

# STAFF REPORT

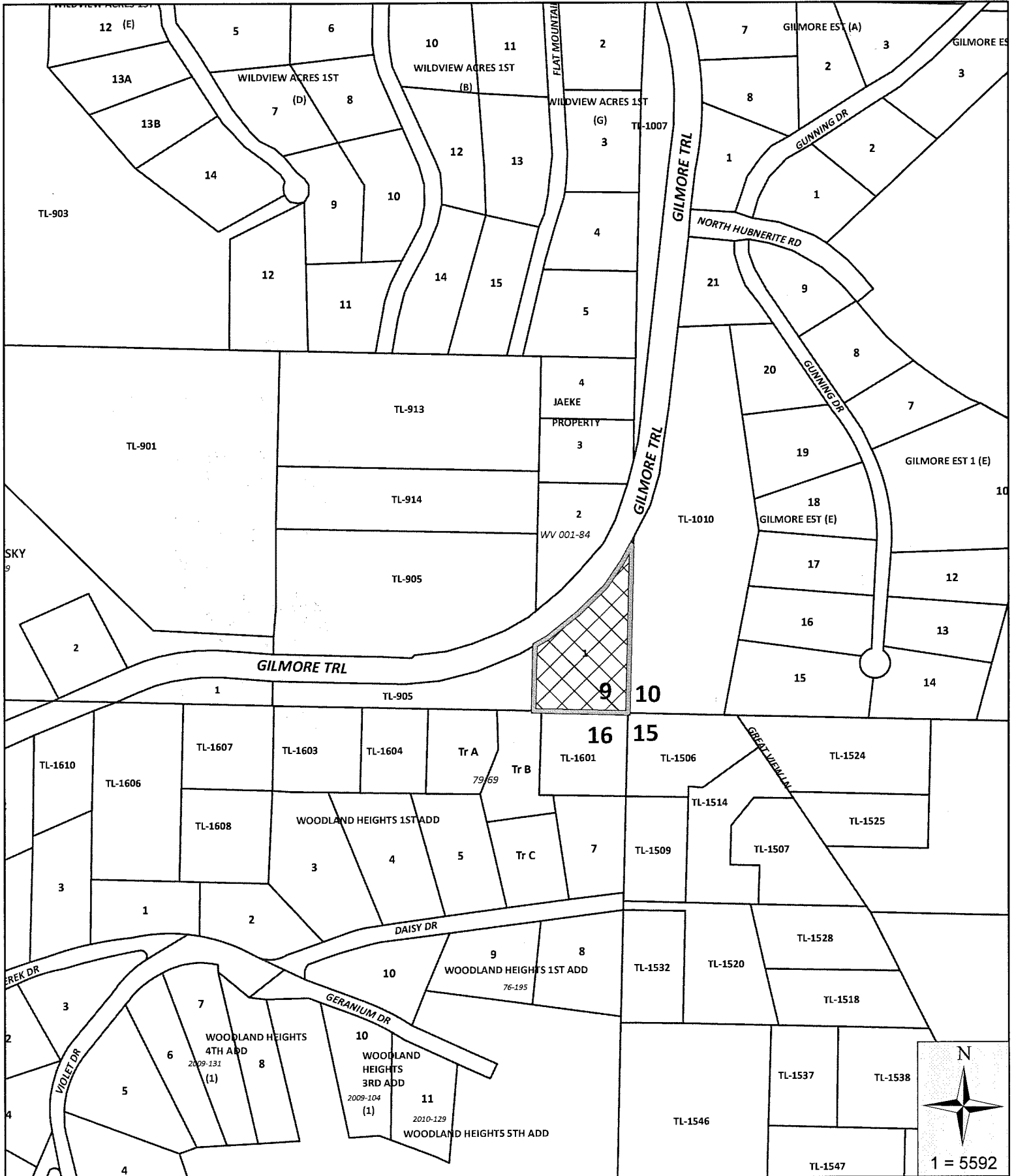
CU2015-007



# FNSB Dept. Of Community Planning Planning Commission

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CU 2015-007



DEPARTMENT OF COMMUNITY PLANNING  
STAFF REPORT

**CU2015-007**

TO: Fairbanks North Star Borough Planning Commission

FROM: Nancy Durham, MURP, CFM, Planner III & Manish Singh, Planner II

RE: **CU2015-007**: A request by Bryan Maracle on behalf of Alaska Wireless Network and Derrell Jaeke for conditional use approval of a 124-foot communications tower in the Rural Estate 2 (RE-2) zone on Lot 01 of Jaeke Property. **(Located at 1392 Gilmore Trail, on the south side of Gilmore Trail between North Hubnerite Road and Great View Lane).**

I. GENERAL INFORMATION

A. Purpose To allow a 124' communications tower and equipment shelter in the Rural Estate-2 (RE-2) zone.

B. Location On the south side of Gilmore Trail between North Hubnerite Road and Great View Lane

C. Access Gilmore Trail

D. Size/PAN

<u>Lot/TL</u>	<u>Area</u>	<u>PAN</u>
01	3.227 ac (140,568.12 sf)	0594653

E. Existing Zone RE-2  
-Minimum lot size 80,000 square feet

F. Existing Land Use Residential

G. Surrounding Land Use/Zoning

North: Gilmore Trail, Residential & Undeveloped/RE-2

South: Great View Lane, Residential & Undeveloped/RE-2

East: Residential & Undeveloped/RE-2

West: Gilmore Trail, Residential & Undeveloped/RE-2

H. Community Facilities

Water/sewer:	Private
Electricity:	GVEA

I. Code Violations None

J. Flood Zone X

K. Ownership Derrell Jaeke  
1392 Gilmore Trail  
Fairbanks, AK 99712

L. Applicant

Alaska Wireless Network  
Bryan Maracle, Project Manager  
2550 Denali Street, Ste. 1000  
Anchorage, Alaska 99503

## II. APPLICABLE PROCEDURES

Major communication towers are conditionally permitted in the Rural Estate 2 (RE-2) zone provided they conform to the intent and purpose of Title 18 and other applicable ordinances and State statutes and will protect the public health, safety, and welfare.

“Communications tower, major” means any tower, pole or similar guyed or fixed structure that supports a communications antenna which exceeds the height limitations of a minor communications tower (the greater of 60 feet in height from adjacent ground level or 30 feet above the roof of any building atop which the tower may be constructed). A major communications tower is a principal building under this title. This proposed tower, at 124 feet in height, exceeds the requirements for a minor tower and, as such, is classified as a major tower.

A major communications tower in the RE-2 zone requires a separate lot (utility lot) when there is more than one principal building on the lot<sup>1</sup> or a lease of more than five years<sup>2</sup>.

## III. ANALYSIS

Alaska Wireless Network (AWN) desires to construct a 120' monopole with antennae extending above the pole to a total height of 124' and equipment on the developed lot identified as Lot 01 of Jaeke Property (1392 Gilmore Trail). Antennae mounted to this tower will allow AWN to substantially increase coverage in this area.<sup>3</sup>

There were 44 dear property owner notices mailed out with one phone call and two emails inquiring about the case.

### Application Materials

The following is an evaluation of the application requirements as outlined in Title 18 for a conditional use application for a communications tower:

**18.50.155 C. The following standards shall apply to major or minor communications towers when a conditional use permit is required pursuant to this section or other sections of this title:**

- 1. Application Requirements. In addition to providing the information specified in this title for conditional uses, an application for a conditional use permit for the construction of a communications tower or placement of a telecommunications antenna on an existing structure other than a tower or antenna previously permitted must include the following information:**

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<sup>1</sup> FNSBC 18.50.020 (A)

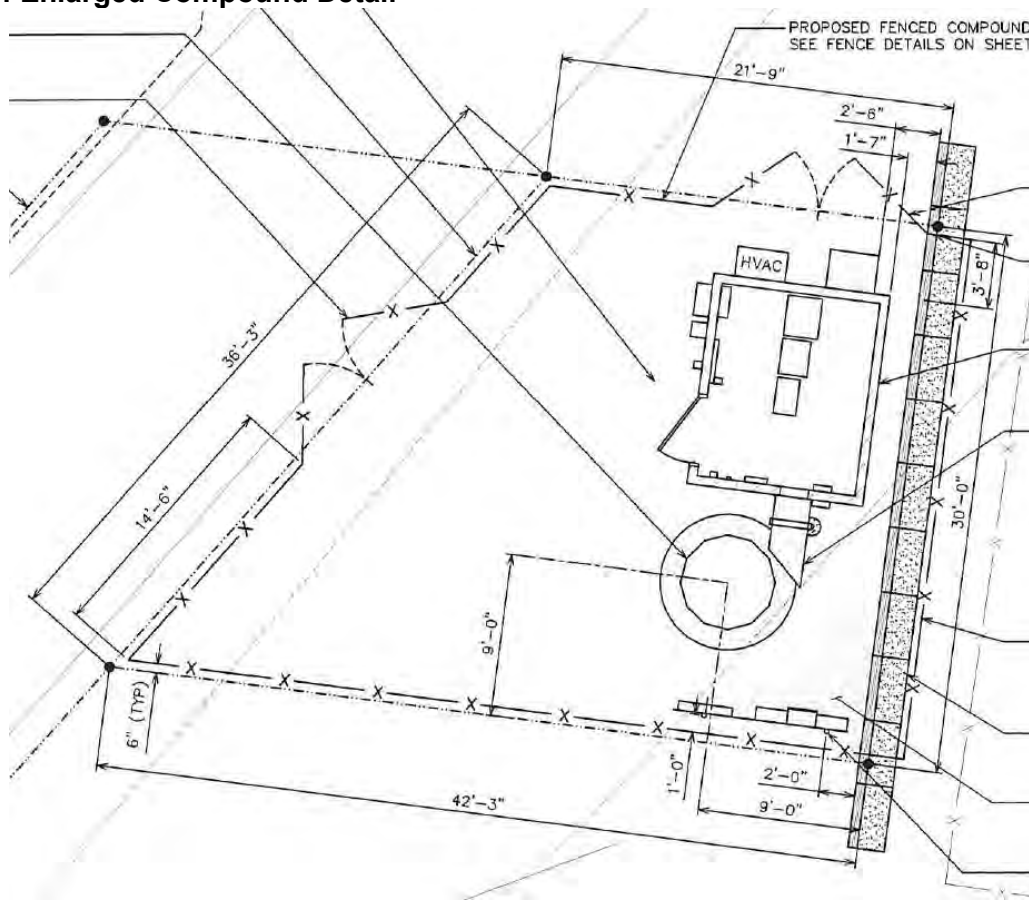
<sup>2</sup> FNSBC 17.20.010 Definitions “Lot”

<sup>3</sup> Based on analysis of applicant-provided propagation maps. See Application package.

- a. **One copy of the specifications for the proposed structures and antennas, including description of the design characteristics and material;**

The applicant's proposal includes a proposed 120 foot monopole with a total of six four-foot antennae and a 9 1/2' x 11' 9" equipment shelter and associated equipment in a 960 square foot (21' 9" X 30' X 42' 3" X 36' 3") fenced compound (**Exhibit A & Figure 1**).

**Figure 1: Enlarged Compound Detail**



- b. **A site plan drawn to scale showing property boundaries, tower location, tower height, guy wires and anchors, existing structures, photographs or elevation drawings depicting typical design of proposed structures, parking, fences, landscaping, and existing land uses on adjacent property;**

The applicant has submitted a series of drawings (**C-1 & C-8 of Exhibit A, all of Exhibit B, Exhibit I**) that include the required information. The tower is located in the north corner, west of the corral on Lot 01 of Jaeke Property (1392 Gilmore Trail). The proposed tower is a 120 foot monopole and has no guy wires or anchors. The six antennae add four feet to the height of the structure for a total height of 124 feet.

“By inlaying the facility into the slope of the hill the facility’s shape has been contoured to fit the natural property boundaries thereby decreasing the overall footprint and reducing the visual impact of the ground facilities” (**Narrative 2.0**). The proposed location was selected because it

reduces visual impact by integrating the facility layout into the topography of the landscape (**Narrative 3.1**). The placement of the structure in this area allows for increased visual screening by the existing tree line following the arc of Gilmore Trail.

**c. A current map showing locations of all of the applicant's antennas, facilities, existing towers, and proposed towers within the borough;**

The application included a map showing locations of GCI (AWN) towers (current & proposed) in the Fairbanks North Star Borough (**Exhibit C**). GCI does its wireless business as AWN (the Alaska Wireless Network), a wholly owned subsidiary.

**d. Names of the owners of the tower, antennas and equipment to be located on the site;**

The narrative submitted with the application describes Alaska Wireless Network as the owner of the proposed tower, antennae, and equipment to be located on this site (**Exhibit A & Exhibit D**). Additionally, the applicant submitted a Land Lease Agreement signed by AWN and property owners, Derrell & Sharon Jaeke on August 1, 2014 (**Exhibit D**).

**e. Evidence that a valid FCC license for the proposed activity has been issued, if required;**

The applicant has submitted a valid FCC license for the subject tower (**Exhibit E**).

**f. A copy of the FAA determination as to whether the tower poses an aviation hazard, including the safety lighting and marking required by FAA, if any, and whether preferences or requests for deviations from such marking and lighting systems were submitted;**

The application included an FAA Determination of No Hazard to Air Navigation letter, stating "the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities" (**Exhibit F**).

**g. A written agreement, approved by the borough attorney, to remove the tower and/or antenna within 180 days after the tower or antenna is substantially unused for a period of 12 consecutive months;**

The applicant has submitted an agreement as described (**Exhibit G**).

**h. A visual impact analysis that quantifies the amount of visual impact on properties located within 500 feet of any proposed tower; for major communications towers, additional analysis must be conducted at 2,500 feet and two miles from the proposed communications tower site. Such analysis should include, to the extent practicable, the visual impact from at least two of the four compass directions, and show the relationship of the tower and its facilities against the massing of surrounding structures, trees, and other intervening visual masses. This analysis will include recommendations to mitigate adverse visual impacts on other properties;**

The applicant has submitted the following in **Exhibit H**:

The first group of photos was taken facing the tower from the North.

- 500 feet - Facing North: The tower is visible through the tree line, but not above the tree line.
- 1,750 feet – Facing North: The tower is not visible.
- 2,500 feet - Facing North: The tower is not visible.
- 2 miles - Facing North: The tower is not visible.

The second group of photos was taken facing the tower from the East.

- 500 feet - Facing East: The tower is visible above the tree line.
- 2 miles - Facing East: The tower is not visible.

The third group of photos was taken facing the tower from the West.

- 500 feet - Facing West: The tower is visible through the trees, but not above the tree line.
- 2,500 feet - Facing West: The tower is not visible.
- 2 miles - Facing West: The tower is not visible.

Additional visual analysis performed with balloon test photos shows the following:

- 500 feet - Facing South down Gilmore Trail: The balloon is visible above the tree line.
- 500 feet - Facing Northeast taken on Gilmore Trail on Great View Lane: The balloon is visible high above the tree line.
- 500 feet - Facing North on Great View Lane behind Jaeke Property: The balloon is visible through the trees, but not above the tree line.
- 1,000 feet - Facing East down Gilmore Trail: The balloon is not visible due to vegetative screening.
- 1,000 feet - Facing Northwest taken on Great View Lane: The balloon is visible just above the tree line.
- 1,000 feet - Facing South taken on Gilmore Trail: The balloon is visible above the tree line.
- 1,000 feet - Facing Southeast at the Fools Gold Road: The balloon is not visible due to vegetative screening.
- 1,000 feet - Facing West at the end of Gunning Drive: The balloon is not visible due to vegetative screening.
- 2,000 feet - Facing South down Gilmore Trail: The balloon is visible above the tree line.
- 2,000 feet - Facing Northwest at the end of public access on Great View Lane: The balloon is visible above the tree line.
- 2,000 feet - Facing East at 1380 Gilmore Trail driveway: The balloon is not visible due to vegetative screening.
- 2,000 feet - Facing Southeast on Flat Mountain Road: The balloon is visible above the tree line.
- 1,800 feet - Facing Southeast on Fools Gold Road: The balloon is not visible due to vegetative screening.

***i. An alternative site analysis including the availability of suitable existing towers and other alternative structures or locations for the proposed tower considered by the applicant;***

There are no existing towers within 1,000 feet of the selected location (**Exhibit I**). The applicant's Narrative, Section 1.3 Existing Significant Gap in AWN Coverage, discusses why the proposed location was selected (**Narrative**). The Propagation Maps show the coverage area this proposed tower would include (**Exhibit J**).

**j. Additional information required by the planning department for determination that all applicable laws are met.**

None.

Approval Criteria

The following section contains the approval criteria as outlined in Title 18:

**2. Approval Criteria. The planning commission shall approve, approve with conditions or deny a permit under this section after considering all of the following criteria:**

- a. Location and Visual Impact. The proposed communications tower, antenna or accessory structure will be placed in a reasonably available location which will minimize the visual impact on the surrounding area and allow the facility to function in accordance with minimum standards imposed by the applicable communications regulations and applicant's technical design requirements. Conditions may be imposed, including camouflage, screening, vegetative buffers and/or site requirements, to ensure this criteria is met.**

**Applicant:** The Gilmore Trail area is currently underserved by AWN for both voice and data coverage, which results in a significant gap in coverage for the AWN system. An AWN technician conducted a drive test and collected data on the actual coverage as it stands today. A drive test is conducted by driving a designated route in a vehicle carrying specially equipped test phone with special software to collect the actual signal strength along the route (**Narrative 1.3**).

AWN is proposing a communications tower with a 120 foot monopole to fill a significant gap in their network. According to the applicant, the proposed tower is the least intrusive means to address the significant gap in AWN coverage while complying with the standards set by the Fairbanks North Star Borough Code for telecommunications towers. There are no non-residential parcels or collocation opportunities which would allow AWN to address the identified coverage gap (**Narrative, Introduction**). The design of the facility is shaped and positioned to inlay into the landscape. Through the use of an interlocking rock retaining wall the facility is able to dovetail with the natural topography of the hillside. By inlaying the facility into the slope of the hill the facility's shape has been contoured to fit the natural property boundaries thereby decreasing the overall footprint and reduced the visual impact of the ground facilities (**Narrative 2.0**). The proposed location was selected because it reduces visual impact by integrating the facility layout into the topography of the landscape (**Narrative 3.1**).

Two alternative sites were investigated; one to the southwest and one to the northwest of the proposed site. The southwest site provides the best RF propagation of all three sites, but is the most visually impactful. The northwest site provides equal visual impact to the proposed site, but due to topography the height of the tower would have to be increased to achieve an acceptable margin of coverage when compared to the proposed location and the southwest site candidate (**Narrative 3.0**).

**Staff:** As described in 1h above, the applicant is required to submit at a minimum an analysis of the visual impact from at least two of the four compass directions at 500', 2,500' and two miles from the proposed tower site. The visual impact analysis included in the application indicates that the tower will be visible from three of the vantage points included. The tower can be seen from the standard 500 foot views facing north, east and west. Of the additional photos for the balloon test, eight of the test sites show the balloon through or above the tree line. All three sites at 500 feet distance are



visible; two out of the five sites at 1,000 feet distance are visible; three out of the four sites at 2,000 feet distance are visible; and the one site at 1,800 feet distance is not visible (**Exhibit H**). The proposed tower will not have or require safety lighting or special markings (**Exhibit F**).

Conditions may be imposed to ensure this criterion is met. There shall be a modification of the lease agreement to incorporate a statement that the existing tree line along Gilmore Trail be retained as long as the communications tower is standing to meet the screening requirement.

According to AWN, the location of the tower must be within a half mile of the original design point. AWN shows that there are no existing towers within the half-mile radius of the design location. The subject property and area of need is zoned RE-2. There is Rural and Agricultural (RA) zoned property 2,240 feet to the west of the subject property; 2,640 feet to the east of the subject property; and 4,715 feet to the north of the subject property. There is General Use 1 (GU-1) zoned property 2,666 feet to the south of the subject property.

Mapping the ASR registration search results in **Exhibit I** on GIS shows the closest communications towers are 7,400 feet to northeast (GCI); 7,875 feet to west (American Towers LLC); and 6,032 feet to south (AWN).

The design point is determined by computer generation and going out and doing driving test. The applicant did not explain how the half mile radius is determined. There are 146 properties within a half mile of the original design point including two properties in the RA-5 zoning and three properties in the GU-1 zoning.

The criterion has been met for this requirement.

***b. Inability to Locate on an Existing Structure. A permit should not be issued unless a proposed antenna and equipment cannot be accommodated and function as required by applicable regulations and applicant's technical requirements without unreasonable modifications on any existing structure or tower under control of the applicant.***

**Applicant:** AWN's preference is to co-locate on existing towers where possible. AWN will be unable to fill the significant gap in its coverage with a tower located more than a half mile from the original computer generated design point. There are no existing towers within a half mile radius of the proposed site location (**Narrative 3.2**).

#### Background from the Applicant's Narrative

AWN is an Alaskan owned and operated Telecommunication Company that provides telecommunication service to the citizens of Alaska. The mission of AWN is to create value for our customers, opportunities for our employees and growth for our shareholders.

The proposed wireless communications infrastructure on Gilmore Trail is AWN's effort to continue building a world-class service that is of value to our customers and the citizens of Alaska.

Given the exponential growth and reliance on wireless communications, 43% of Americans have discontinued wire line service in support of wireless communications (particularly cellular). The expansion of wireless infrastructure is necessary to keep up with this growing demand in addition to providing the needed level of support to public safety agencies.

