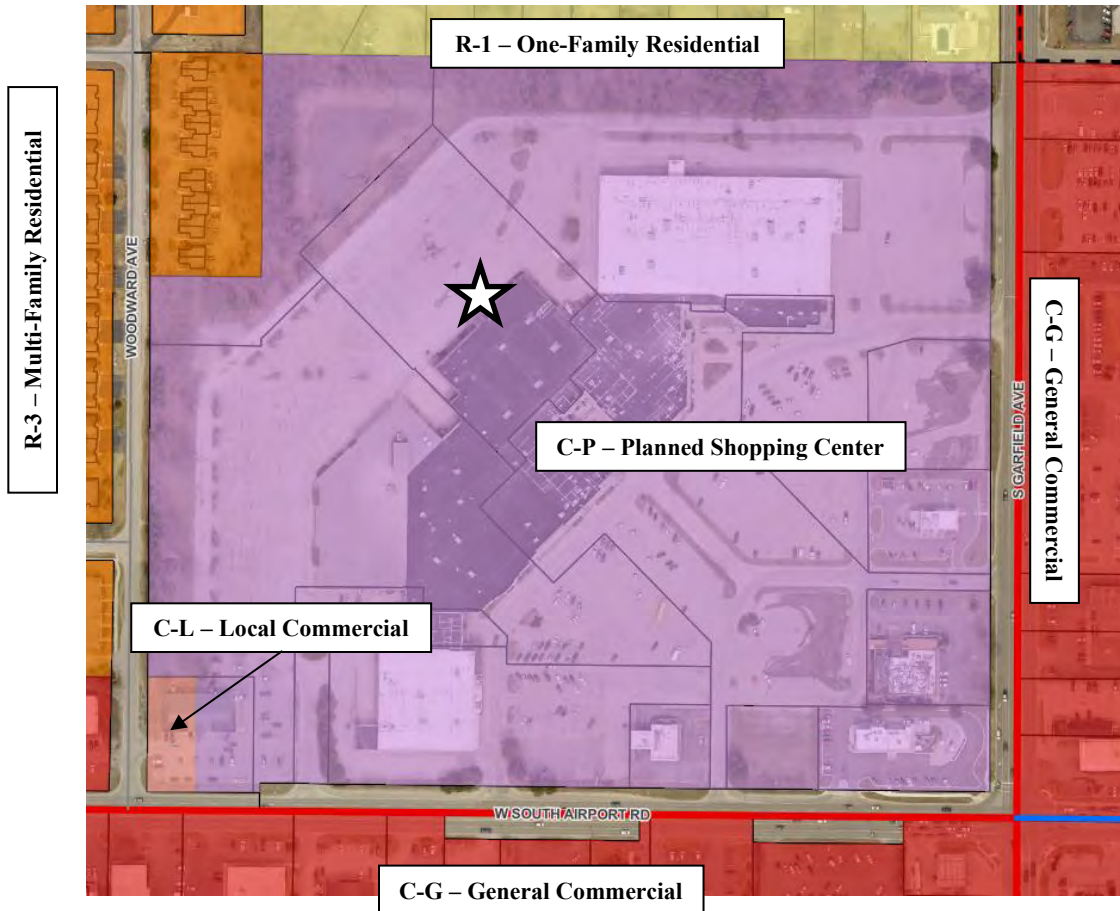




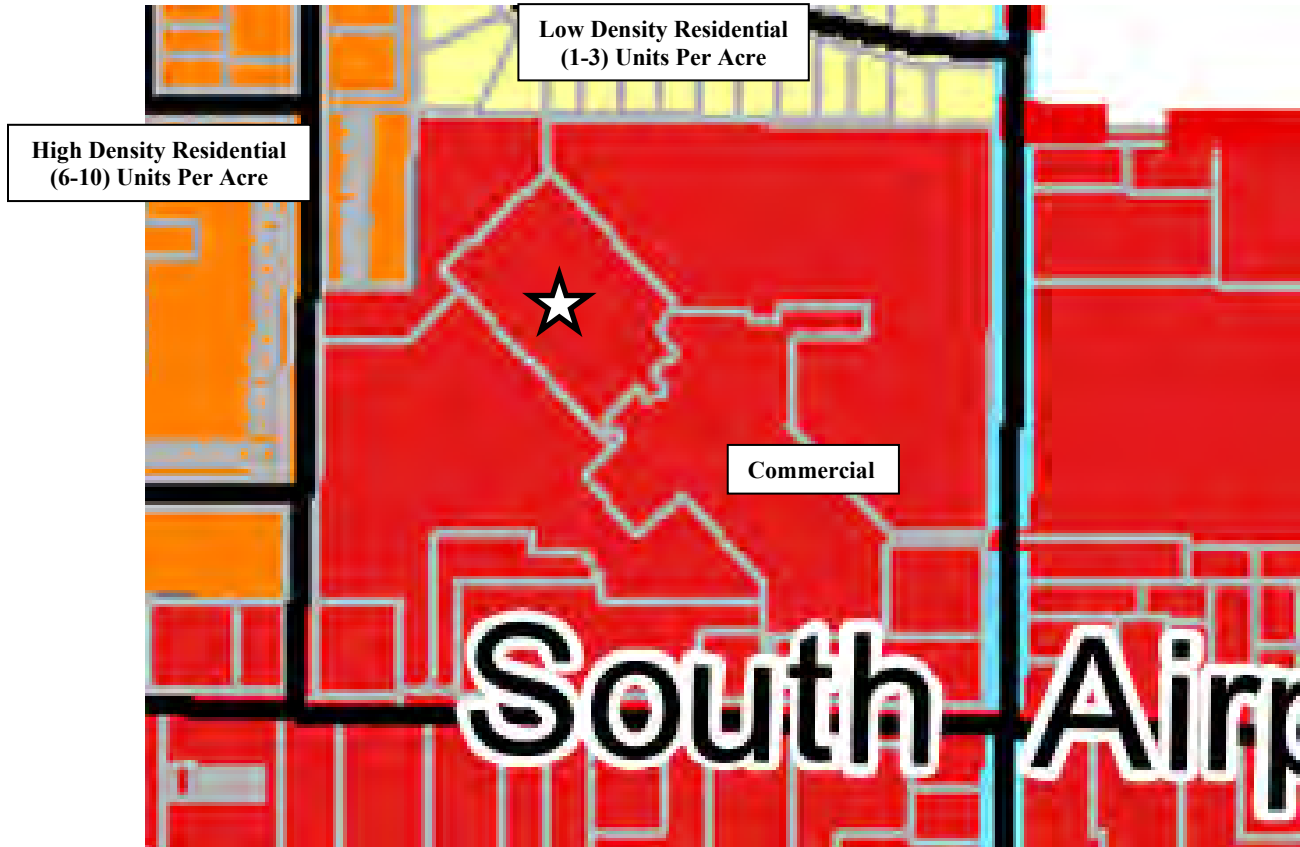
*Oblique aerial photo of subject property (highlighted with thick blue line):*



*Zoning of the subject parcel and surrounding area is shown below:*



Future land use of the subject parcel and surrounding area is shown below:



### **STAFF COMMENTS:**

#### *Land Use*

The site is zoned C-P Planning Shopping Center and has a Future Land Use designation of Commercial in the current Master Plan. The proposed Future Land Use map in the draft Master Plan has a designation of Mixed-Use Center – Cherryland Center. For the Cherryland Center area, the draft Plan states, “Mixed-use development is encouraged including commercial, higher density residential, entertainment, office, and public gathering spaces. Consideration shall be given to surrounding existing uses, future land use, and site design to determine the compatibility of proposed uses.” The draft Plan further states, “Development throughout the center will account for public gathering spaces. Establishing these places in either the public realm or within private developments creates a better sense of community and meets the needs of residents and visitors. Improving the overall appearance of the center is encouraged including cleanup of properties, upgrade of infrastructure, and installation of landscaping, sidewalks, and pedestrian scale lighting.”

The applicant states, “Two Brothers Dog Park Café and Taphouse will be a member-driven establishment for people who share a close bond with their canine friends. This establishment will offer a safe and engaging space for dogs and their parents, requiring all dogs to be up to date on their vaccinations and validated by the owner or a trainer that the dog is socialized. We will offer all local beers, wines, ciders, and meads on tap. We will also provide a breakfast, lunch, and dinner menu. Food will be consumed in a space with hard separations from any areas containing dogs.”