### Propagation Map Explained

Radio frequency propagation is a highly variable science. In a 'clean' or 'ideal' environment the propagation (or transmission) of radio frequencies is highly predictable. In the 'real' world there are an infinite number of factors that cause radio frequency propagation to 'act' or 'transmit' differently than in an 'ideal' environment. Factors that influence how 'well' or 'far' a radio frequency can travel are wave length of the particular licensed frequency, topography, density of vegetation, density of buildings, and type of material in buildings. Moreover the frequency strength at a given distance can be degraded when going inside a building. This is due to the type of construction materials used in a building. As an example, if a home is constructed with cement blocks and sided with sheet metal, radio frequencies will have a 'harder' time passing through the building. If the structure is built using a 2 X 6 frame and T1-11 siding, the radio frequency will have an 'easier' time transmitting inside of the structure (**Narrative 1.1**).

Each map set in **Exhibit J** Propagation Maps shows the following for each tower height of 120', 100' & 80':

- Coverage of sites around the proposed tower location excluding the proposed tower;
- Coverage provided by the proposed tower only;
- Coverage of sites around the proposed tower location including the proposed tower;

The map set in **Exhibit J** Propagation Maps for 120' height also shows the following:

- Throughput Map of sites around the proposed tower location excluding the proposed tower;
- Throughput Map provided by the proposed tower only; and
- Throughput Map of sites around the proposed tower location including the proposed tower.

### Applicant Concludes

The addition of the proposed infrastructure allows AWN to serve its customers through more reliable and consistent coverage. The increase in coverage to this underserved area will provide the residents with wireless internet and cellular service. It is an important note that this equipment will provide cellular and wireless broadband services in an area that has little to no wireless service (**Narrative**).

AWN preference is to co-locate on existing towers where possible. In order to adequately serve the projected coverage area the 'actual' location of the tower must be within a half mile of the original design point. There are no existing towers within the half-mile radius of our design location. Given there are no existing towers AWN does not have the ability to co-locate on an already constructed tower.

This area of Fairbanks is not adequately serviced by AWN. As part of the due diligence in placing new cellular facilities the initial objective is to determine co-location opportunities.

Propagation maps showing the current coverage and proposed site(s) coverage are provided in **Exhibit K**. This application is for the tower location labeled FB 362 (proposed Gilmore Trail tower location). There are twelve maps included showing the propagation of 1) coverage before the proposed tower is constructed, 2) coverage by the proposed tower, and 3) coverage after the proposed tower is constructed.

AWN investigated three locations in this area for cell site placement. The location proposed in this application is based on both the ability of AWN to secure a lease with the landowner, the review of favorable RF propagation studies, and minimization of visual impacts.

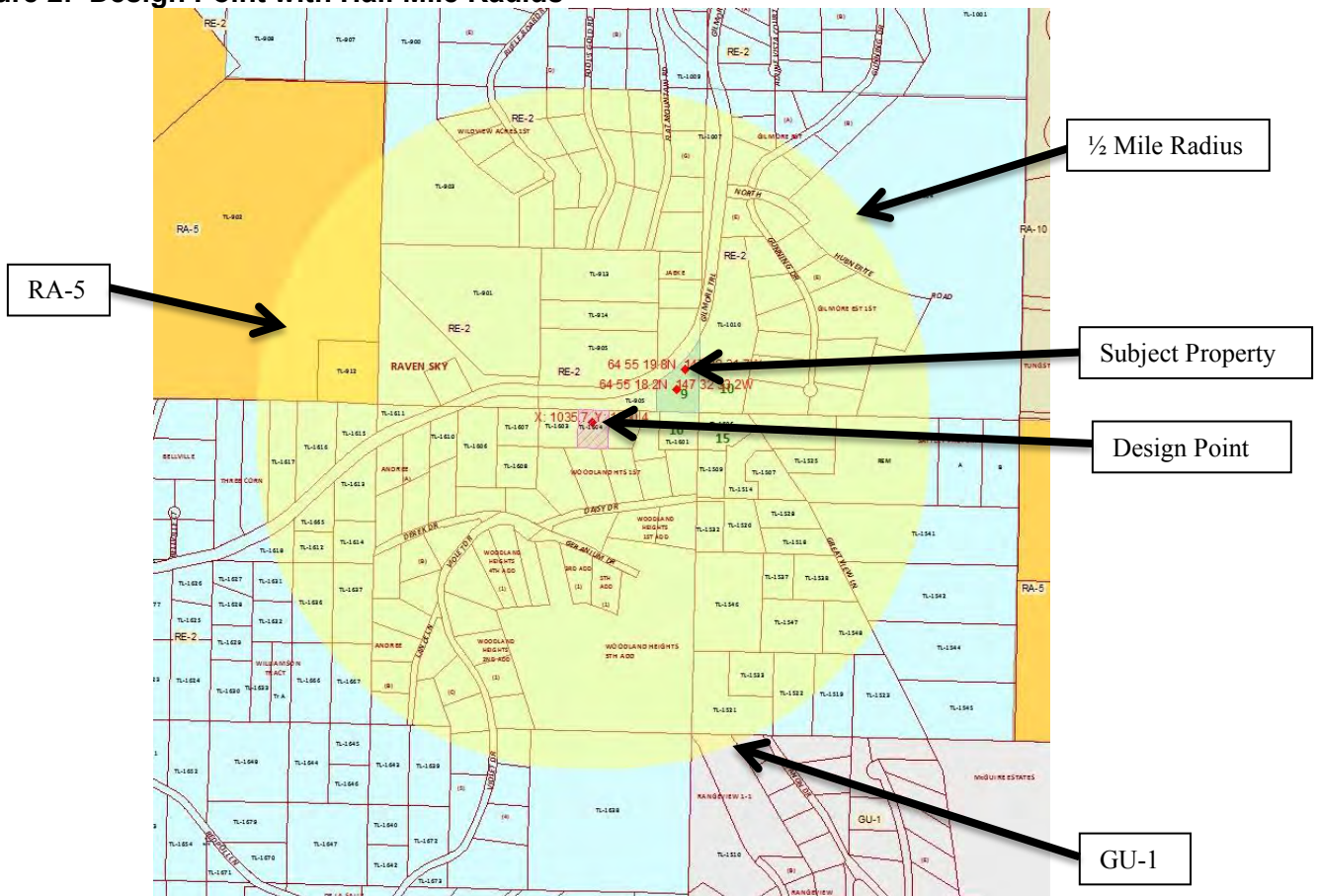
AWN included a map showing offsets and radius of the full tower height and 1,000 feet from the tower. Primary uses of the lots are labeled.

**Staff:** The applicant stated that they identified and investigated three locations for tower placement (**Narrative 3.0**). AWN has stated that there is no existing collocation site available in the general area (**Narrative 2.3**) and describes the closest possible tower as being over a half mile away. Propagation maps in the applicant's supplemental materials show the gap in service in the area (**Exhibit J**).

Mapping the ASR registration search results in **Exhibit I** on GIS shows the closest communications towers are 7,400 feet to northeast (GCI); 7,875 feet to west (American Towers LLC); and 6,032 feet to south (AWN). There are no existing towers within 1,000 feet to co-locate on.

According to AWN, the location of the tower must be within a half mile of the original design point. There are 146 properties within a half mile of the original design point with two properties in the RA-5 zoning and three properties in the GU-1 zoning. (**Figure 2**)

**Figure 2: Design Point with Half Mile Radius**



The criteria have been met for this requirement.

- c. *Necessity for Location in a Residential Neighborhood. A permit should not be issued in a residential neighborhood unless the area cannot be adequately served by a facility placed in a nonresidential area for valid technical reasons. Conditions may be imposed to lessen the impact of a communications tower on a residential neighborhood, including limitations on times for maintenance work to be performed, number of vehicles present, yard maintenance, and similar requirements.***

**Applicant:** The general area where the tower is proposed is residential and is zoned RE-2. Due to the topography of the area and the location of homes in the area there are no alternative location options outside of residential zoning that will provide coverage to the service area (**Exhibit I**).

AWN must find a new tower location within a half mile radius of the identified design location. There are no properties in the half mile radius that are not zoned residential. Due to the topography of the area, there are no alternative location options outside of residential zoning that will provide coverage to this service area (**Narrative 3.3**).

Construction of the proposed Gilmore Tail tower will follow a typical tower construction schedule. Construction timeline for buildout of the site is typically 2 to 3 months. Work will not be constant over this time, construction of the site will occur in phases. Site work and foundation placements will occur first, followed by tower erection and equipment shelter placement. Finally, antennas and equipment will be installed at the site along with power supply.

Construction activities will take place during normal work hours but may include weekend work. In residential areas construction will not start until 8AM. Construction work days are usually 10 hours. Once the site is constructed the typical maintenance schedule for site upkeep and inspection is twice a year. Maintenance inspection is an onsite visit by one vehicle.

The proposed site will not require sewage or water service. Access to the site parcel will be via existing roads. Please refer to attached civil design documents. Power will be supplied by GVEA.

Construction of the proposed site improves cellular coverage in the area. This is a benefit to public health, safety and welfare.

**Staff:** The nearest non-residential zoning, RA-5 and RA-10, is approximately 2,650 feet to the east and west and GU-1 is approximately 2,650 feet to the south. The applicant stated that they investigated three locations for tower placement, but the other locations would have a more visual impact on the neighborhood or have to be taller to try and cover the same amount of area.

The applicant has demonstrated that this location would have minimum impact on the residential neighborhood. The applicant has provided sufficient information to determine if criteria have been met for this requirement. The applicant did not address other technology such as smaller antennas on telephone poles or other structures or buildings.

According to AWN, the location of the tower must be within a half mile of the original design point. AWN shows that there are no existing towers within the half-mile radius of the design location. The subject property and area of need is zoned RE-2. There is RA zoned property 2,240 feet to the west of the subject property; 2,640 feet to the east of the subject property; and 4,715 feet to the north of the subject property. There is GU-1 zoned property 2,666 feet to the south of the subject property.

With the condition imposed to limit times for maintenance work, the criteria have been met.

- d. Design for Future Use.** *A new tower must be designed to accommodate additional antennas equal in number to the applicant's present and reasonably foreseeable future requirements.*

**Applicant:** The tower is designed and engineered to accommodate additional antennas and the collocation of two additional carriers. With the inclusion of AWN antennas, this would allow a total of three carriers on the tower (**Narrative 2.3**).

**Staff:** The criteria have been met for this requirement.

- e. Collocation.** *A permit shall be conditioned to require the applicant to make the tower available for use by as many other licensed carriers as can be technically collocated thereon when the use will not result in substantial injury to the owner or in substantial detriment to the service to the customers of the owners. All licensed carriers shall cooperate with each other in collocating additional facilities upon such towers. All licensed carriers shall exercise good faith in collocating with other licensed carriers and in the sharing of towers, including the sharing of technical information to evaluate the feasibility of collocation.*

**Applicant:** AWN allows licensed carriers to co-locate on new or existing sites. The tower is being engineered to accommodate the equipment of up to three carriers (**Narrative 2.3**).

**Staff:** The criteria have been met for this requirement.

- f. Illumination.** *A communications tower may not be illuminated unless otherwise required by state or federal law or regulations or unless evidence has been presented that lighting is necessary to ensure the safety of the public. To prevent direct light reflection on other property, tower structure lighting shall be shielded to the extent permitted by the Federal Aviation Administration.*

**Applicant:** AWN prefers not to illuminate towers and only places illumination on towers when instructed for the health and safety of aviators or otherwise required by federal and state agencies. The FAA has determined marking and lighting are not necessary for aviation safety for the proposed tower location. AWN will not place illumination on the tower (**Exhibit F, Narrative 2.4**).

**Staff:** FAA does not require lighting on the proposed tower. The criteria have been met for this requirement.

- g. Distance from Existing Tower.** *A permit for a proposed tower within 1,000 feet of an existing tower shall not be issued unless the applicant certifies that the existing tower does not meet the applicant's structural specifications and the applicant's technical design requirements, or that a collocation agreement could not be obtained.*

**Applicant:** There are no existing towers within 1,000 feet or within a three-mile radius of the proposed AWN tower location. Included with this narrative are the search results from FCC Antenna Structure Registration (**Exhibit I, Narrative 3.2**).

AWN preference is to co-locate on existing towers where possible. In order to adequately serve the projected coverage area the actual location of the tower must be within a half mile of the original

design point. There are no existing towers within the half-mile radius of our design location. Given there are no existing towers AWN does not have the ability to co-locate on an already constructed tower.

**Staff:** The criteria have been met for this requirement.

***h. Yard Requirements. Yards shall be a distance equal to 50 percent or greater of the height of the tower from a lot line. The planning commission may modify this requirement if the tower and equipment will be adequately screened to mitigate its visual impact and no safety hazards are presented.***

**Applicant:** In order to achieve acceptable radio frequency (RF) propagation while reducing the visual impact of the proposed structure the chosen location is in the northern third of the property. The placement of the structure in this area allows for increased visual screening by the existing tree line following the arc of Gilmore Trail, maximizes the visual buffer surrounding the facility and presents no hazard to existing infrastructure. Due to the shape and topography of the property as well as the location of non-AWN infrastructure, a yard modification is being requested for the site of the utility lot and fenced compound.

The standard set back requirements (half the height of the tower) is met from the edge of the tower to the landowner's closest property lines on the western and eastern edge. The facility has been designed to exceed the setback requirement from the outer edge of the tower to the parcel property boundaries. A yard modification is being requested to accommodate a conscious design that reduces visual impact of the ground facilities.

Through purposeful design the ground infrastructure is completely shielded from view from Gilmore Trail by the existing tree line and poses no health or safety risk to existing structures. In addition, the reduction in yard space allows for continued use of the surrounding area for the property owner's equestrian center (**Narrative 2.1**)

The utility lot sized for the proposed site is 960 square feet or 21'9" X 30' X 42' 3" X 36' 3" (same as leased parcel of land). The tower will be placed towards the southeast corner of the utility lot and the distance from the tower to the parent parcel property lot lines is greater than 50 percent of the height of the tower.

AWN requests a yard modification for this required setback of 50 percent of the height of tower to be measured from the tower, and not any support structures (equipment shelter). Attached is a scaled exhibit showing dimensions from both the tower and equipment shelter to the utility lot limits and the property boundaries in all four directions. (**Exhibit K**)

The tower is designed to allow multiple carriers. Each carrier requires a shelter for equipment and backup power systems. By limiting the size of the utility lot for the AWN tower and equipment shelter to the minimum space required, space will be available to allow future placement of co-located equipment shelters in close proximity to the existing tower. By allowing space for co-locations in the future, construction of additional towers in the borough will be reduced.

AWN proposes a six foot tall chain link fence with barbed wires extending another foot on top located on three sides of the utility lot and a chain link fence on top of a retaining wall on the east side of the lot (**Exhibits C8 & C-9**).

**Staff:** Major Communications Towers (over 60' in height) are defined as a principal building<sup>4</sup> and therefore require a separate lot in the RE-2 zone, where only one principal structure per lot is permitted.<sup>5</sup> Lease agreements for a duration of five years or greater also require platting of the leased parcel into a separate lot, unless the entire parcel is leased.<sup>6</sup> Public utility and service uses including communications towers may be located on lots of less than the minimum lot size specified for that zoning district<sup>7</sup>. Therefore the lease area must be platted into its own lot, and the lot can be smaller than the 80,000 square feet minimum lot size in RE-2, but the tower must meet setback requirements from the lot lines of the platted utility lot unless the Planning Commission grants a yard modification.

The Planning Commission may modify this setback requirement at the time of the Conditional Use permit public hearing if the tower and equipment will be adequately screened to mitigate their visual impact and no safety hazards are presented. The lease agreement (**Exhibit D**) is for a proposed 30' X 30' fenced area with 120 foot tower in center. The lease agreement does not mention anything about retaining the existing tree line along Gilmore Trail.

The applicant has proposed a yard modification area of 960 square feet or 21'9" X 30' X 42' 3" X 36' 3" with a six foot chain link fence on three sides and a chain link fence along the top of a retaining wall on the east side of the utility lot. Although the structure does not meet the required 62-foot setbacks from the yard modification area (the setbacks to the closest structure in the lease area are as follows: 2' 6" from the north boundary; one foot from the south boundary; 1' 7" from the east boundary; and 11 feet from the west boundary). (**Exhibit K**)

There is a 48.3 foot setback to the 30' X 30' utility lot, 65.8 foot setback to the equipment shelter in the utility lot, and 72.9 foot setback to the monopole from the west property line. This area includes existing trees along Gilmore Trail and a proposed 20 foot wide access and utility easement. There is 97.8 foot setback from the 30' X 30' utility lot, 99.9 foot setback to the equipment shelter in the utility lot and 105.1 foot setback to the monopole from the east property line. This area includes an existing horse corral and a 33 foot section line easement with a 15 foot public utility easement. In addition, there is a 33 foot section line easement on the adjacent property to the east along the entire eastern property line. There is a 337 foot setback to the center of the monopole from the south property line. This area includes a 100 foot pipeline easement for Alyeska Pipeline, the single-family home, and other accessory buildings. There is approximately 65 feet between the north side of the utility lot and an accessory building. Since the closet structure to the monopole is over 65 feet, a yard modification is acceptable. (**Exhibit K**)

The lease agreement shall be modified to the correct lease area size. The lease agreement shall also incorporate a statement that the existing tree line along Gilmore Trail be retained as long as the communications tower is standing to meet the screening requirement.

If the Planning Commission chooses to grant a yard modification, the criteria will have been met for this requirement with a lease modification.

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<sup>4</sup> FNSBC 18.06.010 Definitions: "Communications tower, major"...is a principal building under this title.

<sup>5</sup> FNSBC 18.50.020(A) Buildings per lot: In the rural and agricultural through the TF, two-family residential districts, both inclusive, not more than one principal building may be located on one lot.

<sup>6</sup> FNSBC 17.10.020(B)(2) Jurisdiction – Subdivision defined: "Subdivision" is not limited only to the conveyance of title, but also includes contracts to convey title and leases of land for five or more years.

<sup>7</sup> 18.50.150 Standards for public utility and service uses: Public utility and service uses, including communications towers...may be located on lots of less than the minimum lot size specified for that zoning district.

- i. Height. The permitted height of a proposed tower shall be the minimum required to meet the applicant's technical needs and will consider the impact on the surrounding uses.***

**Applicant:** The proposed monopole height of 120 feet is the minimum height which is needed to meet the goals of AWN: minimize visual impact of tower; provide opportunities for collocation; assure AWN's service coverage area gap can be filled. The tower height of 120 feet is necessary to allow antennas above the existing tree line and reach the designed coverage for the area. The existing tree line helps obstruct the tower from view by surrounding residences (**Narrative 2.2**).

In **Exhibit J** and **Narratives 2.2 & 3.4**, AWN is comparing the level of coverage provided with tower heights of 120 feet, 100 feet and 80 feet. Coverage difference can be seen on the northern boundary of the coverage ring, the eastern fringe of RF propagation, and the southwest fringe. Though the margins seem small, "the distance between two devices doubles, the signal becomes at least eight times weaker". Coverage for the 120 foot tower is the strongest. Construction at 100 feet is weaker than at 120 feet and only allows for one collocation. Construction at 80 feet has even less coverage and may allow for one collocate. Assuming a hypothetical 100 foot tower and that an antenna position fills 15 feet of vertical space, position one on the tower will fill the space from 100-85 feet, position two fills 85-70 feet, and position three fills 70-55 feet. The height of surrounding trees is approximately 65 feet. Antennas in position three would be highly susceptible to signal interference.

**Staff:** The supplemental application materials discuss service potentially provided by a tower at two lower tower heights (**Exhibit J & Narratives 2.2 & 3.4**). Coverage provided at 100 feet is shown to be somewhat reduced and would only allow for one collocation. Coverage provided at 80 feet has even less coverage and may not allow for any collocates. The maps show the most far-reaching coverage with less visibility is provided by a 120 foot tower.

The criteria have been met for this requirement.

- j. Zoning District Standards. Nothing in this section alters the requirements for visibility, fencing, screening, landscaping, parking, access, lot size, exterior illumination, sign, storage, or other general zoning district regulations, except yard and height requirements, of any specific zone. Yard and height requirements in this section shall apply.***

**Applicant:** Due to the shape and topography of the property as well as the location of non-AWN infrastructures, a yard modification is being requested for the size of the utility lot and fenced compound. The placement of the structure in the proposed location maximizes the visual buffer surrounding the facility and presents no hazard to existing infrastructure. A yard modification is being requested to accommodate a conscious design that reduces visual impact of the ground facilities. Through purposeful design the ground infrastructure is completely shielded from view from Gilmore trail by the existing tree line and allows for continued use of the surrounding area for the property owner's equestrian center. (**Narrative 2.1 & Exhibit K**)

**Staff:** The proposal does not meet the setback requirement of 62 feet on all sides for a communications tower, but the applicant has submitted a yard modification request. The lease agreement (**Exhibit D**) is for a proposed 30' X 30' fenced area with 120 foot tower in center. The lease agreement does not mention anything about retaining the existing tree line along Gilmore Trail.



The lease agreement shall be modified to the correct lease area size. The lease agreement shall also incorporate a statement that the existing tree line along Gilmore Trail be retained as long as the communications tower is standing to meet the screening requirement.

The 960 square feet or 21'9" X 30' X 42' 3" X 36' 3" lease area as shown in the **Exhibit K** for yard modification is proposed to be fenced with a six foot chain link fence on three sides and a chain link fence along the top of a retaining wall on the east side of the utility lot.