*Parking*

Parking requirement would be as follows:

| Use                              | Minimum Parking Required  | Maximum Parking Required   |
|----------------------------------|---|--|
| Restaurant                       | 1 for each one hundred fifty (150) square feet of floor area  | 1 for each seventy-five (75) square feet of floor area   |
| Recreation (without fixed seats) | 1 for each six (6) persons allowed within the maximum occupancy load as established by fire, building, or health codes. | 1 for each three (3) persons allowed within the maximum occupancy load as established by fire, building, or health codes |

*Site Circulation and Infrastructure*

The proposed project would impact vehicular circulation and infrastructure (i.e., storm sewer) on the site. Adjustments would have to be made to the parking lot layout to ensure that vehicular and pedestrian circulation works smoothly, and storm drainage is maintained.

*Plan Review*

The applicant has provided a conceptual site development plan showing the proposed layout of the project. If a full Site Plan Review application is submitted, additional details will need to be provided to meet all standards of the Zoning Ordinance.

Furthermore, Section 322, C-P Planned Shopping Center, of the Zoning Ordinance states, “Applications for development, re-development, or infill development within the C-P District shall be reviewed by the Planning Commission for compliance with Article 4, § 424 - Site Plans and Article 5 – Development Standards. A comprehensive development plan may be required for the entire center to establish an approved development pattern within the District.”

The current comprehensive development plan for the Cherryland Center was last updated in 1998 when the enclosed mall was converted to a commercial strip center. As more infill development occurs within the coordination of the uses and their impact on the site becomes more complex.

Following a meeting with the three primary Cherryland Center property owners on June 30, 2023, Staff stated to the owners that, “the Township will require that the comprehensive development plan as required per Section 332 of the Zoning Ordinance be updated prior to any new building construction, addition, or creation of any new parcels or condominium units.” To enable the future subdividing of buildings and incorporating new uses, the comprehensive development plan, which is mainly an overall site plan of the entire Cherryland Center, will ensure issues like cross-access, stormwater management, parking lot maintenance, lighting, and signage are addressed in coordinated manner.

Staff recommends that an update to the comprehensive development plan occur prior to this project as it as an addition to the original mall building. To date, site plans as prepared by Gosling Czubak for the main Cherryland Center building have been completed on portions of the Curling Center and the future K-1 Racing Center. These plans provide a good foundation for the comprehensive development plan.

**ACTION REQUESTED:**

The conceptual review is intended to provide an opportunity for dialogue between Planning Commission members and the applicant. No formal action is requested.

**Attachments:**

1. Conceptual Review Application, dated May 9, 2024
2. Two Brothers Supporting Documentation, received May 9, 2024
3. Two Brothers Conceptual Plan, received May 9, 2024





# Charter Township of Garfield

## Grand Traverse County

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

### CONCEPTUAL REVIEW (CRV) 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 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

At the discretion of the applicant, the conceptual review before the Planning Commission may take place following public notice of the meeting. Opportunity for public comment shall be provided during the conceptual review process when public notice has been provided.

- Conceptual Review with no public notice  
 Conceptual Review with direct mail notice only  
 Conceptual Review with full public notice

#### PROJECT / DEVELOPMENT NAME

Two Brothers Dog Park Cafe and Taphouse

#### APPLICANT INFORMATION

|               |                            |
|---------------|----------------------------|
| Name:         | Eric Engel                 |
| Address:      | 1412 N West Silver Lake Rd |
| Phone Number: | 517-395-0567               |
| Email:        | eric.w.engel@gmail.com     |

#### AGENT INFORMATION

|               |                            |
|---------------|----------------------------|
| Name:         | Eric Sandman               |
| Address:      | 1235 Front Street Suite A  |
| Phone Number: | 2319351530                 |
| Email:        | eric@machinengineering.net |

**OWNER INFORMATION**

|               |   |
|---------------|---|
| Name:         | CHERRYLAND CENTER LLC                   |
| Address:      | 11320 CHESTER RD STE 204 CINCINNATI, OH |
| Phone Number: | (231) 946-4144                          |
| Email:        |   |

**CONTACT PERSON**

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

|            |            |
|------------|------------|
| Applicant: | Eric Engel |
| Agent:     |            |
| Owner:     |            |

**LOCATION OF THE PROPOSED PROJECT**

|  |  |  |
|--|--|--|
| Property Address:                        | 1776 S. GARFIELD, TRAVERSE CITY, MICHIGAN  |  |
| Property Identification Number:          | 05-014-049-08  |  |
| Legal Description:                       | COM E 1/4 COR SEC 14 T27N R11W TH W 1025.07' S 120' TO POB S 45 DEG W 323.12 S 45 DEG E 285.5' N 44 DEG 38' E 3.12' S 45 DEG 21' E 114.01' S 44 DEG 44' E 66' S 45 D |  |
| Zoning District:                         | C-P  |  |
| Master Plan Future Land Use Designation: | N/A  |  |
| Area of Property (acres or square feet): | 11050 sq ft  |  |
| Existing Use(s):                         | N/A  |  |
| Proposed Use(s):                         | Dog Park Cafe and Taphouse   |  |

**REQUIRED SUBMITTAL ITEMS**

A complete application for a Conceptual Review 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

Sketch Plan:

- Ten complete stapled 11"x17" paper sets
- One digital set (PDF only)

Written Supporting Information (if applicable):

- Ten paper copies of Written Supporting Information
- One digital copy of Written Supporting Information (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.

## SUPPORTING INFORMATION AND SKETCH PLAN

In providing written and/or sketch plan information to the Planning Commission for the purposes of a conceptual review, submittal of the following information, when known, is encouraged:

1. The boundaries of the development site.
2. The total number of acres in the project.
3. The number of acres to be developed by each type of use.
4. The number of residential units.
5. The number and/or square feet and type of nonresidential uses.
6. A description of the proposal in terms of its relationship and intended connections to surrounding land uses, development projects, public lands, and existing and future street networks.
7. The general topography of the site and its relationship to adjoining land.
8. A general description of the natural resources and natural features of the site and, where known, an indication of which will be preserved and which will be removed.
9. The number of acres to be preserved as open or recreational space, and its general location.
10. Variations from ordinance regulations that are being sought and the reasons to support the requested changes.
11. The public facilities intended to serve the planned unit development, such as sewage disposal, water supply, storm water systems, etc.

## 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

1. The intent of the conceptual review process is to provide an opportunity for an informal dialogue between an applicant and the Planning Commission to discuss a potential development project. Upon submittal of this application, Staff will forward the application to the Planning Commission for review.
2. The Planning Commission shall conduct a conceptual plan review to identify potential issues and concerns that should be addressed prior to formal review of any application requiring Planning Commission review and approval.
3. Conceptual plan review shall not constitute an approval of the application, nor shall statements by the Planning Commission, Township Staff and/or Township consultants be construed as a position regarding the merits of the application.

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: [Signature: *At N Fick (Manager)*]  
Applicant Signature: [Signature: *Eric Engel*]  
Agent Signature: [Blank]  
Date: [5/9/24]

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 \_\_\_\_\_ 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: [Signature: *At N Fick (Manager)*]  
Date: [5/9/24]

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: [Signature: *At N Fick (Manager)*]  
Date: [5/9/24]  
Applicant Signature: [Signature: *Eric Engel*]  
Date: [5/9/24]

## Applicable Application Questions:

1. The boundaries of the development site. 90 Ft bump out from the northeast corner of the Yonkers building. 60 Ft wide to the edge of the building.