There is a 48.3 foot setback to the 30' X 30' utility lot, 65.8 foot setback to the equipment shelter in the utility lot, and 72.9 foot setback to the monopole from the west property line. This area includes existing trees along Gilmore Trail and a proposed 20 foot wide access and utility easement. There is 97.8 foot setback from the 30' X 30' utility lot, 99.9 foot setback to the equipment shelter in the utility lot and 105.1 foot setback to the monopole from the east property line. This area includes an existing horse corral and a 33 foot section line easement with a 15 foot public utility easement. In addition, there is a 33 foot section line easement on the adjacent property to the east along the entire eastern property line. There is a 337 foot setback to the center of the monopole from the south property line. This area includes a 100 foot pipeline easement for Alyeska Pipeline, the single-family home, and other accessory buildings. There is approximately 65 feet between the north side of the utility lot and an accessory building. Since the closet structure to the monopole is over 65 feet, a yard modification is acceptable. (**Exhibit K**)

The lease area is accessed by a 20 foot wide proposed access and utility easement from Gilmore Trail. There are no illuminations or markings proposed for this project. Utility lots can be smaller than the minimum required by the zone.

If the yard modification is approved, the criteria will have been met after a new lease agreement is created with the correct lease area and screening requirement. If not, the applicant must apply for a plat for the new lease area.

***k. Design Drawings and Specifications. A permit shall be conditioned to require the applicant to submit design drawings and specifications stamped by a registered professional in the state of Alaska certifying compliance with the building code of the authority having jurisdiction.***

**Applicant:** Included in this submittal is a copy of the design drawings and specification stamped by a registered professional engineer in the State of Alaska.

**Staff:** Exhibits A, B and K includes the stamped design drawings. The criteria have been met for this requirement.

***l. Compliance with Other Laws. A proposed tower must comply with all local, state, and federal laws.***

**Applicant:** The proposed tower will comply with all local, state, and federal laws. A Letter of Non-Objection from the Alyeska Pipeline Service Company was submitted for the buried pipeline and right-of-way that runs through the center of the property, south of the proposed lease area (**Exhibit L**).

**Staff:** The proposal appears to comply with FCC and FAA rules. The criteria have been met for this requirement. Whether FNSB Title 17 platting regulations have been met depends on the Planning Commission's decision regarding the yard modification request.

#### IV. RECOMMENDATION

Based on the analysis above, the Department of Community Planning recommends **APPROVAL** of the request with the following conditions:

1. The lease agreement shall be amended to the correct lease area size.
2. The lease agreement shall incorporate a statement that the existing tree line along Gilmore Trail be retained as long as the communications tower is standing to meet the screening requirement.
3. The lease agreement shall be re-submitted to the Platting Department for approval.
4. All existing vegetation, with the exception of that which is necessary to be removed for construction and placement of the cell tower and related equipment, shall be maintained on the property for as long as the communications site exists on the site.
5. There shall be no lighting on the tower.
6. The monopole is limited to 120 feet in height and no more than six antennas at four feet in height for a total of 124 feet in height except for legally permitted collocations.
7. A Utility Lot for the proposed lease area shall be created and recorded through a Quick Plat process to meet Title 17 and Title 18 requirements.
8. The yard requirement of the required Utility Lot is modified from 62 feet on all sides to: 2' 6" from the north lot line, 1' from the south lot line, 11' from the west lot line, and 1' 7" from the east lot line<sup>1</sup> (**Compound Detail & Site Plan, Exhibit J**).
9. Except where modified by other conditions of approval, the property shall be developed according to the attached site plan<sup>8</sup> as **Exhibit A, Drawings C-1 through C-10** of this report.
10. Maintenance work and upkeep of the leased premises shall only be Monday to Friday from 8:00 a.m. to 5:00 p.m. with the exception of emergencies.

#### V. FINDINGS OF FACT

The Department of Community Planning further recommends the following Findings of Fact in support of **approval**:

1. The proposed communications tower conforms to the intent and purpose of Title 18 and of other ordinances and state statutes, specifically, the applicant has adequately demonstrated that:
  - a. The visual impact will be minimized by this location;
  - b. It is necessary to locate in a residential neighborhood because:
    - i. The nearest non-residential area is 2,240 feet away;

---

<sup>8</sup> The Planning Commission may modify this requirement if the tower and equipment will be adequately screened to mitigate its visual impact and no safety hazards are presented.

- ii. With the topography of the area there is no other place to locate the tower to get adequate coverage or service;
    - iii. The half mile radius from the design location is located entirely within residential zoning;
  - c. 120 feet is the minimum monopole height required to meet the applicant's technical needs in this location, as shown by an analysis comparing tower heights and service levels.
2. The applicant has adequately demonstrated that public health, safety and welfare will not be negatively impacted by placing a tower of this height in this location.
3. The applicant has submitted the required drawings certifying compliance with appropriate building codes.
4. The applicant has agreed that the proposed communications tower will comply with all local, state and federal laws, now and in the future.
5. The proposed communications tower will not be illuminated.
6. There are adequate energy and transportation facilities and other public services to serve the existing communications tower. No sewer or water is required for this site.
7. The tower will be designed and constructed to accommodate additional carriers and additional antennas.
8. The proposed tower will be required to be available for collocation by any other licensed commercial carriers.

## **DRAFT PLANNING COMMISSION MOTION:**

**I move to approve of the requested 124 foot communication tower on Lot 01 of Jaeke Property at 1392 Gilmore Trail with ten (10) conditions and eight (8) Findings of Fact in support of approval.**



Comm. Planning Dept

JUN 16 2015

RECEIVED

**Fairbanks North Star Borough**  
**Department of Community Planning**  
 P.O. Box 71267  
 Fairbanks, Alaska 99707-1267  
 (907) 459-1260 Fax: (907) 459-1255  
 planning@co.fairbanks.ak.us

**PUBLIC HEARING APPLICATION**

File No. CU2015-007

Application is for  Rezone (\$400)  Variance (\$300)  Conditional Use Approval (\$300)

Property Owner:	Owner's Representative (if any):
Name: Derrell Jaeke	Name: Bryan Maracle
Mailing Address: 1392 Gilmore Trail	Mailing Address: 2550 Denali St
Fairbanks, AK 99712	Anchorage AK 99504
Phone: (907) 457-5175	Phone: 907-868-1979
Fax:	Fax:
E-mail: derrell@acsalaska.net	E-mail: bmaracle@gcl.com

Property Information:	
Legal Description: Lot 1, Jaeke Property, Waiver 001-84 7/19/1984 Previously assessed as 1N 1E 09 906	
Street Address: 1392 Gilmore Trail, Fairbanks	Size: 3.227 <input checked="" type="checkbox"/> acres <input type="checkbox"/> square feet
Parcel Account Numbers (PAN): 594653	
Existing Zone: RE2 (Rural Estate)	Existing Use: Residential
Existing Water/Wastewater Providers: <input type="checkbox"/> Private <input type="checkbox"/> Public: N/A _____ (name of provider)	
<i>For Rezones:</i> Proposed Zone:	<i>For Variances:</i> <input type="checkbox"/> Lot Size <input type="checkbox"/> Setback <input type="checkbox"/> Parking <input type="checkbox"/> Other: _____
<i>For Conditional Uses:</i> Requested Use: 30' x 30' leased telecommunications site	Description:

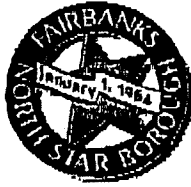
I hereby certify that  (I am)  (I am authorized to act for) the owner of the property. I understand that payment of the application fee helps to cover the costs associated with processing this application, and that payment of the fee does not assure approval of the application.

APPLICANT SIGNATURE: [Signature] DATE: 2015-06-16  
 OWNER SIGNATURE (if different): \_\_\_\_\_ DATE: \_\_\_\_\_

Received By: <u>ms</u>	Fee: <u>\$300</u>	Receipt No. <u>503087</u>	Proposed Meeting Date: <u>8-4-15</u>	Sign Issued? <input checked="" type="checkbox"/> Yes Sign #: <u>9</u>
Date: <u>6-16-15</u>				

File No. CU2015-007

Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law. Revised 7/2014



Comm. Planning Dept

JUN 16 2015

RECEIVED

Fairbanks North Star Borough  
Department of Community Planning  
P.O. Box 71287  
Fairbanks, Alaska 99707-1267  
(907) 459-1260 Fax: (907) 459-1255  
planning@co.fairbanks.ak.us

**PUBLIC HEARING APPLICATION**

File No. CU 2015-007

Application is for  Rezone (\$400)  Variance (\$300)  Conditional Use Approval (\$300)

Property Owner:		Owner's Representative (if any):	
Name: Derrell Jaeke		Name: Bryan Maracle	
Mailing Address: 1392 Gilmore Trail		Mailing Address: 2550 Denali St	
Fairbanks, AK 99712		Anchorage AK 99504	
Phone: (907) 457-5175		Phone: 907-868-1679	
Fax:		Fax:	
E-mail: derrell@acsalaska.net		E-mail: bmaracle@gcl.com	

Property Information:	
Legal Description: Lot 1, Jaeke Property, Waiver 001-84 7/19/1984 Previously assessed as 1N 1E 09 906	
Street Address: 1392 Gilmore Trail, Fairbanks	Size: 3.227 <input checked="" type="checkbox"/> acres <input type="checkbox"/> square feet
Parcel Account Numbers (PAN): 594653	
Existing Zone: RE2 (Rural Estate)	Existing Use: Residential
Existing Water/Wastewater Providers: <input type="checkbox"/> Private <input type="checkbox"/> Public: <u>N/A</u> (name of provider)	
For Rezones: Proposed Zone:	For Variances: <input type="checkbox"/> Lot Size <input type="checkbox"/> Setback <input type="checkbox"/> Parking <input type="checkbox"/> Other: _____
For Conditional Usas: Requested Use: 30' x 30' leased telecommunications site	Description:

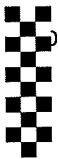
I hereby certify that  (I am)  (I am authorized to act for) the owner of the property. I understand that payment of the application fee helps to cover the costs associated with processing this application, and that payment of the fee does not assure approval of the application.

APPLICANT SIGNATURE: [Signature] DATE: 2015-06-16  
OWNER SIGNATURE (if different): Derrell Jaeke DATE: 06-16-2015

Received By: <u>JES</u>	Fee: <u>\$300</u>	Receipt No. <u>503087</u>	Proposed Meeting Date: <u>8-4-15</u>	Sign Issued? <input type="checkbox"/> Yes Sign #: _____
Date: <u>6-16-15</u>				

File No. CU 2015-007

Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law. Revised 7/2014



530-378-1137

ATTN: DERRELL JAEKE RM: 235

Hi, DERRELL

Here is the CUP Application. Sign on the "Owner Signature" line.

FAX the paperwork to, ATTN: Nancy Durham. FAX #

907-459-1255.

Thanks,

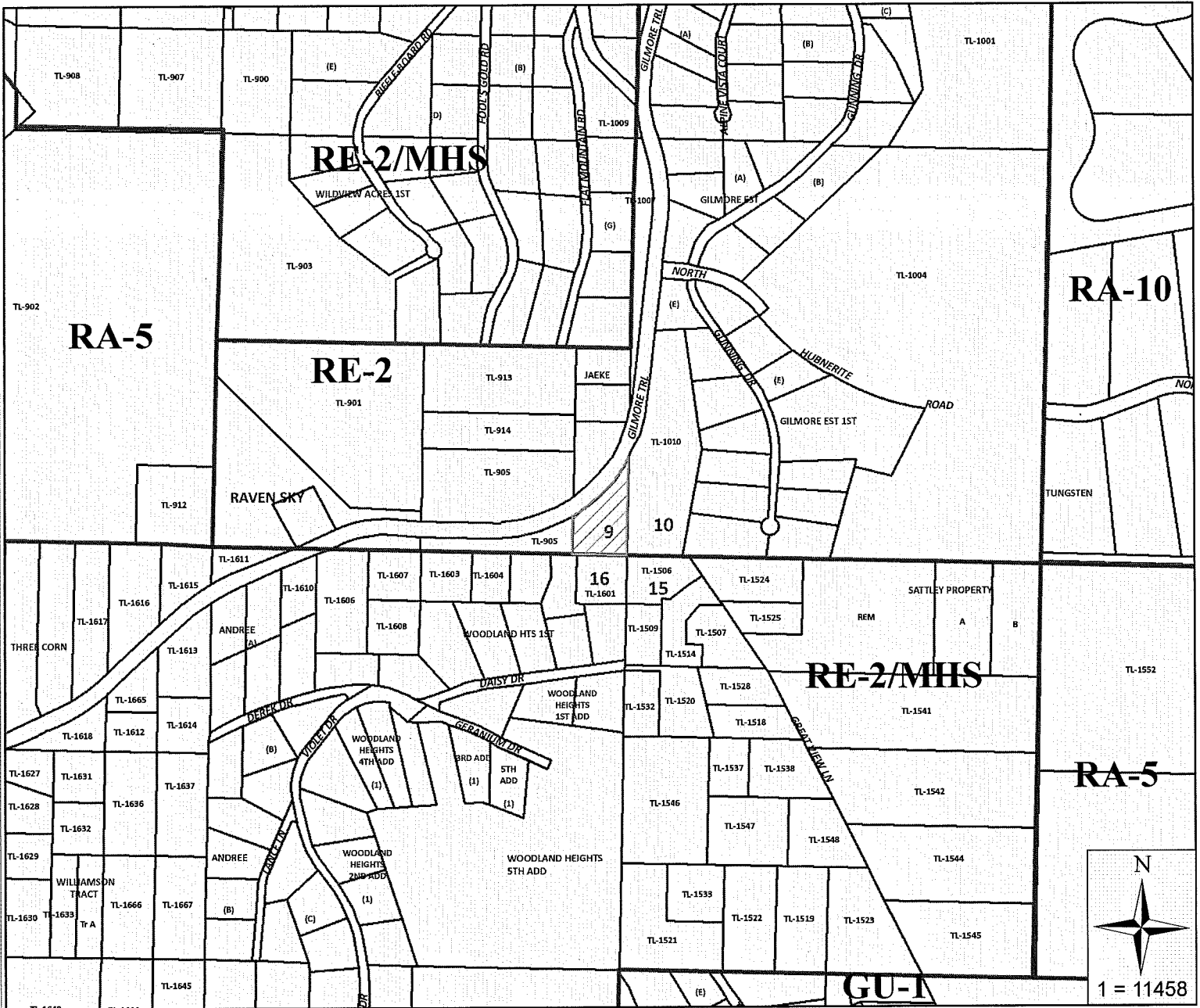
BRYAN



# Fairbanks North Star Borough Zoning Report

PAN# 0594653

Printed on: 06/16/2015



### Property Information for PAN#: 0594653

PROPERTY DESCRIPTION: JAEKE PROPERTY, LOT: 01  
 OWNER: Jaeke Sharon L, Jaeke Derrell D  
 BILLING ADDRESS: 1392 Gilmore Trl Fairbanks, AK 99712 2107  
 SITUS ADDRESS: 1392 Gilmore Trl, 1398 Gilmore Trl  
 PARCEL SIZE: 3.227 AC  
 FLOOD ZONE: X (100%)  
 SPECIAL REG. AREAS: None  
 ZONING: RE-2 (100%)  
 COMP PLAN: Outskirt Area (100%), Outskirt Boundary (100%), Preferred Residential Land (96%)  
 PLANNING DISTRICT: Steele Creek (100%)  
 ROAD SERVICE AREA: None  
 FIRE SERVICE AREA: Steese (100%)  
 FIRE RESPONSE AGENCY: Steese Area Volunteer Fire Department (100%)  
 STRUCTURES: SFR (1 Unit)  
 COMMUNITY PLANNING PERMITS: NONE

Controlled Access Roads		FEMA Flood Zones (March 17, 2014 dFIRM)	
	ARTERIAL - CONTROLLED ACCESS		A
	Special Regulatory Areas		AE
	CHENA RIVER CENTERLINE 200 ft BUFFER		AE, FLOODWAY
	LEVEE 250ft BUFFER		AH
	SALCHAKET HEIGHTS EROSION CONTROL		AO
			X

The Fairbanks North Star Borough does not warrant the accuracy of maps or data provided, nor their suitability for any particular application. There may be errors in the data.

Application Requirements per 18.50.155(C)(1)	Exhibit	Document Title	Source	Complete
a. One copy of the specifications for the proposed structures and antennas, including description of the design characteristics and material.	A	Design	Valmont and Marsh Creek	Yes
b. A site plan drawn to scale showing property boundaries, tower location, tower height, guy wires and anchors, existing structures, photographs or elevation drawings depicting typical design of proposed structures, parking, fences, landscaping, and existing land uses on adjacent property.	B	Site plan	Acutek	Yes
c. A current map showing locations of all of the applicant's antennas, facilities, existing towers, and proposed towers within the borough.	C	Service Area/Tower Location Map	GCI	Yes
d. Names of the owners of the tower, antennas and equipment to be located on the site.	D	Lease Agreement	GCI	Yes
e. Evidence that a valid FCC license for the proposed activity has been issued, if required.	E	ASR	FCC online	Yes
f. A copy of the FAA determination.	F	Determination (Aeronautical Study)	FAA	Yes
g. A written agreement, approved by the borough attorney, to remove the tower and/or antenna within 180 days after the tower or antenna is substantially unused for a period of 12 consecutive months.	G	Tower Removal Agreement	FNSB	Yes – scanned copy of original attached. FNSB has original.
h. A visual impact analysis that quantifies the amount of visual impact on properties located within 500 feet of any proposed tower; for major communications towers, additional analysis must be conducted at 2,500 feet, and two miles from the proposed communications tower site. Such analysis should include, to the extent practicable, the visual impact from at least two of the four compass directions, and show the relationship of the tower and its facilities against the massing of surrounding structures, trees, and other intervening visual masses. This analysis will include recommendations to mitigate adverse visual impacts on other properties.	H	<u>Photo Simulations</u> Facing North at 500, 1750, and 2500 ft and 2 miles Facing East at 500ft and 2 miles Facing West at 500 and 2500ft and 2 miles  <u>Balloon Test</u> Facing South at 500, 1000, and 2000ft Facing South East at 1000, 1800, and 2000ft Facing North East at 500, 1000ft Facing North at 500, Facing North West at 1000 and 2000ft Facing West at 1000ft Facing East at 2000ft	GCI/NHTI	Yes
i. An alternative site analysis including the availability of suitable existing towers and other alternative structures or locations for the proposed tower considered by the applicant.	I, J	FAA Determination	GCI/NHTI	Still working final narrative



Approval Criteria per 18.50.155(C)(2)	Exhibit	Document Title	Source	Complete
a. Location and Visual Impact. The proposed communications tower, antenna or accessory structure will be placed in a reasonably available location which will minimize the visual impact on the surrounding area and allow the facility to function in accordance with minimum standards imposed by the applicable communications regulations and applicant's technical design requirements. Conditions may be imposed, including camouflage, screening, vegetative buffers and/or site requirements, to ensure this criteria is met.	H	Photo Simulations Balloon Test, Narrative 3.1	GCI/NHTI	Yes
b. Inability to Locate on an Existing Structure. A permit should not be issued unless a proposed antenna and equipment cannot be accommodated and function as required by applicable regulations and applicant's technical requirements without unreasonable modifications on any existing structure or tower under control of the applicant.	I	Zoning Map and FCC Search Results, Narrative 3.2	GCI/NHTI	Yes
c. Necessity for Location in a Residential Neighborhood. A permit should not be issued in a residential neighborhood unless the area cannot be adequately served by a facility placed in a nonresidential area for valid technical reasons. Conditions may be imposed to lessen the impact of a communications tower on a residential neighborhood, including limitations on times for maintenance work to be performed, number of vehicles present, yard maintenance, and similar requirements.	I	Zoning Map, Narrative 3.3	GCI/NHTI	Yes
d. Design for Future Use. A new tower must be designed to accommodate additional antennas equal in number to the applicant's present and reasonably foreseeable future requirements.	Narrative	Narrative 2.1	GCI/NHTI	Yes
e. Collocation. A permit shall be conditioned to require the applicant to make the tower available for use by as many other licensed carriers as can be technically collocated thereon when the use will not result in substantial injury to the owner, or in substantial detriment to the service to the customers of the owners. All licensed carriers shall cooperate with each other in collocating additional facilities upon such towers. All licensed carriers shall exercise good faith in collocating with other licensed carriers and in the sharing of towers, including the sharing of technical information to evaluate the feasibility of collocation.	Narrative	Narrative 2.1	GCI/NHTI	Yes
f. Illumination. A communications tower may not be illuminated unless otherwise required by state or federal law or regulations or unless evidence has been presented that lighting is necessary to ensure the safety of the public. To prevent direct light reflection on other property, tower structure lighting shall be shielded to the extent permitted by the Federal Aviation Administration.	F	FAA Determination, Narrative 2.2	FAA	Yes – however Alyeska requesting illumination in LNO
g. Distance from Existing Tower. A permit for a proposed tower within 1,000 feet of an existing tower shall not be issued unless the applicant certifies that the existing tower does not meet the applicant's structural specifications and the applicant's technical design requirements, or that a collocation agreement could not be obtained.	I	Zoning Map and FCC Search Results, Narrative 3.3	GCI/NHTI	Yes
h. Yard Requirements. Yards shall be a distance equal to 50 percent or greater of the height of the tower from a lot line. The planning commission may modify this requirement if the tower and equipment will be adequately screened to mitigate its visual impact and no safety hazards are presented.	K	Yard Modification, Narrative 2.3	Acutek	Yes
i. Height. The permitted height of a proposed tower shall be the minimum required to meet the applicant's technical needs and will consider the impact on the surrounding uses.	J	Propagation Maps, Narrative 2.4	GCI/NHTI/ Ericsson	Yes

j.	Zoning District Standards. Nothing in this section alters the requirements for visibility, fencing, screening, landscaping, parking, access, lot size, exterior illumination, sign, storage, or other general zoning district regulations, except yard and height requirements, of any specific zone. Yard and height requirements in this section shall apply.	K	Yard Modification, Narrative 2.3, 2.4, and 3.1	Acutek	Yes
k.	Design Drawings and Specifications. A permit shall be conditioned to require the applicant to submit design drawings and specifications stamped by a registered professional in the state of Alaska certifying compliance with the building code of the authority having jurisdiction.	A	Design	Marsh Creek/Valmont	Yes
l.	Compliance with Other Laws. A proposed tower must comply with all local, state, and federal laws. (Ord. 2012-58 § 7, 2013; Ord. 2009-05 § 14, 2009)	L	Alyeska Letter of Non-Objection	GCI/Alyeska	Yes

July 1, 2015

Nancy Durham  
Planner III  
Fairbanks North Star Borough  
Community Planning

Re: email CU2015-007

Hi Nancy,

This letter is in response to your email, RE: CU2015-007 Jaeke CT on June 30, 2015. Pursuant to FNSBC 18.50.155.C.2.c, specific information regarding construction timing and operational parameters is not required for a complete application. The code clearly states “conditions *may* be imposed to lessen the impact of a communications tower on a residential neighborhood, including limitations on times for maintenance work to be performed, number of vehicles present, yard maintenance, and similar requirements”. [emphasis added]

Though we do not agree with the interpretation of the code we are submitting the requested information to facilitate a smooth permitting process.