2. The total number of acres in the project. .25 acres

3. The number of acres to be developed by each type of use.

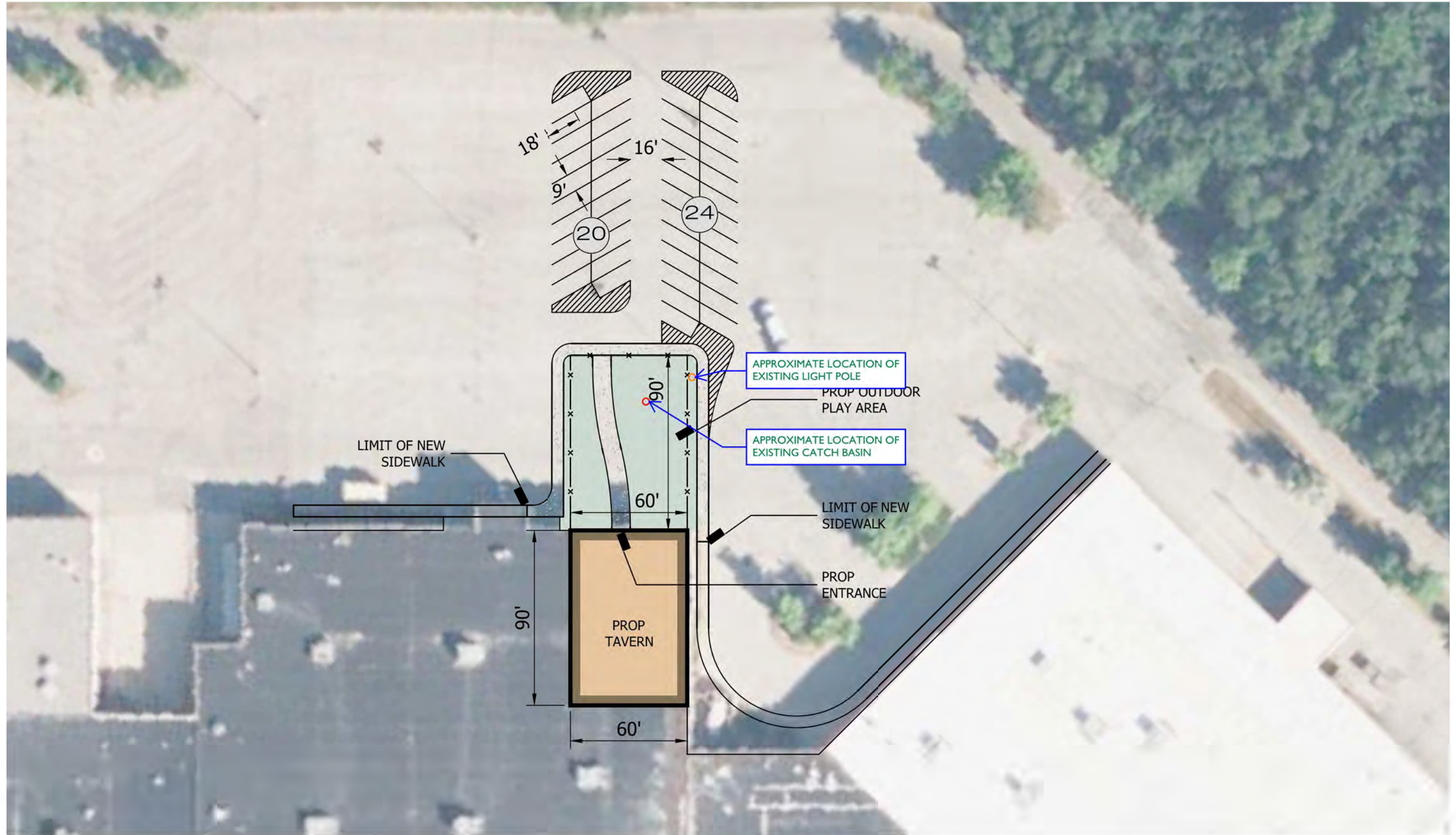
11. The public facilities intended to serve the planned unit development, such as sewage disposal, water supply, stormwater systems, etc. The yard will be washed once a day and funneled into the stormwater system. Water spout will be exposed from the building to power hoses as well as dog water area.

## Information on the business and space:

Two Brothers Dog Park Cafe and Taphouse will be a member-driven establishment for people who share a close bond with their canine friends. This establishment will offer a safe and engaging space for dogs and their parents, requiring all dogs to be up to date on their vaccinations and validated by the owner or a trainer that the dog is socialized. We will offer all local beers, wines, ciders, and meads on tap. We will also provide a breakfast, lunch, and dinner menu. Food will be consumed in a space with hard separations from any areas containing dogs.

The outdoor space is a 5000 sq ft yard built on the existing pavement. Holes and a trench will be drilled into the existing ash vault to provide drainage and flow drainage to the stormwater. Limestone will then be laid on top of the ash vault, and turf engineered for dog parks will be installed on top of the limestone. The yard will be washed down 1-2 times daily by staff. A cement walkway will bifurcate the space, and we will also have a cement stage for live music. These features can be observed in the attached draft rendering. We would also like the committee to discuss the possibility of Two Brothers having food truck service on Friday/Saturday afternoons, as we will not be offering food that requires hood infrastructure, and we would love to serve pizzas on the weekend.





**PROPOSED CONCEPTUAL LAYOUT**  
 TRAVERSE CITY, MICHIGAN



CONCEPTUAL DESIGN PACKAGE

studio+

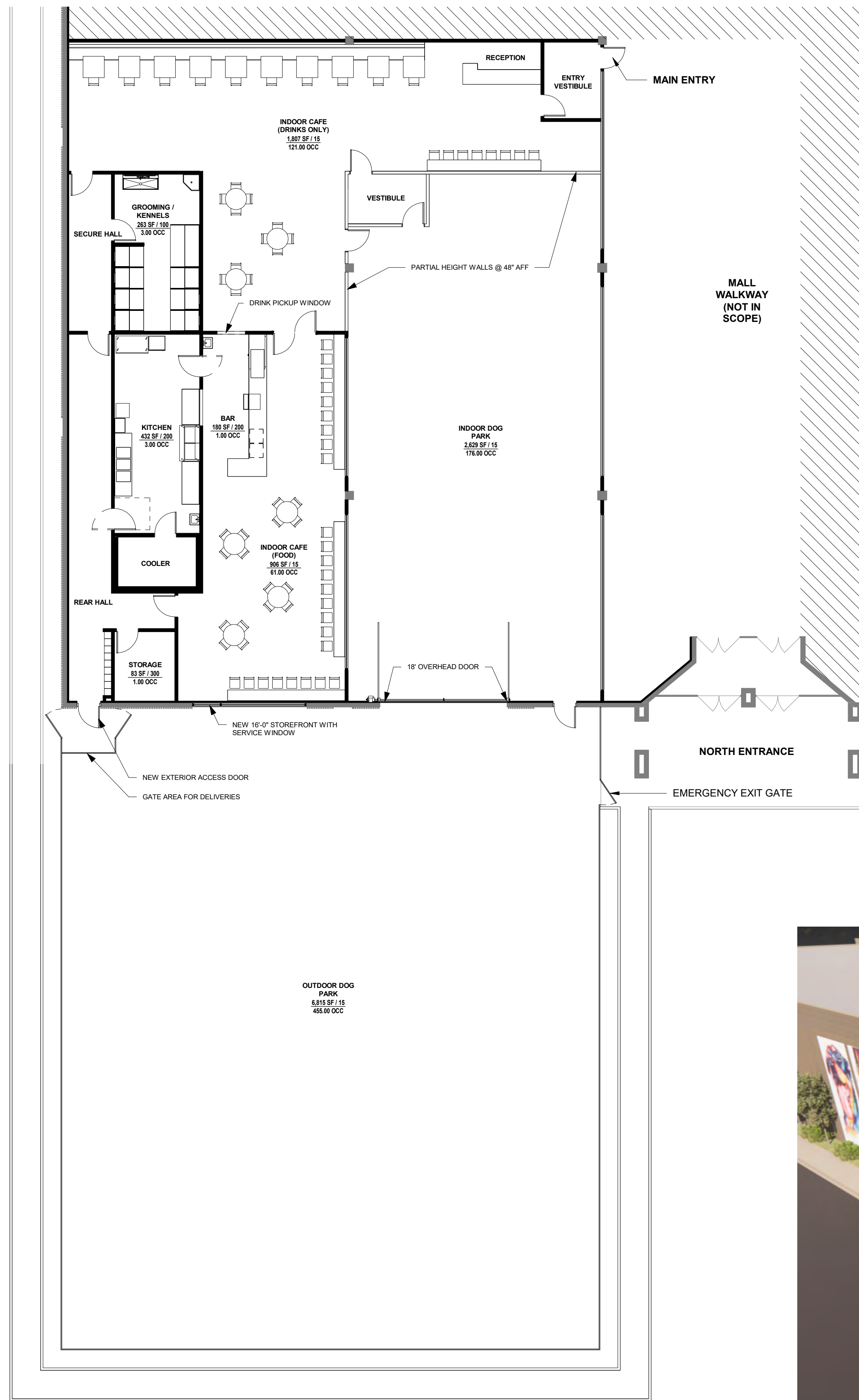


TRAVERSE CITY, MICHIGAN

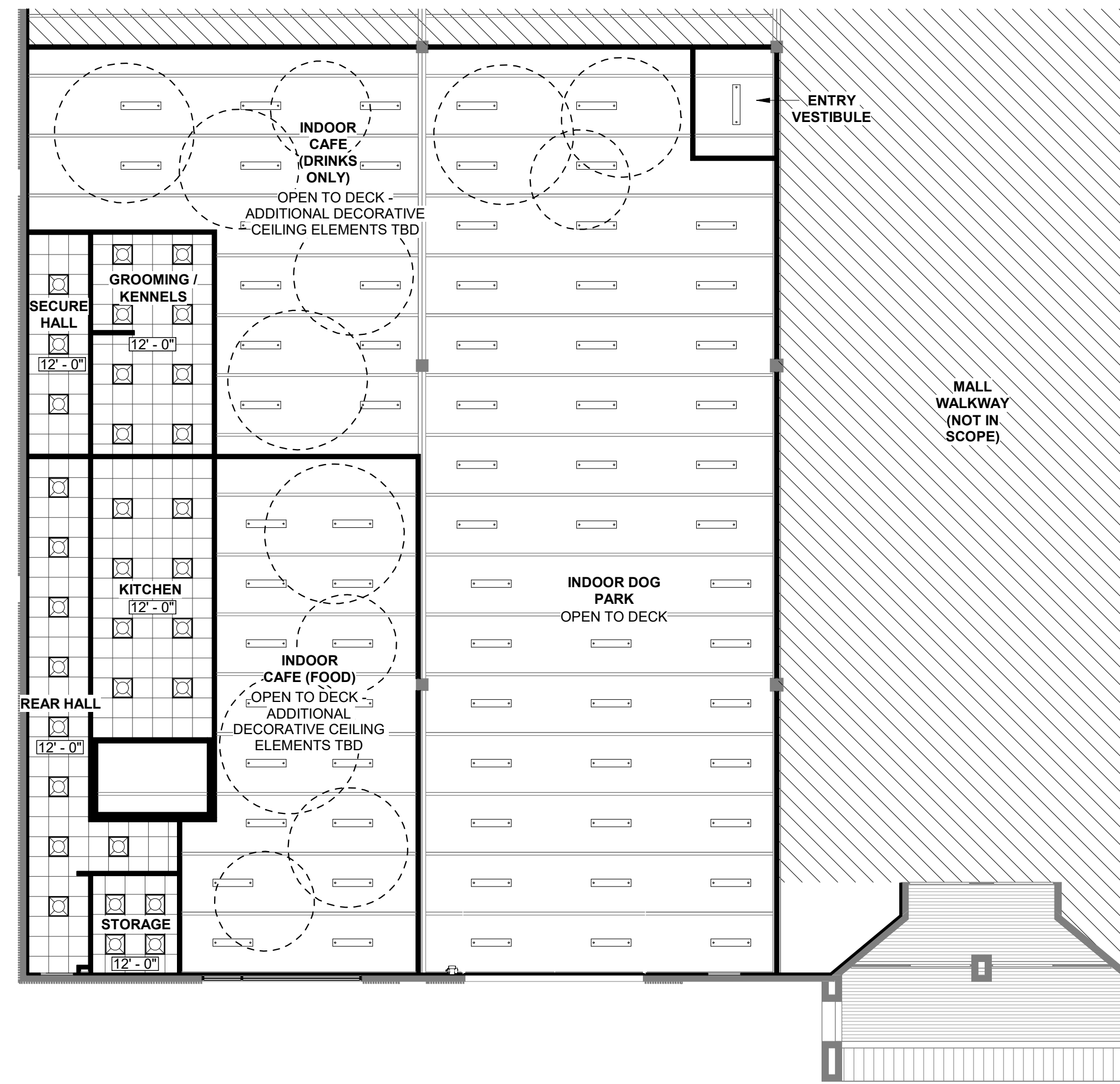








1 PRESENTATION FLOOR PLAN  
3/32" = 1'-0"



2 PRESENTATION CEILING PLAN  
3/32" = 1'-0"



### APPLICABLE CODES

2015 MICHIGAN BUILDING CODE  
2021 MICHIGAN MECHANICAL CODE  
2023 MICHIGAN ELECTRICAL CODE  
2021 MICHIGAN PLUMBING CODE  
2015 MICHIGAN ENERGY CODE  