Construction of the proposed Gilmore Trail tower will follow a typical tower construction schedule. Typical construction of a communications tower occurs over a 2-3 month period. Construction occurs in stages with the civil and foundation work occurring first followed by tower erection and equipment placement. The final stage occurs with the installation of antennas, transmitters and power.

Over the 2-3 month construction period work will start at 8:00 am. A typical construction day is about 10 hours. After construction the operational maintenance of the site is typically twice per year, unless there is an emergency. Typically operational and maintenance traffic does not exceed one vehicle.

Kindest Regards,

A handwritten signature in black ink, appearing to read "Bryan Maracle", is displayed on a light gray rectangular background.

Bryan Maracle, PMP



**AWN**  
Alaska Wireless Network

June 16, 2015

Fairbanks North Star Borough  
Department of Community Planning  
P.O. Box 71267  
Fairbanks, Alaska 99707-1267

RE: Proposed Cellular Site at 1392 Gilmore Trail

Alaska Wireless Network (AWN) is proposing construction of a telecommunications facility at 1392 Gilmore Trail in Fairbanks, per the following Public Hearing Application. This parcel is located in a RE-2 (Rural Estate) zoning district where minor and major communications towers are considered a conditional use.

The 120' monopole tower will be constructed within a lease area/utility lot that is in the general shape of a right triangle due to an existing site access road and power line easement. Construction of this tower will fill a documented significant gap in cellular communications and wireless broadband to the surrounding area. The proposed tower is the least intrusive option to fill this gap and comply with FNSB Code requirements regarding collocation.

The attached Conditional Use Permit application package is being submitted in accordance with FNSB Code 18.54.030, Procedures for conditional uses, and FNSB Code 18.50.155, Standards for Communications Towers. The required documentation and associated narrative describes the project's compliance with approval criteria set forth in FNSB Code 18.54.030 and 18.50.155.

Should the Planning Commission have any questions regarding this project, please contact me at (907) 868-1979.

Sincerely,

Bryan Maracle, PMP  
Program Manager III  
Network Services



## **Conditional Use Permit Application**

1392 Gilmore Trail  
Fairbanks, AK

### **Contacts:**

Bryan Maracle, PMP  
Program Manager III  
Network Services  
(907) 868-1979  
bmaracle@gci.com

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## 1.0 Introduction

The pace of modern life is becoming increasingly swift. The drive for mobility and fluidity between our activities, in modern society, is driving an explosive growth in wireless communication. Whether it is being able to order household basics from amazon while watching our children's basketball practice or the need to call a tow truck after sliding off the road during the drive back from our backcountry ski adventure in Valdez, the health and safety provided by wireless communications have become an essential service we have come to rely on.

The Division of Health Interview Statistics and National Center for Health Statistics tracks the impact wireless communications has on health and human services across the nation. The annual survey conducted by the National Health Interview Survey characterizes the national demographics needed to deliver health and safety services to the population. Currently 43% of Americans are discontinuing landline phones in support of using cellular as their primary phone service (Blumberg and Luke 2014). The first six months of 2014 saw a three percentage point increase over the last half of 2013 and was the greatest six month increase since 2010 (Blumberg and Luke 2014). Given the exponential growth and reliance on wireless communications additional infrastructure has become essential to providing reliable service.

Alaska Wireless Network (AWN) is an Alaskan owned and operated telecommunications company that provides telecommunication service to the citizens of Alaska. The mission of AWN is to create value for our customers, opportunities for our employees and growth for our shareholders.

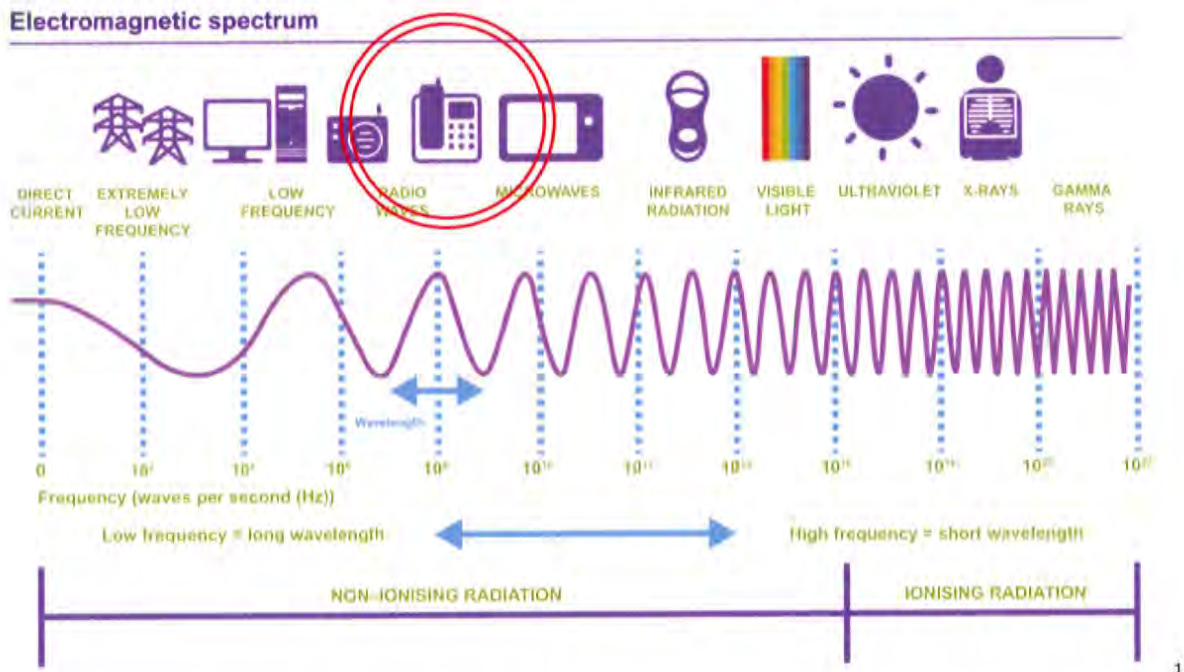
As part of our efforts to fill gaps in our network and provide world-class wireless service that Alaskans can count on AWN is proposing to construct a 120' communications tower at 1392 Gilmore Trail. The proposed construction will fill a significant gap in the AWN wireless network. The infrastructure will provide cellular and wireless broadband services in an area that has little to no wireless service from our network. The proposed location is zoned RE-2 and construction of a communications tower is a permitted use and is subject to the conditional use process (FNSB 18.18.020 Use regulations). As will be set forth in greater depth in this application, the proposed tower is the least intrusive means to address the significant gap in AWN coverage while complying with the standards set by the Fairbanks North Star Borough Code for telecommunications towers. There are no non-residential parcels or collocation opportunities which would allow AWN to address the identified coverage gap.

This document is AWN's justification narrative as part of the conditional use permit (CUP) process. The below sections will walk through a laymen's distillation of radio frequency science, applicable federal law governing telecommunications, and the decision logic used to meet the Fairbanks North Star Borough (FNSB) requirements set forth in its standards for conditional uses (FNSB Code 18.54.030) and communications towers (FNSB Code 18.50.155). As set out in greater depth below, federal law requires that a cellular tower must meet FCC established safety guidelines for Human Exposure to Radiofrequency Electromagnetic Fields. When these standards are met, local zoning authorities cannot issue decisions regarding the placement of a wireless tower on the basis of the environmental or health impacts of such tower.

## 1.1 Radio Frequency Description and Evolution

Wireless networks are complex mesh of radio frequencies that have exclusive license to operate by the Federal Communication Commission (FCC). This mesh of licensed frequencies allows cellular communications to be delivered at a wide variety of scales. The scale that can be covered by the frequencies is directly proportional to the type of spectrum being used and distance between each set of antennas delivering the signals. This section is designed to distil the basic components of cell technologies and their evolution to the networks present today.

Radio Frequency (RF) is a frequency or band of frequencies in the range  $10^4$  to  $10^{11}$  or  $10^{12}$  Hz at which radio waves are transmitted, and they're suitable for use in telecommunications. Hertz (Hz) is the unit of RF and it refers to the number of cycles per second. Wavelength is the distance between successive crest of a wave, peaks of the electromagnetic waves. The relationship between RF and Wavelength is as follows:  $\text{Wavelength} = C/\text{Frequency}$  where C is the speed of light ( $3 \times 10^8$  m/s). Radio Frequencies are allocated and regulated by the FCC and are a part of the electromagnetic spectrum.



The FCC has established safety guidelines for Human Exposure to Radiofrequency Electromagnetic Fields that broadcaster/wireless carriers must adhere to.

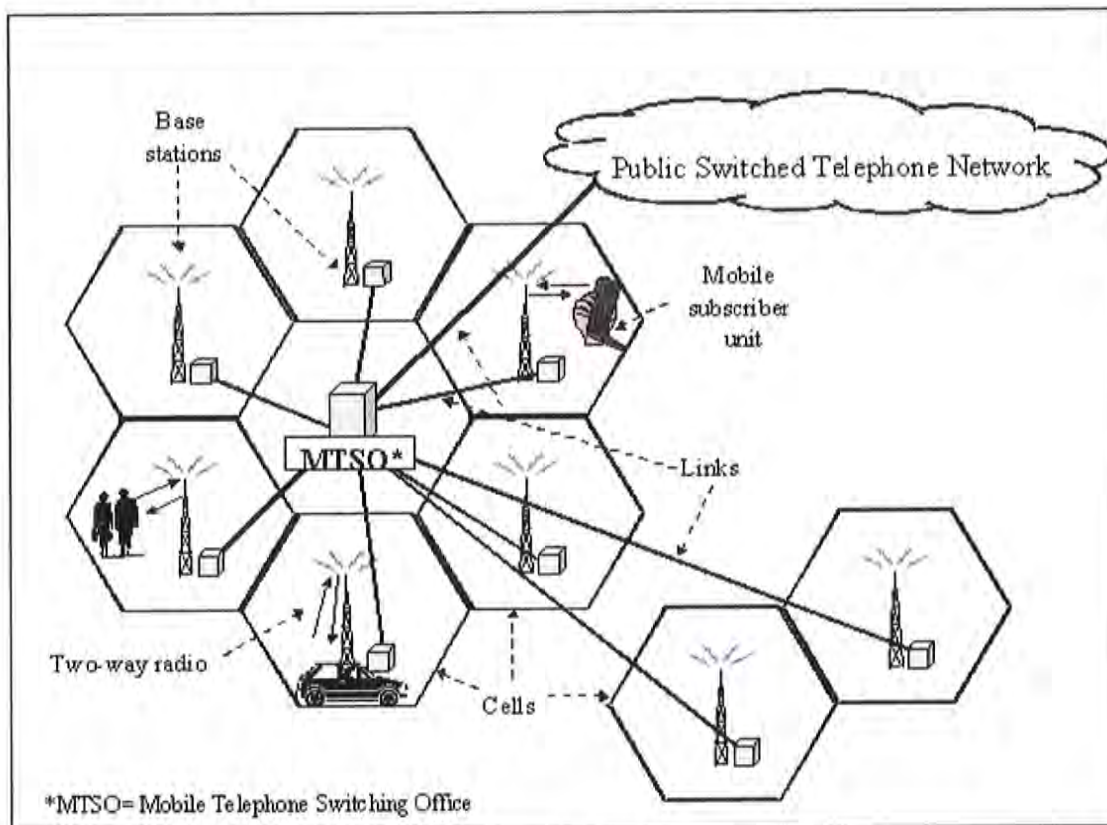
A cellular network is a radio network distributed over land through cells where each cell includes a fixed location transceiver known as base station. Multiple cells together provide radio coverage over

<sup>1</sup><http://www.scampstudy.org/wordpress/wp-content/uploads/2014/05/mobile.jpg>



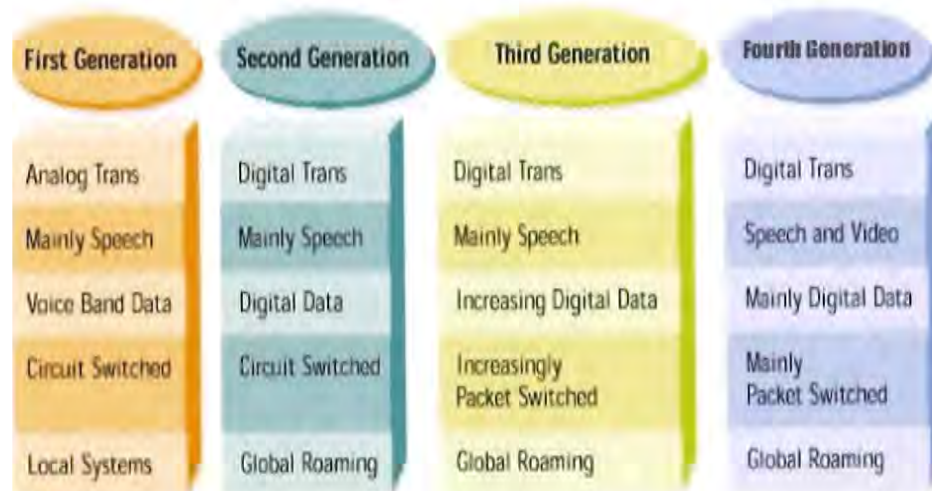
larger geographical areas. Through this mess of cells user equipment (UE), such as mobile phones, is able to communicate while moving through the network of cells. (Janssen) In a cellular network, cells are generally organized in clusters. There is "base station" at the center of each cell, which houses the transmitter/receiver antennae and switching equipment. The size of a cell depends on the density of subscribers in an area: for example, in a densely populated area, the capacity of the network can be improved by reducing the size of a cell or by adding more overlapping cells. This increases the number of channels available without increasing the actual number of frequencies being used. All base stations are connected to a central point, called the Mobile Switching Office (MSO). Base stations are connected either by fixed lines or microwave. The MSO is generally connected to the PSTN (Public Switched Telephone Network). (ITU)

Mobile communication operators use radio spectrum to provide mobile calling and data services. In order to keep up with a demand that is exponentially growing, the technology continues to evolve.<sup>2</sup>



<sup>2</sup> <http://image.slidesharecdn.com/tlsingalfdwdigitalcellular21-5-2012-120914125908-phpapp01-140212235959-phpapp01/95/digital-cellular-network-technology-7-638.jpg?cb=1392249687>

# Evolution of Cellular Networks



First-generation (1G) mobile networks used analog transmission for speech services. Advanced Mobile Phone System (AMPS) was launched in the US in 1982. The system was allocated a 40-MHz bandwidth<sup>3</sup> within the 800 to 900MHz frequency range by the FCC. The smallest frequency reuse factor that would fulfill the 18db signal-to-interference ratio (SIR) using 120-degree directional antennas was found to be 7. Hence, a 7-cell reuse pattern was adopted for AMPS. Transmissions from the base stations to mobiles occurred over the forward or transmit channel using frequencies between 869-894MHz. The reverse or receive channel is used for transmissions from mobiles to base station, using frequencies between 824-849 MHz. AMPS and TACS use the frequency modulation (FM) technique for radio transmission. Traffic is multiplexed onto an FDMA (frequency division multiple access) system. (Sharma, 2013)

Second –generation (2G) mobile networks were introduced in the 1980s. They used digital multiple access technologies such as TDMA (time division multiple access) and CDMA (code division multiple access). Compared to its predecessor, these systems provided higher spectrum efficiency, better data services and roaming. 2G is generally associated with GSM (Global System for mobile) but in the US the first digital systems that were deployed were IS-54 (TDMA) and IS-95 (CDMA) in the early 1990's.

Third Generation (3G) networks (WCDMA in UMTS, CDMA2000 & TD-SCDMA) promised faster communications services, to include voice, data services, anytime and anywhere with an information transfer rate of at least 2Mbps, with seamless global roaming. The first 3G network was deployed in Japan in 2001. Before 3G, cellular networks had been developed under a number of proprietary, regional and national standards, creating a fragmented market. But in 2000, under the leadership of the International Telecommunications Union (ITU), a decision to adopt a global industry standard was

unanimously approved (Shrama 2013). The new standard included the technical specifications for third generation systems under the brand IMT-2000. This approval meant that for the first time, full interoperability and interworking of mobile systems could be achieved. IMT-2000 is the result of collaboration of many entities, inside the ITU (ITU-R and ITU-T), and outside the ITU (3GPP, 3GPP2, UWCC and so on).<sup>(ITU)</sup>

Fourth Generation (4G) networks is an all IP based system. 4G networks can integrate several radio access networks with fixed internet network as the backbone. There is a core interface between the core network and the radio access network. A group of radio interfaces is used to communicate between the radio access network and the mobile users. This integration combines multiple radio access networks into a single network to provide the best connected services. (Mohammad, 2013)

Items	3G	4G
Speed	Up to 2Mbps	Full-mobility up to 100Mbps Low-mobility up to 1Gbps
Services	Difficulty of global roaming	Roaming smoothly
Core Network	Wide-area concept Circuit and packet switching	Broadband, Entirely IP-based packet switching
Technologies	WCDM CDMA2000 TD-SCDMA	All access convergence including OFDM, MC-CDMA, LAS-CDMA, Network-LMPS

#### Some Factors that affect wireless network performance

- Physical Obstructions – Wireless signals have difficulty penetrating solid objects such as hills, buildings, foliage, etc. The more obstructions there is between the transmitter and receiver the higher the chances of a poor signal level.
- Network Range and Distance between Devices – The way wireless signal propagates and with obstructions on the way, the further apart the devices are, the weaker the signal becomes. The signal strength decreases, roughly in an inverse cubic relation with respect to the distance between two devices (4Gon Solutions). For example, if the distance between two devices doubles, the signal becomes at least eight times weaker.
- Network Usage and Load – If the number of active users in the network increases due to a special event or something of that nature, the resources required to support them may not be available. Hence reducing network performance by decreased data speeds or reduced accessibility.

<sup>4</sup> <http://www.slideshare.net/noorec786/generations-of-network-1-g-2g-3g-4g-5g?related=1>

## 1.2 Telecommunications Act of 1996

The Telecommunications Act of 1996 was enacted to encourage the rapid deployment of new telecommunications technologies, while also preserving state and local control over zoning matters. *T-Mobile Northeast LLC v. City of Lawrence*, 755 F.Supp.2d 286, 290 (D. Mass. 2010) (internal citations omitted). The Act generally preserves state and local authority over the placement and construction of telecommunication tower facilities. That said the Act places several enumerated limitations on local control. Specifically, the Act dictates that:

- (1) A local government cannot prohibit or effectively prohibit the provision of personal wireless services; and
- (2) A local government cannot deny or limit an application for the construction of a wireless tower on the basis of the health or environmental effects of radio frequency emissions, as long as the proposed tower complies with FCC requirements for emissions; and
- (3) Any local government decision to deny a request to construct personal wireless facilities must be in writing and supported by substantial evidence.

*Id.* (citing 47 U.S.C. 332(c)(7)). Since the Act's adoption, federal courts have assessed the application of these limitations and concluded that "a significant gap in service (and thus an effective prohibition of service) exists whenever a provider is prevented from filling a significant gap in *its own* service coverage." *MetroPCS, Inc. v. City & Cnty. of San Francisco*, 400 F.3d 715, 733 (9th Cir. 2005). Essentially, the Act precludes a municipality from restricting the construction of new infrastructure required by a provider to fill a gap in its network, even if coverage is available from other providers in the area. Put another way, the fact that coverage is provided by another carrier in the area cannot be relied upon by a local land use commission to deny a permit application for a new tower.

Any decision by a local zoning board denying a conditional use permit to construct a personal wireless services facility must be in writing and supported by substantial evidence. The zoning board bears the burden of proving that the record contains substantial evidence in support of its decision.

## 1.3 Existing Significant Gap in AWN Coverage

The Gilmore Trail area of Fairbanks is currently underserved by AWN for both voice and data coverage, which results in a significant gap in coverage for the AWN system. Figure 1 is a RF propagation model that illustrates the gap in coverage on Gilmore Trail. The proposed location is denoted by the red dot labeled 362.

To further document the gap in coverage, an AWN technician conducted a drive test and collected data on the actual coverage as it stands today. A drive test is conducted by driving a designated route in a vehicle carrying specially equipped test phone. The test phone is equipped with special software that collects the actual signal strength along the route. Figure 2 illustrates the proposed location and actual drive test data of the area along Gilmore Trail. An intuitive color code is used to interoperate the data; green is good, yellow to orange is marginal, red is bad. This data is the most accurate existing depiction of AWN coverage in the Gilmore Trail area. While high-granularity maps, on the GCI website, of AWN

coverage in the area may show some service in this area, the specific drive-test data demonstrates that, on the ground, coverage is marginal to nonexistent.

## MAP 1

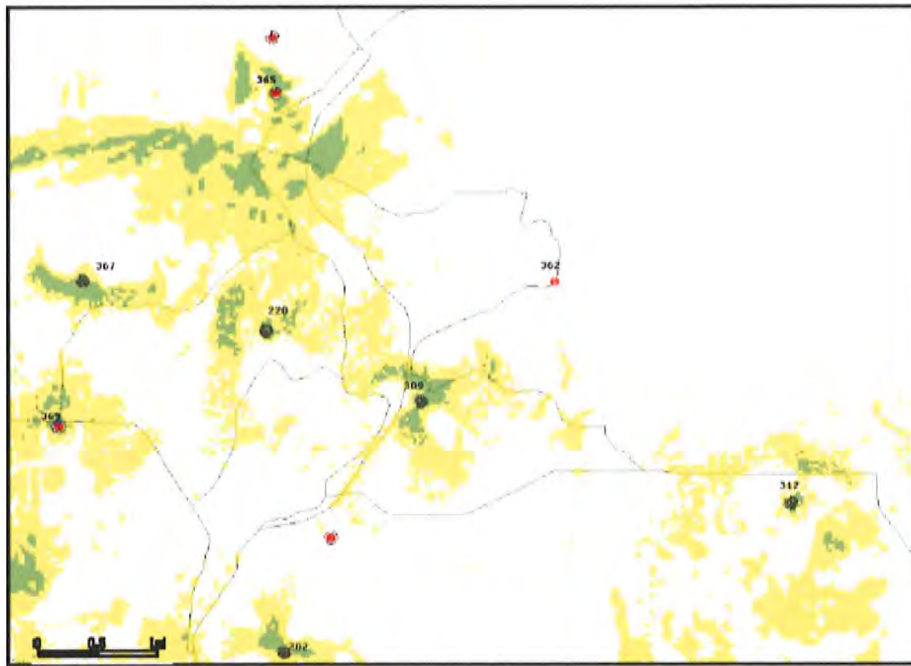


Figure 1: Slide depicts existing 4G coverage. Proposed area of coverage is noted by red dot 362

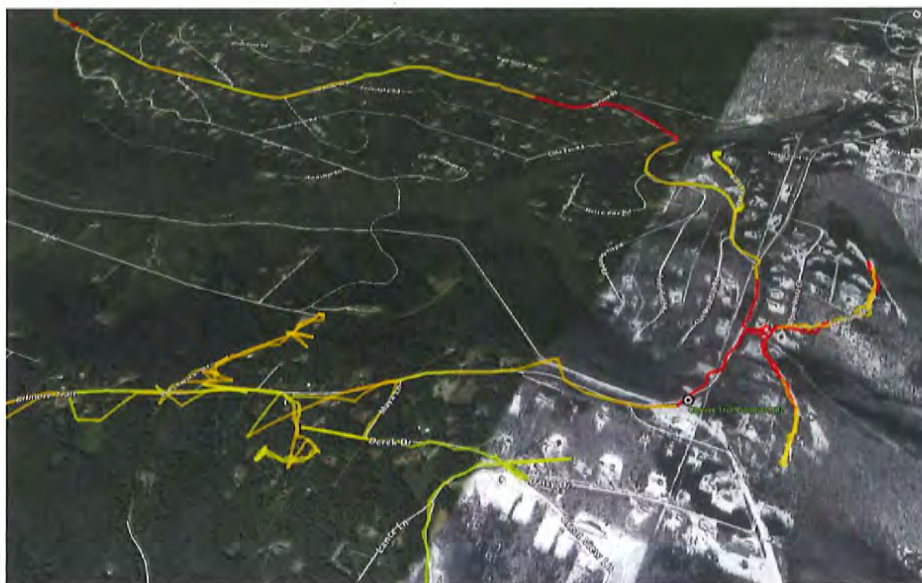


Figure 2: Drive test results. Color code: Green - good; Yellow to Orange - marginal; Red - bad

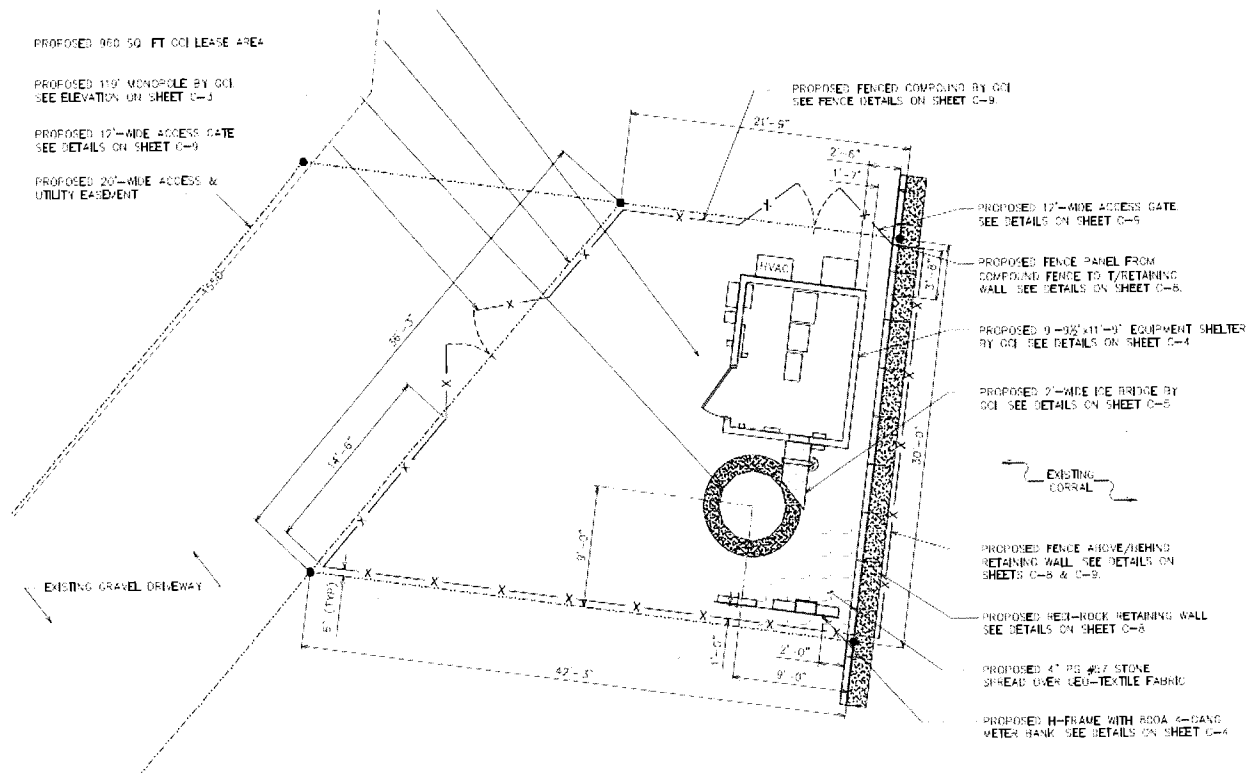
As explained in section 1.1 RF propagation can be influenced by multiple factors. These include foliage, dense vegetation, building materials and terrain. Because projected coverage and actual coverage can differ in some instances the coverage maps used on the GCI website depict approximate coverage based on the theoretical extent. The coverage depicted in the online coverage maps is not intended to depict the quality or reliability of coverage. The online coverage maps are intended to illustrate the maximum theoretical extent of coverage based on ideal conditions. For this reason all online coverage tools are appropriately cited "maps depict approximate coverage and may not be available at all times in all areas".

## **2.0 Tower and Site Design**

Through strategic choices in site design and tower height the proposed construction is designed to fill the significant gap in AWN's coverage in the least intrusive manner possible.

The proposed infrastructure, at 1392 Gilmore Trail, includes a 120 foot tower with three cellular antennas. The site also includes a 10'x12' equipment shelter, ice bridge and fencing. A significant design effort was placed in the layout of the proposed facility. The design of the facility is shaped and positioned to inlay into the landscape. Through the use of an interlocking rock retaining wall the facility is able to dovetail with the natural topography of the hillside. By inlaying the facility into the slope of the hill we have contoured the facilities shape to fit the natural property boundaries thereby decreasing the overall footprint and reduced the visual impact of the ground facilities.

Figure 1 illustrates the proposed layout of the facility and *Exhibit A* includes civil and electrical design drawings sealed by a licensed engineer. A detailed site plan is included in *Exhibit B*.



**Figure 3: General Facility Layout**

## 2.1 Yard modification request

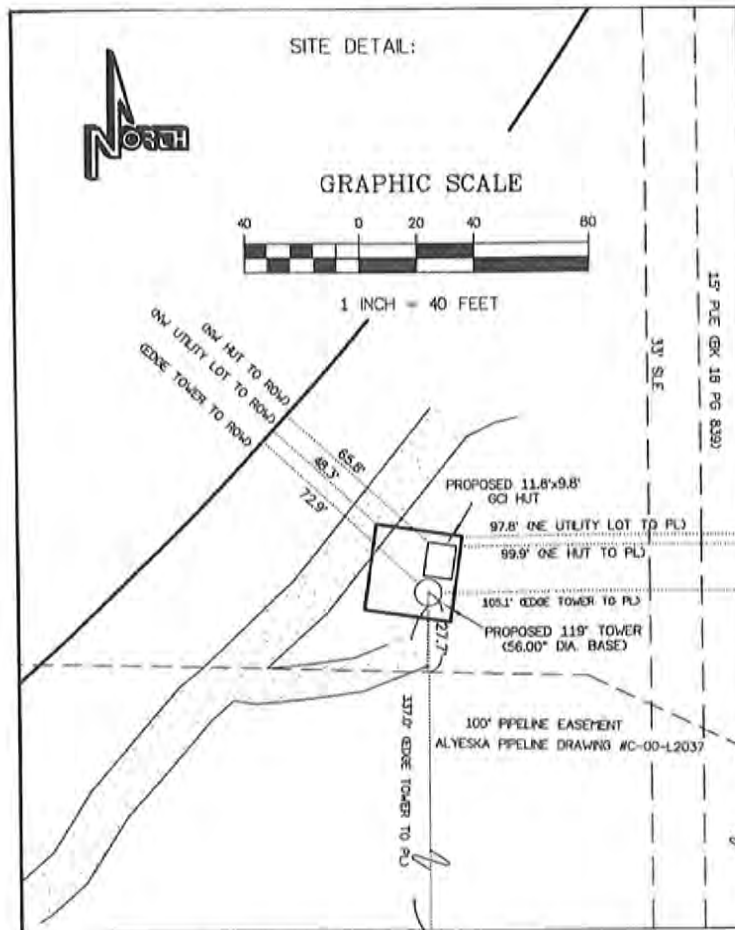
In order to achieve acceptable radio frequency (RF) propagation while reducing the visual impact of the proposed structure the chosen location is in the northern third of the property. Throughout our design efforts a reduction in visual impact of the facility was a critical to our design decisions. Our design uses the natural contours of the land and existing vegetative buffers to reduce the visual impact of the structure. In our proposed placement we have designed the facility to exceed the setback requirement from the outer edge of the tower to the parcel property boundaries. Due to the shape and topography of the property as well as the location of non-AWN infrastructure, a yard modification is being requested for the size of the utility lot and fenced compound.

FNSB 18.15.155 C2h states: the planning commission may modify the yard requirement if the tower and equipment will be adequately screened to mitigate its visual impact and no safety hazards are present. The placement of the structure in the proposed location maximizes the visual buffer surrounding the facility and presents no hazard to existing infrastructure.

The general shape of the property is that of a right triangle. As illustrated in Figure 2, the 'hypotenuse', or western edge, of the property is defined by the curvature of Gilmore Trail. The southern edge of the property is defined by Great View Lane and the eastern edge is defined by the power line easement.

The placement of the structure in the northern third of the property allows for acceptable RF propagation and increased visual screening by the existing tree line following the arc of Gilmore Trail. The standard set back requirements (half the height of the tower) is met from the edge of the tower to the landowner's closest property lines on the western and eastern edge. A yard modification is being requested to accommodate a conscious design that reduces visual impact of the ground facilities. Through purposeful design the ground infrastructure is completely shielded from view from Gilmore trail by the existing tree line and poses no health or safety risk to existing structures. In addition, the reduction in yard space allows for continued use of the surrounding area for the property owner's equestrian center. Figure 4 is a clip of the surveyed distances from the edge of the tower to the property lines. The complete scaled drawing, stamped by a licensed surveyor, of the proposed site with distances from the tower and equipment shelter to both the utility lot and property lines is included in *Exhibit K*.





**Figure 4: Proposed communication infrastructure with site and distances to property lines. Full stamped drawing in Exhibit K.**

## 2.2 Minimum height analysis

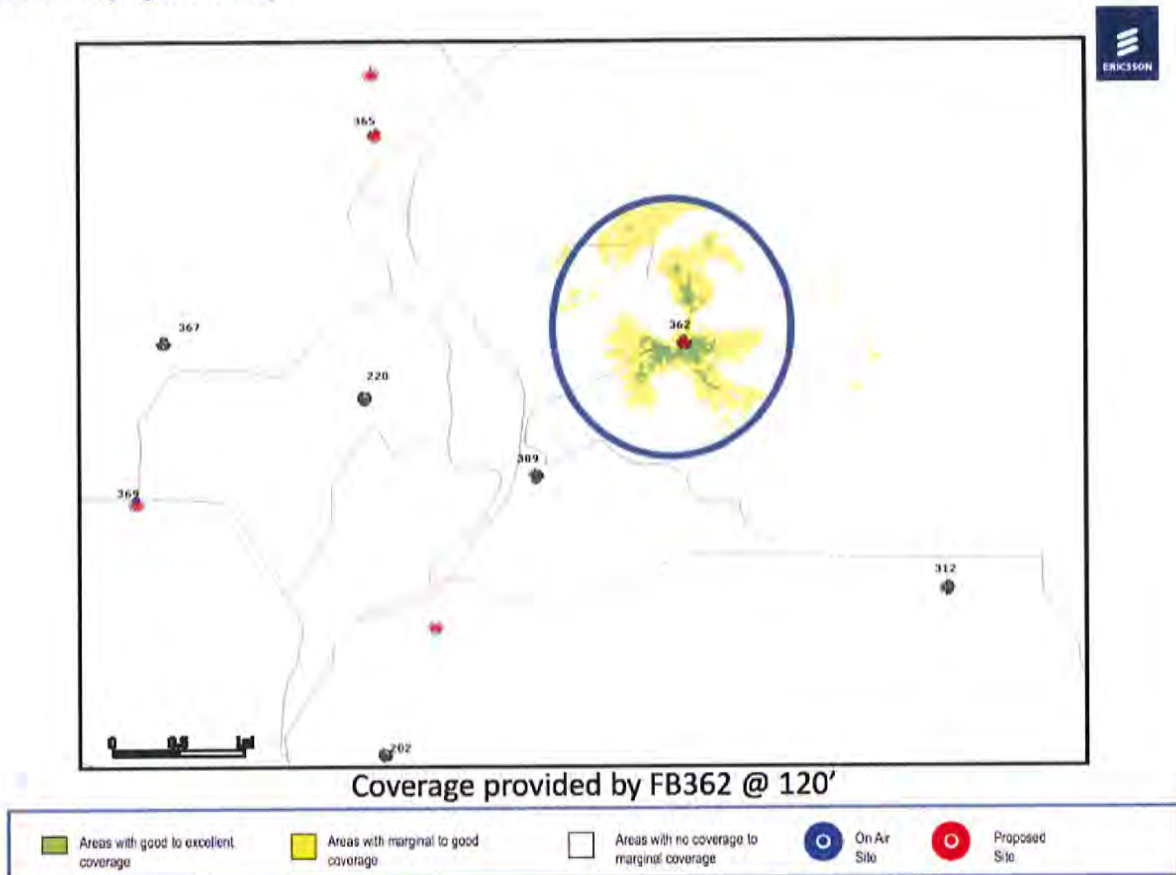
The proposed 120 foot tower is the minimum height which will meet the competing goals of (1) minimizing the visual impact of the tower (per FNSB Code 18.50.155(A)(2)(a)) and (2) providing opportunities for collocation (per FNSB Code 18.50.155(A)(2)(e)), while providing adequate height to assure that the significant gap in AWN's service coverage can be filled. In order to illustrate the technical need for a 120 foot tower, multiple scenarios have been provided in *Exhibit J* showing the level of coverage provided with tower heights of 120, 100, and 80 feet. As illustrated, coverage is strongest at the 120 foot level. The coverage provided by a 120' structure appears only slightly better than a structure of 100 feet, but this difference is nonetheless operationally significant. The nuanced difference between 120' and 100' can be seen when examining the maps very closely. Coverage differences can be seen on the northern boundary of the coverage ring, the eastern fringe of RF propagation, and the southwest fringe. Though the margins seem small remember section 1.1 as "the distance between two

devices doubles, the signal becomes at least eight times weaker” Further, as set forth below, a 120-foot tower provides a significantly more attractive position for collocation opportunities.

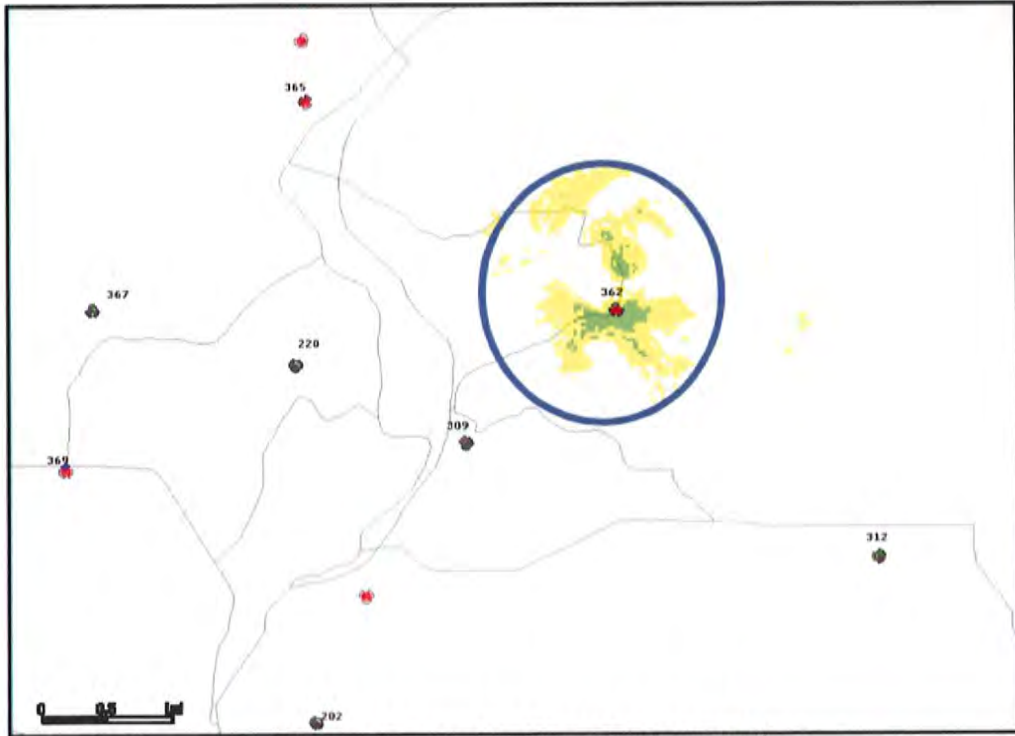
The tower height of 120’ is necessary to allow antennas above the existing tree line and reach the designed coverage for the area. The existing tree line helps obstruct the tower from view by surrounding residences.

As stated in the introduction RF propagation is influenced by spectrum, height, and potential interference. Though the tower is engineered to support three carriers, as seen below, the construction of a 100’ structure yields only one ‘usable’ collocation position. We use the term ‘usable’ because any position that places antenna’s at or below tree height will have significant signal interference. Assuming a hypothetical 100’ foot tower, and that an antenna position fills 15 feet of vertical space, position one on the tower will fill the space from 100 – 85 feet, position two fills 85 – 70 feet, and position three fills 70 – 55 feet. The height of surrounding trees is approximately 65 feet. Antennas in position three would be highly susceptible to signal interference. With a significant possibility for signal interference position 3 yields an undesirable position for a collocation.