ACCESSIBILITY AND USABLE BUILDINGS AND FACILITIES 2009 OF MICHIGAN  
2015 INTERNATIONAL FIRE CODE - NFPA 13 - 2013 STANDARD FOR THE INSTALLATION OF SPRINKLERS

### USE & OCCUPANCY CLASSIFICATION

A-2 ASSEMBLY (RESTAURANT / KITCHEN / PATIO)  
B BUSINESS (KENNELS)  
S STORAGE

### BUILDING HEIGHTS & AREAS

CURRENT USE: M (EXISTING) CONSTRUCTION TYPE: III-B (EXISTING)  
ACTUAL HEIGHT & STORIES: +/- 20'-0" (EXISTING), 1 STORY (EXISTING)  
BUILDING AREA: +/- 41,600 SF (EXISTING)  
PROPOSED TENANT AREA: +/- 7,000 SF (CONDITIONED), +/- 7,250 SF (UNCONDITIONED)

### MEANS OF EGRESS & OCCUPANT LOAD

| FUNCTION OF SPACE   | RATIO | AREA     | OCCUPANTS  |
|---------------------|-------|----------|------------|
| A-2 (RESTAURANT)    | 1/15  | 5,341 SF | 358        |
| A-2 (KITCHEN / BAR) | 1/200 | 612 SF   | 4          |
| A-2 (PATIO)         | 1/15  | 6,815 SF | 455        |
| B (KENNELS)         | 1/100 | 263 SF   | 3          |
| S (STORAGE)         | 1/300 | 83 SF    | 1          |
| <b>TOTAL</b>        |       |          | <b>821</b> |

### PLUMBING CALCULATIONS

| BUILDING OCCUPANCY | AREA      | OCCUPANT LOAD TOTAL | WATER CLOSETS             |       |       | LAVATORIES                |       |       | DRINKING FOUNTAINS |       |       | OTHER          |       |   |
|--------------------|-----------|---------------------|---------------------------|-------|-------|---------------------------|-------|-------|--------------------|-------|-------|----------------|-------|---|
|                    |           |                     | REQ.                      | PROV. | RATIO | REQ.                      | PROV. | RATIO | REQ.               | PROV. | RATIO | REQ.           | PROV. |   |
| A-2                | 12,768 SF | 817                 | 1 PER 75                  | 11    | 7     | 1 PER 200                 | 5     | 5     | 1 PER 500          | 2     | 0     | 1 SERVICE SINK | 1     | 1 |
| B                  | 265 SF    | 2                   | 1 PER 25 FOR THE FIRST 50 | 1     | 0     | 1 PER 40 FOR THE FIRST 80 | 1     | 0     | 1 PER 100          | 1     | 0     | 1 SERVICE SINK | 1     | 0 |
| S                  | 83 SF     | 2                   | 1 PER 100                 | 1     | 0     | 1 PER 100                 | 1     | 0     | 1 PER 1,000        | 1     | 0     | 1 SERVICE SINK | 1     | 0 |

#### PLUMBING FIXTURE NOTES:

- URINAL SUBSTITUTION PERMITTED BY MPC 419
- DRINKING FOUNTAINS NOT REQUIRED PER MPC 410.4 - WATER PROVIDED AT RESTAURANT AND BAR FREE OF CHARGE

### KEY PLAN