### 2.2.1 Propagation Maps



**Figure 5: Coverage provided at 120'**



Coverage provided by FB362 @ 100'

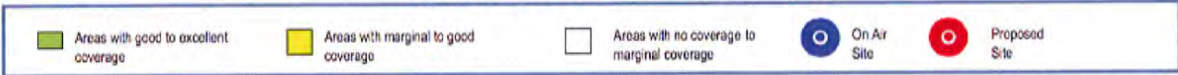
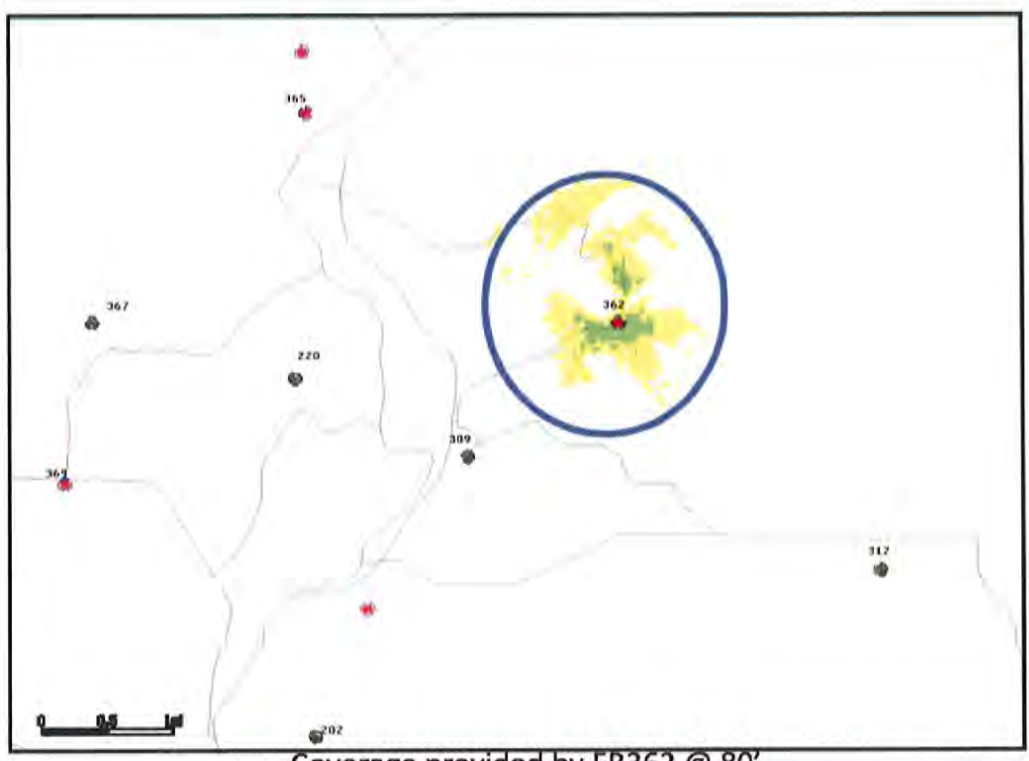


Figure 6: Coverage provided at 100'



Coverage provided by FB362 @ 80'

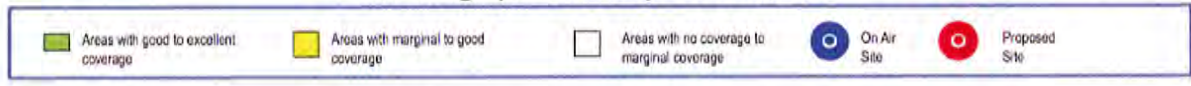


Figure 7: Coverage provided at 80'

### 2.3 Design for future use and co-locations

It is AWN's policy to construct all wireless infrastructures to an engineering standard that allows multiple carriers to locate equipment on the structure. The proposed tower is designed and engineered to accommodate two additional sets of antennas, of equal or lesser specification to AWN's proposed equipment, yielding the ability to co-locate two additional carriers on the structure. With the inclusion of the AWN antennas, the structure allows for a total of 3 carriers on the tower.

Though the structure is technically designed to accommodate 3 carriers, any height less than 120 feet only allows for two 'usable' positions on the tower. Refer to above section 2.2 for explanation.

### 2.4 FAA determination and illumination requirements

AWN prefers not to illuminate towers. Illumination is typically only installed when instructed by the FAA for the health and safety of aviators or when otherwise required by federal and state agencies. There are instances where AWN has voluntarily lit a piece of infrastructure at the request of the local community, though AWN's standard practice is to not place aviation lighting on a structure where the FAA or federal agency has indicated no health and safety concerns to aviators. The FAA has determined that no marking or lighting is required for this tower location (FAA Determination of No Hazard can be

found in *Exhibit F*). The document can also be searched and downloaded from the FAA's website using Aeronautical Study Number 2014-AAL-402-OE. AWN will not install aviator illumination on this tower.

The Federal Communication Commission (FCC) is the federal agency responsible for maintaining the registration of antenna structures. The antenna structure registration (ASR) is a unique numeric identifier that illustrates the structure has gone through the appropriate aviation hazard study and complies with FCC rules for a registered structure. The proposed structure has been reviewed by the FCC and is in compliance with the standards of the FCC. The ASR number for this structure is 1295269. A copy of the FCC license for the proposed tower is included in *Exhibit E*. The ASR can also be searched using the ASR number and downloaded from the FCC website.

### **3.0 Proposed Tower Location and Visual Impact**

As set forth above, this area of Fairbanks is currently underserved by AWN for both voice and data coverage, which results in a significant gap in coverage for the AWN system. The proposed location at 1392 Gilmore Trail has been chosen based on property availability in the needed coverage area, feasibility of site construction, and minimization of visual impact to the surrounding community.

As part of the site investigation process, two alternative sites were investigated; one to the south-west and one to the north-west of the proposed site. For ease of reference, these sites will be referred to as "south-west" and "north". A map of the site candidates is illustrated in Figure 8.

Site south-west is approximately 445 feet to the south-west of the proposed structure. The south-west site provides the best RF propagation of all three sites but is the most visually impactful. In order to construct a site here, the area from Gilmore trail to Great View Lane would need to be cleared of all vegetation, making the tower and all ground equipment fully visible to any individual traveling on Gilmore Trail in either direction, and to the property owners to the south on Great View Lane. This site candidate was by-passed due to the negative visual impact on the community.

Site north is approximately 340 feet to the north of the proposed structure. The north site provides equal visual impact to the proposed site but due to topography the height of the tower would have to be increased to achieve an acceptable margin of coverage when compared to the proposed location and the south-west site candidate. Due to the need for an increase in height and only achieving an acceptable margin of RF propagation this site was not used as our proposed site.

In short, 1392 Gilmore Trail was specifically selected because it is the available site which will enable AWN to address the significant gap in its coverage with the most minimal visual impact on the surrounding community.



**Figure 8: Site candidate and proposed site locations**

As part of the required application documentation, AWN's lease agreement with the property owner, Derrell Jaeke, is included in *Exhibit D*. The borough approved tower removal agreement is attached in *Exhibit G*.

### **3.1 Visual impact analysis**

FNSB Code 18.50.155.C.1.h outlines the requirements for an applicant measuring the visual impact of a communications tower. FNSB 18.50.155.C2.a states a "structure will be placed in a reasonably available location which will minimize the visual impact" and "function in accordance with minimum standards by the applicable communication regulations and applicant's technical design requirements."

As set forth below, the visual impact analysis conducted by AWN for the proposed tower exceeds the code's requirements in both number of analyzed photographs and type of analysis conducted. The proposed location has been specifically chosen because it reduces the visual impact. In addition we have used a conscious design process to integrate the facility layout into the topography of the landscape to thereby further decrease the visual impact.

It is impossible to analyze every angle and every vantage point. The visual analysis presented here has produced both photo simulations, above the required number, and a balloon test. Therefore this application meets the burden of proof based on FNSB code and federal case law.

In an effort to illustrate the visual impact of a tower in this location, photo simulations were prepared by superimposing a representative tower into a photo taken of the proposed site. The photos were collected using a Nikon D60 DSL camera with a Tamburg 18-200mm lens. FNSB regulations specifically require photographs be taken from two directions at three distances.

In order to achieve an accurate visual analysis, appropriate scaling of the tower on the landscape is essential. In order to achieve the appropriate scaling for the visual analysis a systematic method was used. The analysis provided by AWN is achieved by taking a picture of a tower of the same height (in this case 120') from the same distance of the landscape photo. For example, an accurate visual analysis must take a picture of a 120 foot tower at a distance of 500 feet to accurately super impose the tower into the landscape at the correct scale.

The photo simulations provided in *Exhibit H* utilize the above method.

In addition to the photo simulations a balloon test was conducted. A balloon test is conducted by flying two balloons, one red and one white, and collecting photographs from predefined distances. The red balloon was flown at the proposed tower height of 120 feet and white as a spotter balloon at a higher elevation. The visual analysis of the balloon test is specified below. The photos collected during the balloon test are included in Appendix H.

It is impossible to completely eliminate any structure from view. Our visual analysis shows the structure is only clearly visible in 5 of 21 instances and through the trees in 5 of 21 instances. This leads to a 23.8% chance that the tower could be seen from the west, east or south. Through a conscious design we believe AWN has achieved the minimum visual impact.

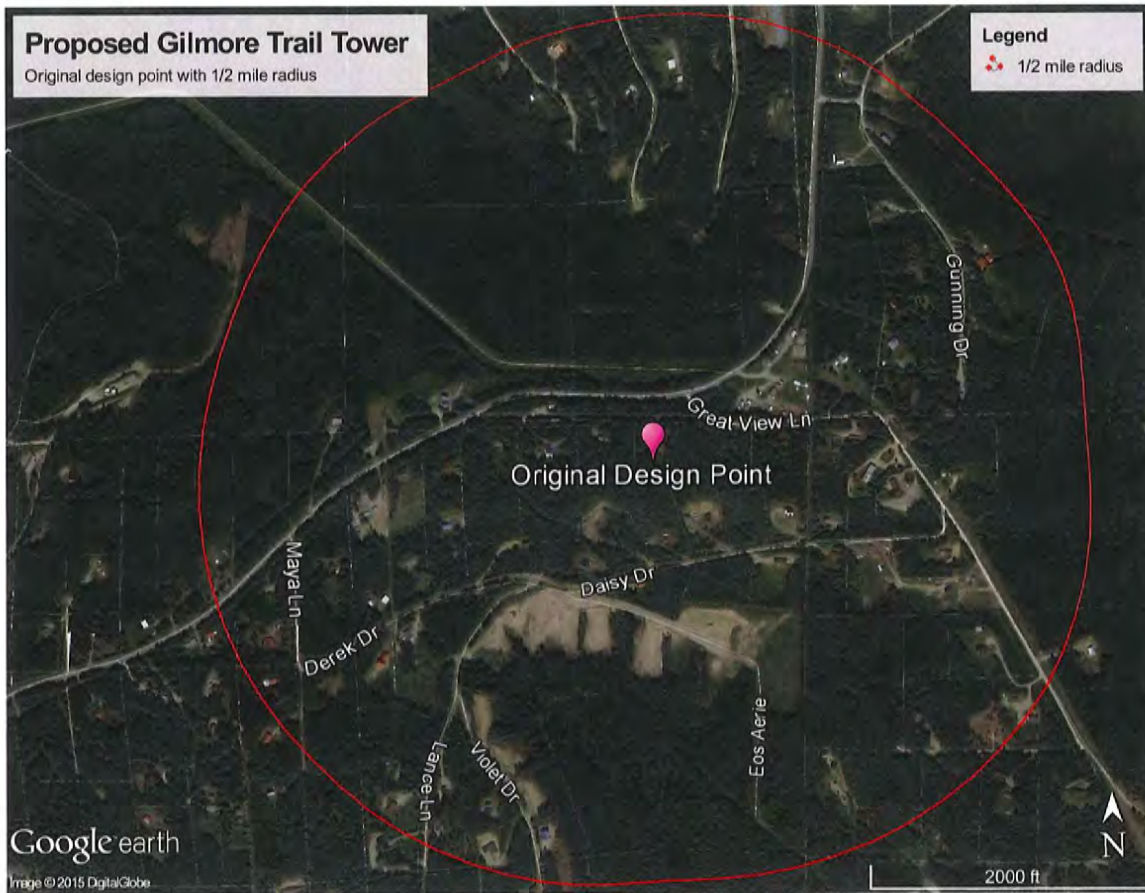
### **3.2 Inability to locate on existing structure**

AWN's preference is to co-locate on existing towers where possible. In order to adequately serve the projected coverage area, the constructed tower must be within a half mile of the original design point. The original design point is generated using sophisticated computer models which address the existing coverage provided by AWN's network and determine the location needed for a new tower to fill a coverage gap. The point generated by the models is based solely on optimal RF propagation in the given terrain. Figure 9 shows the computer generated design point and the half-mile radius of our search ring. Essentially, AWN will be unable to fill the significant gap in its coverage with a tower located more than a half mile from the original design point depicted in Figure 9.

Figure 10 depicts the proposed site location and existing towers within a three-mile radius. The sites are identified by the FCC ASR number. A larger scale drawing and the ASR registration search results is included in Exhibit I.

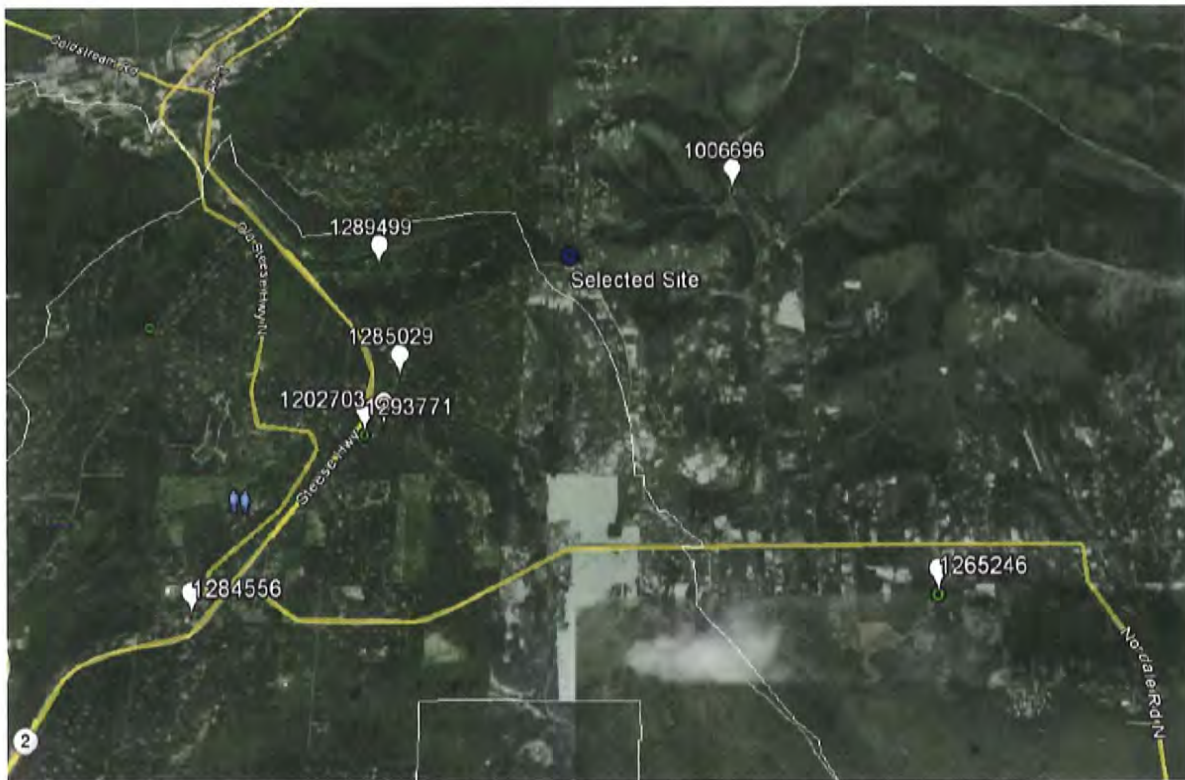
Based on our investigations, there are no existing towers within a half-mile radius of our design location, therefore AWN does not have the ability to co-locate on an existing tower.

Maps showing the existing AWN/GCI cellular facilities in the Fairbanks North Star Borough are included in *Exhibit C*.



**Figure 9: Original design point with a half-mile radius search ring.**

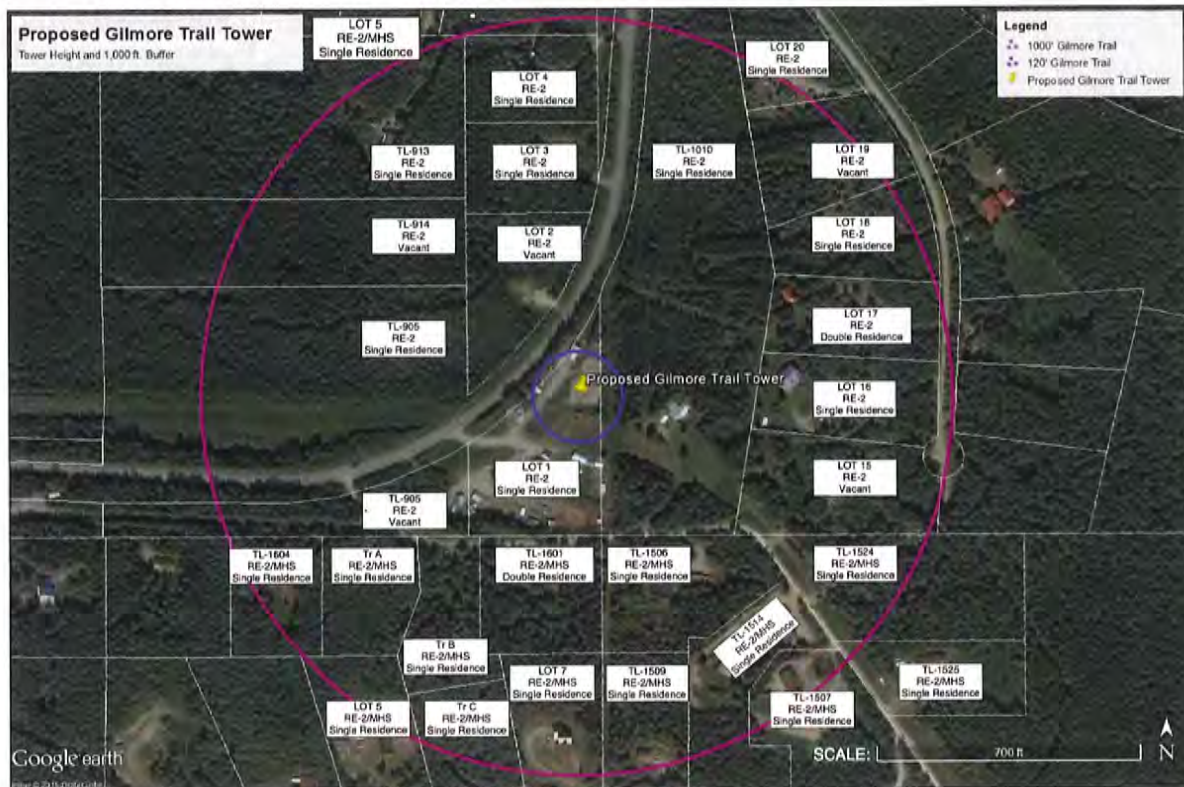




**Figure 10: Site candidate and existing towers within 3 mile radius**

FNSB Code 18.50.155.C.2.g further dictates that an application for a tower permit will not be issued if there is an existing tower within 1,000 feet of the proposed tower location, unless the applicant certifies that the existing tower does not meet the applicant’s structural specifications and design requirements, or that a collocation agreement could not be obtained.

A map showing the zoning of neighboring parcels within a 1,000' foot radius is provided in Figure 11 and *Exhibit I*. As demonstrated by this map, there are no existing towers within 1,000 feet of the proposed tower location. Moreover, all parcels within this area are zoned residential.



**Figure 11: Parcel zoning within 1000' of proposed site.**

### 3.3 Necessity for location in residential neighborhood

FNSB Code 18.50.155.C.2.c requires an applicant to demonstrate why a tower project must be located in a residential area. As set forth above and depicted in Figure 9, to address the significant gap in its coverage, AWN must find a new tower location within a half mile radius of the identified design location. The general area where the tower is proposed is residential, zoned RE-2. There are no properties located within the half mile radius depicted in Figure 9 which are not zoned residential. Due to the topography of the area, there are no alternative location options outside of residential zoning that will provide coverage to this service area.

As part of due diligence a property appraisal report was conducted to assess the impact of cellular communication infrastructure on property values. The complete report can be found in *Exhibit M*. The findings of the report state no “measurable value diminution would result from the installation of these towers” (Hines 2015).

### 3.4 Minimum Height Required

As outlined in the introduction radio frequency propagation is a highly variable science that can be influenced by many factors. In order to evaluate our design options we have undergone an alternative height analysis to achieve the needed design parameters for reliability and throughput.

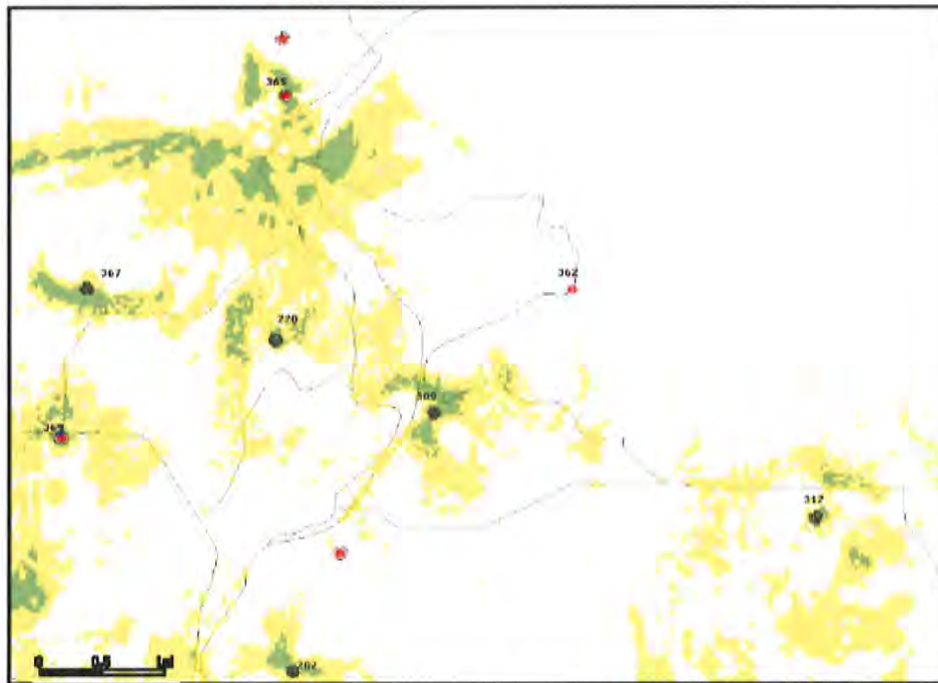
A complete set of propagation maps is included in Exhibit J and a low-resolution sub-set is provided in the body of this narrative. Review of the propagation maps and drive test data shows that there is a significant gap in AWN coverage.

In order to illustrate the technical need for a 120 foot tower, multiple propagation scenarios have been provided in Exhibit J showing the level of coverage provided with tower heights of 120, 100 and 80 feet.

Reduced resolution slides have been imbedded into this text and full resolution slides can be found in Exhibit J. Existing communication locations are referenced by numeric ID. Numeric ID 362 is the proposed site on Gilmore Trail.

The tower height of 120 feet allows AWN to provide service to the intended coverage area. The lower tower heights of 100 and 80 feet, result in a reduced coverage area. As set forth in greater depth above, these distinctions may appear minor, but are technically significant. Further, the proposed 120 foot tower provides realistic collocation opportunities for other carriers, as required by FNSB Code 18.50.155.C.2.e.

## MAP 1



*Figure 12: Slide depicts existing coverage without 362*

MAP 3

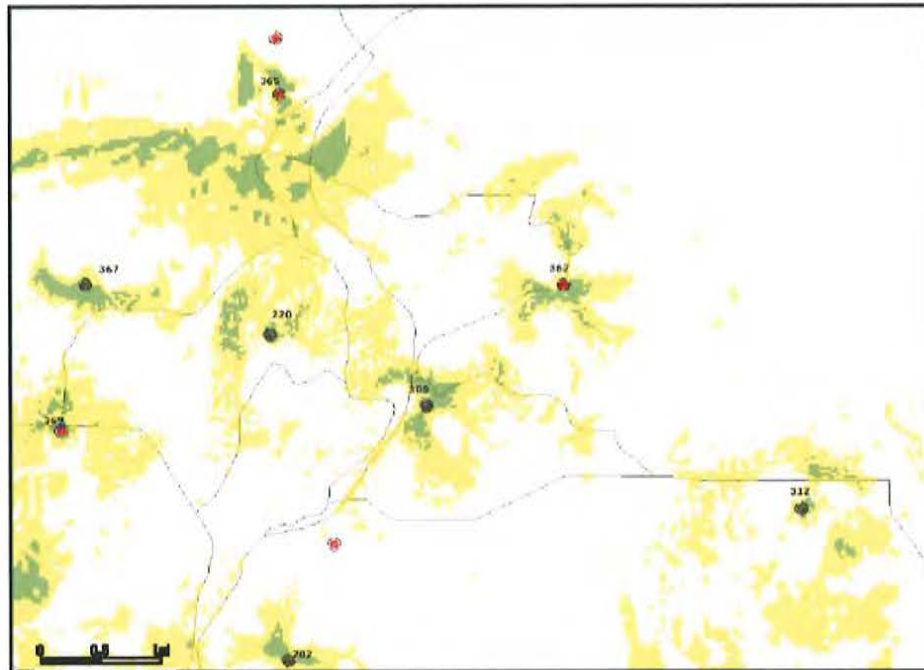


Figure 13: Slide depicts coverage with 362 with 120 foot tower

MAP 5

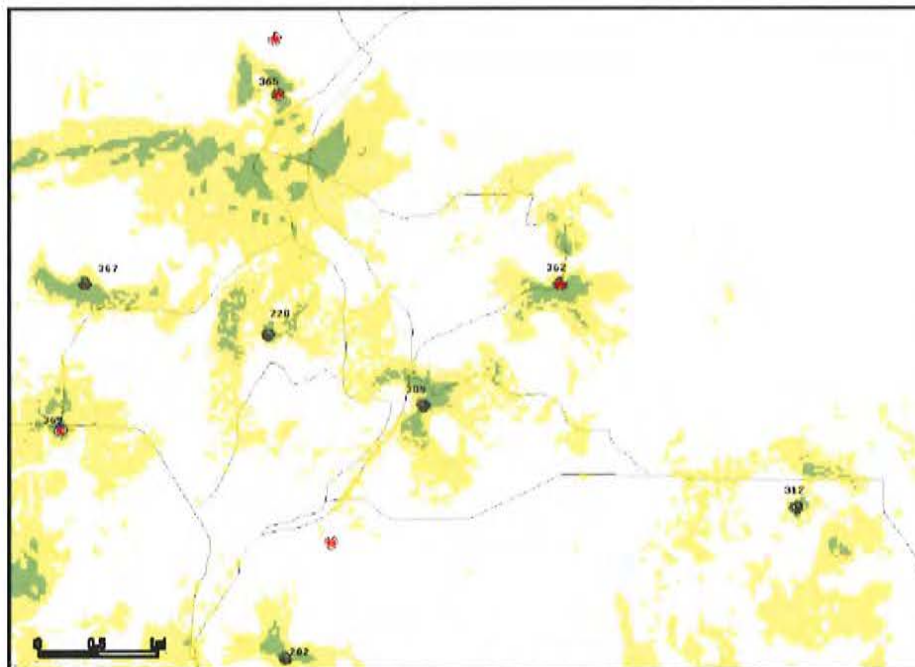
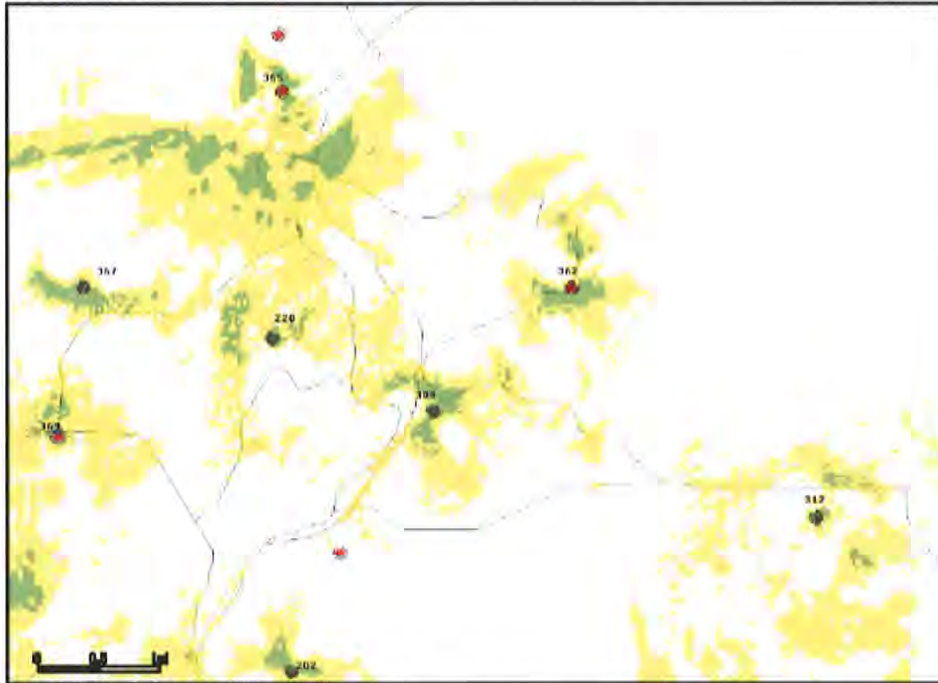


Figure 14: Slide depicts coverage with 362 with 100 foot tower

## MAP 8



*Figure 15: Slide depicts coverage with 362 with 80 foot tower*

### 4.0 Compliance with Conditional Use Permit Standard

As set forth above, AWN’s proposed Gilmore Trail tower project meets or exceeds all approval criteria set forth for communications towers by FNSB Code 18.50.155. The proposed tower project also meets the general criteria for issuance of a conditional use permit in the Fairbanks North Star Borough, set forth in FNSB Code 18.54.030.C. The project conforms to the intent and purpose of the Borough Code, is served by adequate existing public services, and will protect the public health, safety, and welfare.

Construction of telecommunications towers in the Fairbanks North Star Borough is regulated by the combination of standard conditional use permitting requirements and the Borough’s telecommunications tower ordinance, codified at FNSBC 18.50.155. The tower ordinance was originally adopted by the Borough in 2009 with the goal of “setting standards and conditional use requirements for communications towers [to] ensure the appropriate placement of these towers” and for the purpose of “regulating the establishment and placement of communications towers . . . in conformance with the Federal Telecommunications Act of 1996.”<sup>5</sup> As described in detail in this application, the tower location on Gilmore Trail is the least intrusive and most appropriate option to meet a significant gap in AWN’s coverage, which can only be met through placement of a tower in a residential area. The location has been strategically selected to minimize visibility to the neighbors. A 120 foot tower is proposed to maximize collocation opportunities and, thus, minimize the need for additional new towers in the area.

<sup>5</sup> Fairbanks North Star Borough Ordinance No. 2009-05 at pg. 1 of 14.

The site will not require the use of sewage facilities or water supplies, and is served by the Borough road system. Necessary power is provided by GVEA. As set forth above and in the attached Exhibit M, AWN's due diligence for this project included an appraisal study, which concluded that, no "measurable value diminution would result from the installation of these towers" (Hines 2015). Finally, AWN's proposed tower will affirmatively protect the public health, safety, and welfare by providing cellular and wireless broadband services to a currently unserved are of the Fairbanks North Star Borough, impacting both area households and residents and transient customers seeking to access this technology from roadways and public spaces in the Borough.

## **5.0 Conclusion**

AWN's Fairbanks network includes a significant gap in coverage in the Gilmore Trail area. After a search of available sites which could meet the technical requirements necessary to fill this coverage gap, AWN has identified 1392 Gilmore Trail as the location which will allow for the least intrusive construction; meeting Fairbanks North Star Borough Code requirements. The topography of the location provides for a degree of natural screening, and the site will allow construction of a tower with the minimal visual impact on the surrounding community. The proposed 120' tower is the minimum height required to meet the competing goals of least visual impact of the tower and providing opportunities for collocation. We believe we have exceeded the burden of proof outlined in FNSB 18.18.020 and shown that no risk to health and welfare exists. Therefore AWN respectfully requests that the Planning Commission grant a Conditional Use Permit for construction of a 120' monopole tower at 1392 Gilmore Trail.

## 6.0 Exhibits

- A. Design
- B. Site Plan
- C. Awn Facilities in FNSB
- D. Lease Agreement
- E. FCC License
- F. FAA Determination
- G. Tower Removal Agreement
- H. Photo Simulations and Balloon Test
- I. Zoning Map
- J. Propagation Maps
- K. Yard Modification
- L. Alyeska Letter of Non-Objection
- M. Appraisal Report

## 7.0 References

- C. Janssen, "TECHOPEDIA Dictionary," [Online]. Available: <http://www.techopedia.com/definition/24962/cellular-network>.
- ITU, "International Telecommunication Union," [Online]. Available: <http://www.itu.int/osg/spu/ni/3G/technology/>. [Accessed 9 June 2015].
- P. Sharma, "Evolution of Mobile Wireless Communication," *International Journal of Computer Science and Mobile Computing*, pp. 47-53, 2013.
- N. Mohammad, "Slide Share," 2 March 2013. [Online]. Available: <http://www.slideshare.net/noorec786/generations-of-network-1-g-2g-3g-4g-5g?related=1>. [Accessed 9 June 2015].
- "4Gon Solutions," [Online]. Available: [http://www.4gon.co.uk/solutions/technical\\_factors\\_affecting\\_wireless\\_performance.php#obstructions](http://www.4gon.co.uk/solutions/technical_factors_affecting_wireless_performance.php#obstructions). [Accessed 9 June 2015].
- Blumberg, S. J and Luke, J.V; Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, January – June 2014.

**Exhibit A**  
Gilmore Trail Tower Design



PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 56TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 966-3914  
 www.teppgroup.net

REV	DATE	ISSUED FOR:
7	09-30-15	CONSTRUCTION
6	09-17-15	PRELIMINARY
5	09-16-15	PRELIMINARY
4	09-09-15	PRELIMINARY
3	02-02-15	PRELIMINARY
2	01-23-15	PRELIMINARY
1	01-09-15	PRELIMINARY
0	12-16-14	PRELIMINARY

DRAWN BY: TJB | CHECKED BY: NMC



March 30, 2015


SEAL:

SHEET NUMBER: **T-1**

REVISION: **7**

IEP: #53014-276203

PLANS PREPARED FOR:



**GCI**

2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503  
 OFFICE: (800) 770-7886

SHEET	DESCRIPTION	REV
T1	TITLE SHEET	7
N1	GENERAL NOTES	7
C1	SITE PLAN	7
C2	FOUNDATION DETAIL	7
C3	TOWER ELEVATION	7
C4	EQUIPMENT PLAN	7
C5	ICE BRIDGE DETAILS	7
C6	COAX MOUNTING DETAILS	7
C7	ANTENNA CONFIGURATION & COAX COLOR CODE	7
C8	FENCE DETAILS	7
C9	RETAINING WALL DETAILS	7
C10	SHELTER FOUNDATION DETAILS	7
ELECTRICAL SHEETS BY Q ENGINEERS		
E-001	ELECTRICAL SPECIFICATIONS	-
E-100	ELECTRICAL OVERALL SITE PLAN	-
E-101	COMM SHELTER - POWER AND LIGHTING	-
E-102	COMM SHELTER - INTERIOR ELEVATIONS	-
E-103	COMM SHELTER - EXTERIOR ELEVATIONS	-
E-104	COMM SHELTER - INTERIOR AND PANEL SCHEDULE	-
E-105	ELECTRICAL ONE-LINE	-
E-106	ELECTRICAL PLAN AND DETAILS	-
EG-100	GROUNDING ONE-LINE LEGEND AND SCHEDULES	-
EG-101	GROUNDING SITE DETAILS	-
EG-102	GROUNDING DETAILS	-
EG-103	GROUNDING DETAILS	-
EG-104	GROUNDING DETAILS	-
EG-105	GROUNDING DETAILS	-
EG-106	GROUNDING DETAILS	-
TOWER DRAWING SHEETS BY VALMONT		
	GC 115' POLE	-
	SLAB FOUNDATION LAYOUT	-

INDEX OF SHEETS

PROJECT INFORMATION:



**MARSHCREEK**

**SITE NAME: GILMORE TRAIL**

**1392 GILMORE TRAIL**  
**FAIRBANKS, AK 99712**  
**(FAIRBANKS NORTH STAR BOROUGH)**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE SPECIFICATIONS AND STANDARDS AS ADOPTED BY THE LOCAL GOVERNING AUTHORITY. NOTHING IN THESE SPECIFICATIONS SHALL BE CONSIDERED TO CONTRADICT THE LATEST EDITIONS OF THE FOLLOWING:

- INTERNATIONAL BUILDING CODE
- ASCE CODE BOOKS
- ANALOGOUS CODE COUNCIL
- ALASKA ADMINISTRATIVE CODE, TITLE 8, CH 15
- ALASKA REGULATORY CODE
- CITY/COMMUNITY ORDINANCES

**CODE COMPLIANCE**

UTILITIES:  
 POWER COMPANY: GVEA - GOLDEN VALLEY ELECTRIC ASSOCIATION  
 CONTACT: ANDREW T. HALDANE  
 PHONE: (907) 482-1151  
 METER # NEAR SITE: TBD

PHONE COMPANY: UNKNOWN  
 CONTACT: UNKNOWN  
 PHONE: UNKNOWN  
 PED. # NEAR SITE: UNKNOWN

**TOWER OWNER:**  
 GENERAL COMMUNICATION INC.  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503  
 CONTACT: TERRY L. NICODEMUS  
 PHONE: (800) 775-7886

**SITE PROJECT MANAGER:**  
 TOWER ENGINEERING PROFESSIONALS, LLC  
 2000 W. 56TH AVE.  
 ANCHORAGE, AK 99507  
 CONTACT: TODD SCHMALLE  
 PHONE: (907) 344-9399

**CIVIL ENGINEER:**  
 TOWER ENGINEERING PROFESSIONALS  
 2000 W. 56TH AVE.  
 ANCHORAGE, AK 99507  
 CONTACT: ANDREW T. HALDANE, P.E.  
 PHONE: (907) 661-6351

**ELECTRICAL ENGINEER:**  
 TOWER ENGINEERING PROFESSIONALS, INC.  
 700 W. INT. AIRPORT RD., STE 201  
 ANCHORAGE, AK 99523  
 CONTACT: SANDON BRUBEK, P.E.  
 PHONE: (907) 268-4158

**ORIGINAL SURVEYOR:**  
 ACUTER GEOMATICS  
 5909 E. BLUE LUPINE DR.  
 WASHILLA, AK  
 CITY, STATE, ZIP: WASHILLA, AK 99573  
 CONTACT: TERRY L. NICODEMUS  
 PHONE: (907) 376-8980

**LAND OWNER:**  
 DERRELL D. & SHARON L. JAEKE  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 CITY, STATE, ZIP: FAIRBANKS, AK 99712

**CONTACT INFORMATION**

**SITE NAME:** GILMORE TRAIL

**PROJECT DESCRIPTION:** NEW SITE BUILD

**TOWER TYPE:** 119' MONOPOLE

**SITE ADDRESS:** 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (6911 ADDRESS TBD)

**JURISDICTION:** FAIRBANKS NORTH STAR BOROUGH

**AREA OF CONSTRUCTION:** 960 SQ. FEET

**LEGAL DESCRIPTION:** T1N, R1E, S9 FAIRBANKS MERIDIAN

**PARCEL ID#:** 594653

**PROJECT INFORMATION**

**LATITUDE** N 64° 55' 20.64" (NAD 83)  
**LONGITUDE** W 147° 32' 31.8" (NAD 83)  
**GROUND ELEVATION:** 1583 FEET (NAD 86)\*\*

\* INFORMATION OBTAINED FROM RFP'S DATED 08-28-14.  
 \*\* INFORMATION OBTAINED FROM GOOGLE EARTH.

**TOWER COORDINATES**

**LOCATION MAP**

FROM FAIRBANKS, AK: TRAVEL NORTHEAST ON AK-2 FOR APPROXIMATELY 5 MILES. TURN RIGHT ONTO STEELE CREEK RD AND TRAVEL 0.1 MI. TAKE THE 1ST LEFT ONTO GILMORE TRAIL AND TRAVEL 1.9 MI. SITE WILL BE ON THE RIGHT JUST AFTER GREAT VIEW LN.

**DRIVING DIRECTIONS**

**GENERAL NOTES:**

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED GO, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN, BY ACCORDANCE WITH THE ASSUMED RESPONSIBILITIES OF THE CONTRACTOR AS SET FORTH IN THE SPECIFICATIONS AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/TIA/EIA-222-G, 2005, FOR A 90 MPH 3-SECOND GUST WIND LOAD. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2009 EDITION.
4. WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2009 EDITION.
5. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
6. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACTOR'S DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL OBTAIN ALL NECESSARY PERMITS, APPROVALS, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
9. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE APPROVED BY THE OWNER. SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE. THE CONTRACTOR SHALL REWORK ALL MATERIALS IN THE INTERIOR OF THE STRUCTURE AND ALL SURFACES SHALL BE PROCEDED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PIPES, DITCHES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

**STRUCTURAL STEEL NOTES:**

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
  - A. STRUCTURAL STEEL ASTM DESIGNATION A572 OR A588, CRSO.
  - B. ALL BOLTS, ASTM A325 TYPE 1 GALVANIZED HIGH STRENGTH BOLTS
  - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
  - D. ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED, AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM, A153/A153M OR ASTM A653/A653M, G90, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED, WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLURGY IN STICK OR PASTE; SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.1 OF THE AISC, "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT. THIS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE UP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D11.1-2010 STRUCTURAL WELDING CODE - STEEL.

PLANS PREPARED FOR:



2550 DENALI ST., SUITE 1000  
ANCHORAGE, AK 99503

PLANS PREPARED FOR:



2000 E. 89TH AVENUE  
ANCHORAGE, AK 99507

PROJECT INFORMATION:

**GILMORE TRAIL**  
1382 GILMORE TRAIL  
FAIRBANKS, AK 99712  
(FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
5545 W. 58TH AVE., UNIT E  
ARVADA, CO 80002  
OFFICE: (303) 688-9894  
WWW.TEPENGINEERS.COM





SEAL:

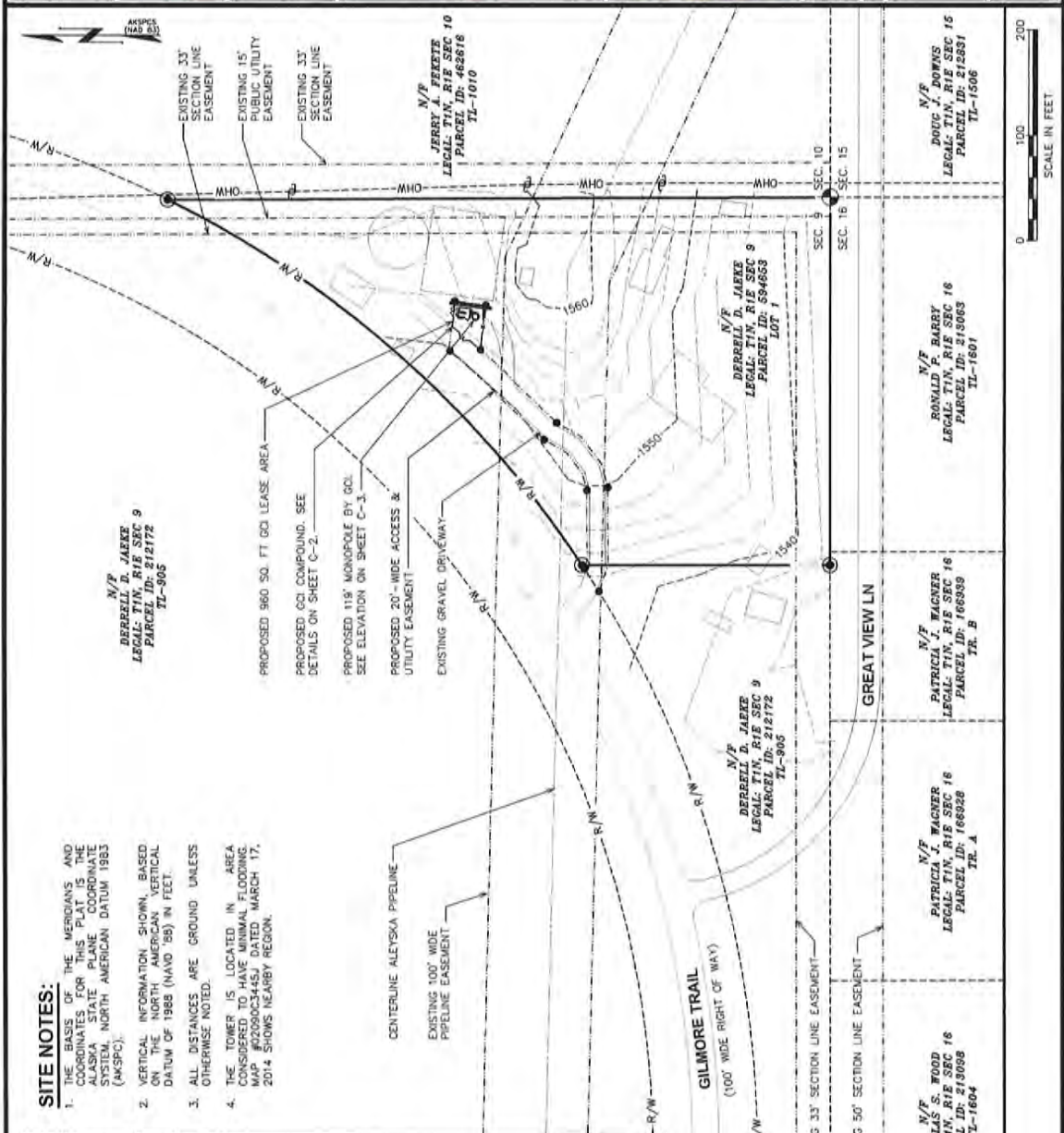


7	03-30-15	CONSTRUCTION
6	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS CHECKED BY: MKC		
SHEET TITLE:		

**GENERAL NOTES**

SHEET NUMBER: **N-1**  
REVISION: **7**  
TEP # 68074-1-2015

PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2000 E. 88TH AVENUE ANCHORAGE, AK 99507	PROJECT INFORMATION: <b>GILMORE TRAIL</b> 1392 GILMORE TRAIL FAIRBANKS, AK 99712 (FAIRBANKS NORTH STAR BOROUGH)	PLANS PREPARED BY:  <b>TOWER ENGINEERING PROFESSIONALS</b> 5545 W. 58TH AVE., UNIT E ANCHORAGE, AK 99514 OFFICE: (907) 566-9814 www.tepgroup.net	SEAL: 
T 03-30-15 CONSTRUCTION C 03-17-15 PRELIMINARY REV DATE ISSUED FOR: DRAWN BY: TJS CHECKED BY: IMAC	SHEET TITLE: <b>SITE PLAN</b>		SHEET NUMBER: <b>C-1</b>	REVISION: <b>7</b> TEP #56014-27-603



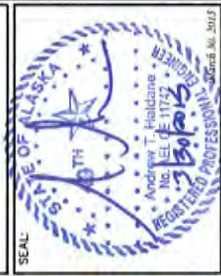
<b>SITE COORDINATES</b> LATITUDE: N 64° 55' 20.64" (NAD '83) LONGITUDE: W 147° 32' 31.8" (NAD '83) GROUND ELEVATION: 1553' (NAD '88)	<b>SITE NOTES:</b> 1. THE BASIS OF THE MERIDIANS AND COORDINATES FOR THIS PLAN IS THE ALASKA STATE PLANE COORDINATE SYSTEM, NORTH AMERICAN DATUM 1983 (AKSPC). 2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD '88) IN FEET. 3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED. 4. THE TOWER IS LOCATED IN AREA CONSIDERED TO HAVE MINIMAL FLOODING. MAP #02090C345J DATED MARCH 17, 2014 SHOWS NEARBY REGION.
<b>LEGEND</b> PARENT PROPERTY LINE ADJACENT PROPERTY LINE EASEMENT BOUNDARY CORNER EXIST. METER EXIST. TRANSFORMER EXIST. UTILITY POLE EXIST. TELCO PEDESTAL SECTION CORNER PROPERTY CORNER EXIST. CONTOUR LINE EDGE OF PAVEMENT OVERHEAD WIRE RIGHT-OF-WAY CHAIN LINK FENCE EXISTING TREE LINE PROPOSED TREE LINE	<b>SITE PLAN</b> SCALE: 1" = 100' 0 100 200 SCALE IN FEET

PLANS PREPARED FOR:  
**GCI**  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
**MARSHCREEK**  
 2000 E. 88TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 58TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE (303) 566-9914  
 www.tepgroup.net



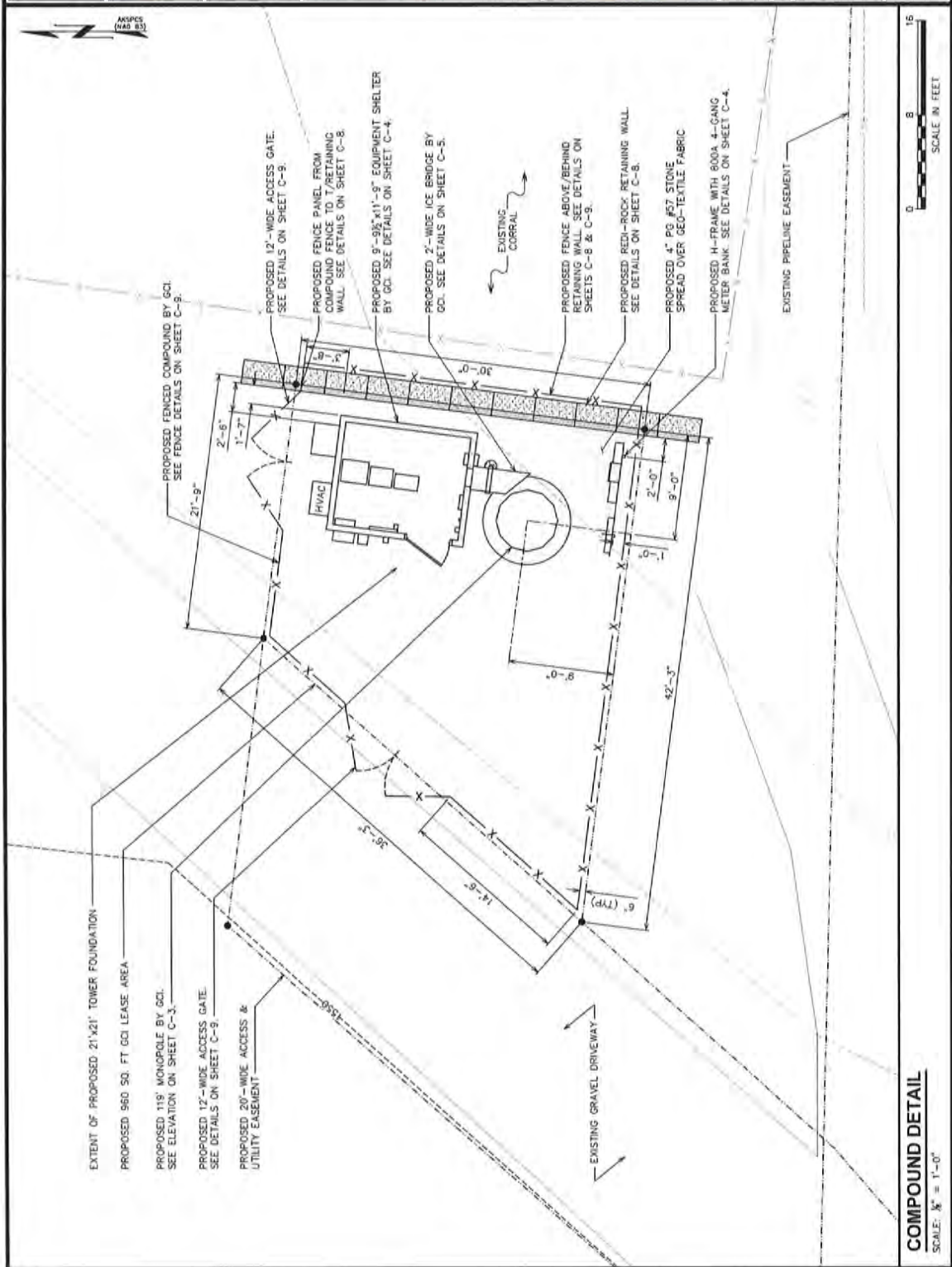
7	03-30-19	CONSTRUCTION
6	02-17-19	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS		
CHECKED BY: INMC		

SHEET TITLE:  
**COMPOUND DETAIL**

SHEET NUMBER:  
**C-2**

REVISION:  
**7**

TEP #950-14-27603



**COMPOUND DETAIL**  
 SCALE: 1/8" = 1'-0"

PLANS PREPARED FOR:  
  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 86TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5546 W. 56TH AVE., UNIT E  
 ANCHORAGE, AK 99502  
 OFFICE: (907) 686-9814  
 www.tepgroup.net



CONSTRUCTION:  
 PRELIMINARY  
 REV. DATE ISSUED FOR:  
 DRAWN BY: TUS CHECKED BY: NMC  
 SHEET TITLE:

**TOWER ELEVATION**

SHEET NUMBER: **C-3**  
 REVISION: **7**  
 TEP #590-14-27603

**GENERAL NOTES:**

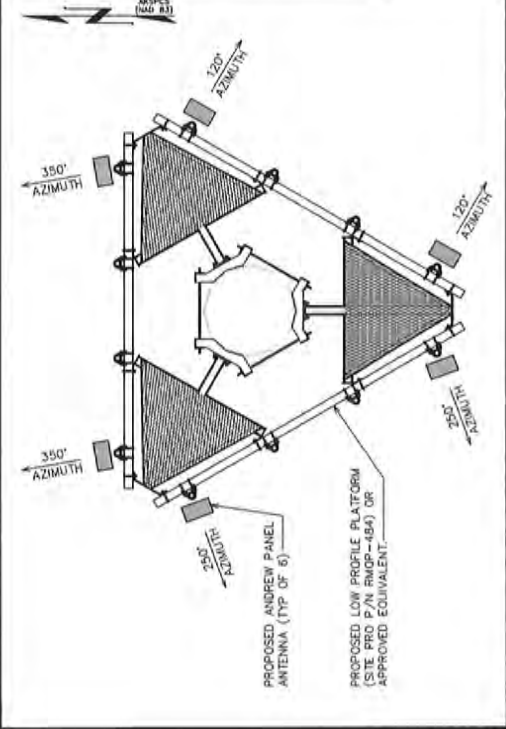
- THIS ANTENNA ORIENTATION PLAN IS A SCHEMATIC. THE CONTRACTOR SHALL VERIFY TOWER ORIENTATION AND FIELD COORDINATE REQUIRED ADJUSTMENTS TO ACHIEVE THE DESIRED ANTENNA AZIMUTHS.
- ANTENNA CENTERLINE HEIGHT BASED ON TOP OF FOOTING ELEVATION.
- ALL ANTENNAS, CABLES AND MOUNTS SHALL BE INSTALLED IN ACCORDANCE WITH THE STRUCTURAL ENGINEER'S RECOMMENDATIONS IN A MANNER CONSISTENT WITH THE STRUCTURAL ANALYSIS REPORT.
- ALL ANTENNA BRACKETS PER ANTENNA MANUFACTURER, OR EQUAL, CONTRACTOR TO COORDINATE REQUIRED MECHANICAL DOWN TILT WITH COI.
- ALL ANTENNA INFORMATION TO BE CONFIRMED WITH COI RE DESIGN PRIOR TO INSTALLATION.
- TOWER ENGINEERING PROFESSIONALS (TEP) DID NOT PERFORM A STRUCTURAL ANALYSIS ON THE MOUNT. IT IS THE CARRIER'S RESPONSIBILITY TO ENSURE MOUNT CAN SUPPORT ADDITIONAL LOADS.

**FINAL ANTENNA/CABLE SCHEDULE**

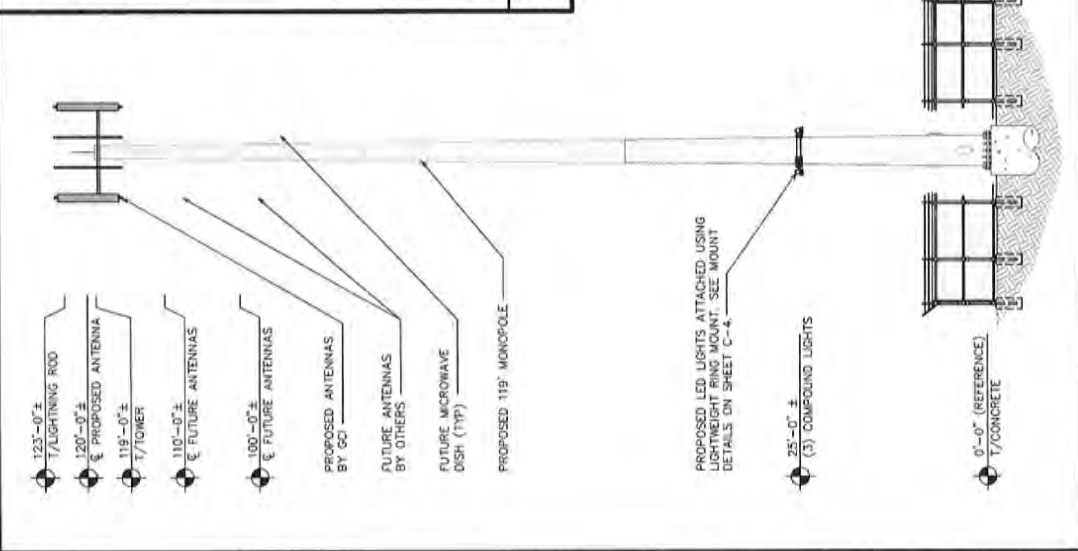
SECTOR/ POSITION	ANT. MAKE/ MODEL #	TYPE	RRU	AZIMUTH	ELEC. TILT	MECH. TILT	ANTENNA % (AGL)	COAXIAL FEEDER TYPE	LENGTH	JUMPER SIZE	EXISTING OR NEW
ALPHA A-1	ANDREW HBKX-501805-A2M	LTE/LTE	RRU LTE ZXC MIMO	120°	5°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW
ALPHA A-4	ANDREW HBKX-501805-A2M	GSM/UMTS		120°	5°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW
BETA B-1	ANDREW HBKX-551705-A2M	LTE/LTE	RRU LTE ZXC MIMO	250°	4°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW
BETA B-4	ANDREW HBKX-551705-A2M	GSM/UMTS		250°	4°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW
GAMMA C-1	ANDREW HBKX-501805-A2M	LTE/LTE	RRU LTE ZXC MIMO	350°	4°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW
GAMMA C-4	ANDREW HBKX-501805-A2M	GSM/UMTS		350°	4°	0°	120°-0°	(2) 1/2" COAX	145±	3/8"	(2) NEW

\* AZIMUTHS BASED ON TRUE NORTH  
 \*\* ANTENNA DESIGN PROVIDED BY COI IN THE FORM OF AN RFDS DATED 08-28-14.

**ANTENNA/COAX SCHEDULE**  
 SCALE: N.T.S.



**PROPOSED ANTENNA ORIENTATION**  
 SCALE: 3/8" = 1'-0"



**TOWER ELEVATION**  
 SCALE: 1" = 15'

PLANS PREPARED FOR:  
  
 2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 86TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1382 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

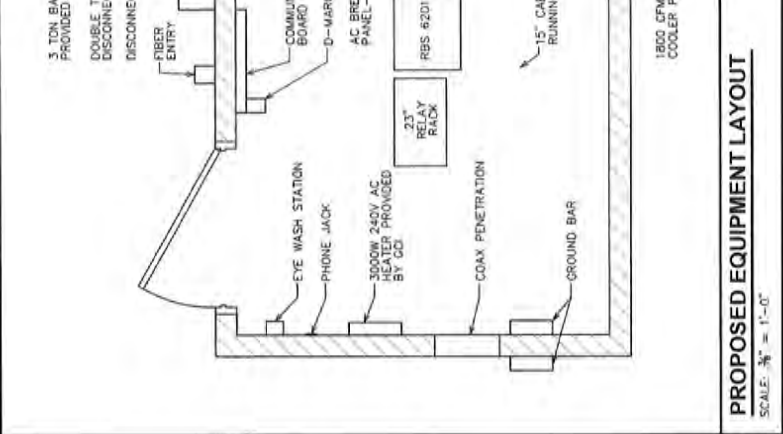
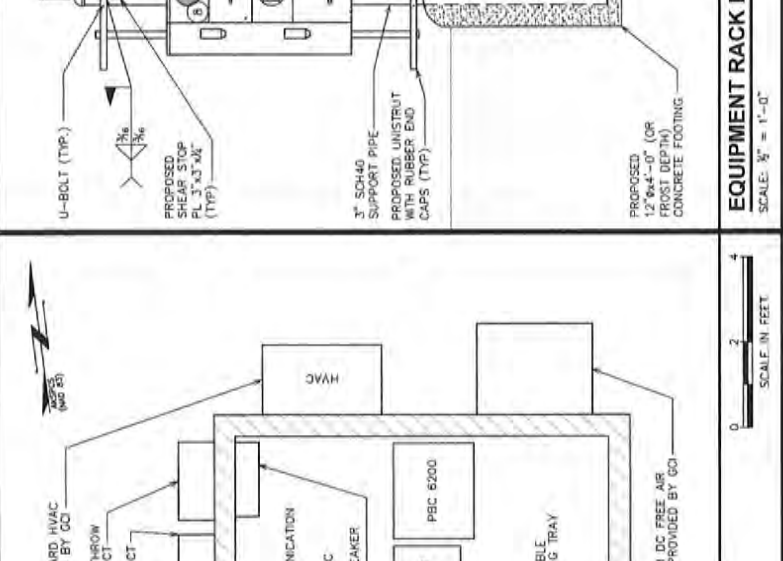
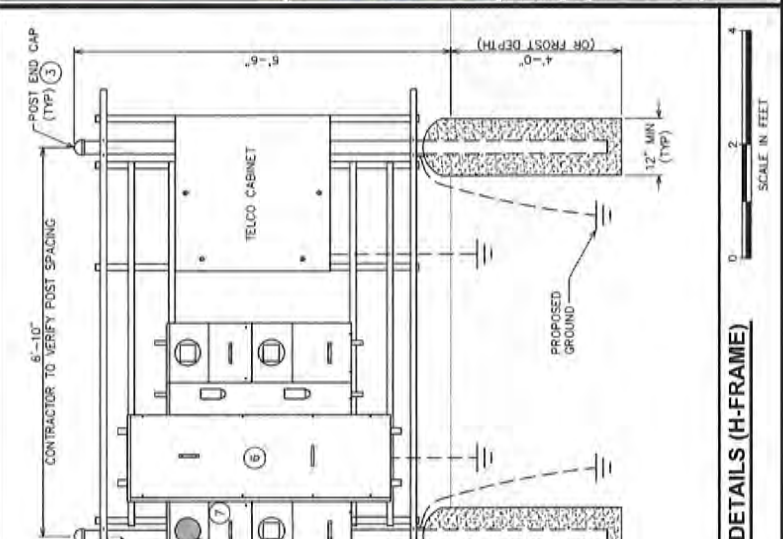
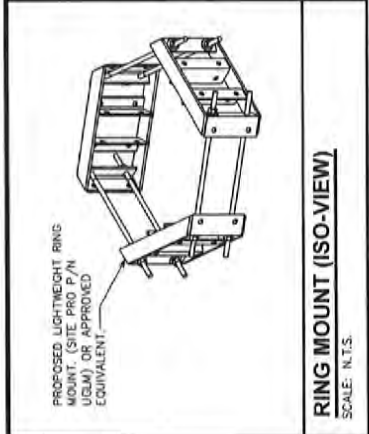
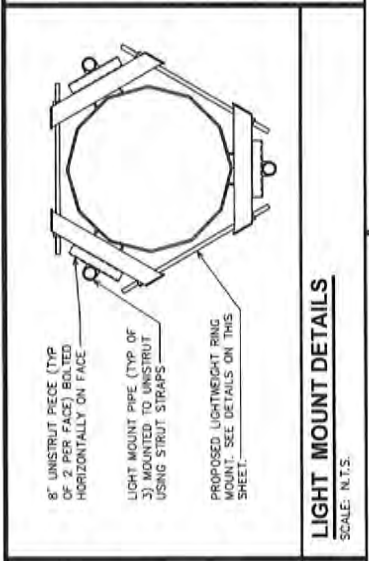
PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 56TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 566-9814  
 www.towereng.com



7	03-30-15	CONSTRUCTION
6	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS CHECKED BY: NMC		
SHEET TITLE:		

SHEET NUMBER: **C-4**  
 REVISION: **7**  
 TEP #56014-27-028

- NOTES:**
- ALL NEW STRUCTURAL STEEL SHALL BE HOT DIP GALVANIZED IN ACCORDANCE WITH ASTM A123 689 AFTER FABRICATION.
  - FIELD ABRASIONS SHALL BE TOUCH UP PAINTED WITH ZINC RICH GALVANIZING REPAIR IN ACCORDANCE WITH ASTM A780.
  - ALL EXPOSED ENDS OF CONDUITS AND VERTICAL SUPPORT POSTS SHALL HAVE WEATHERPROOF CAPS.
  - PROVIDE 200LB. TEST PULL WIRES IN EACH TELEPHONE AND POWER CONDUIT. STUB CONDUITS INTO ENCLOSURE AND LABEL.
  - DISTRIBUTION PANEL TO BE SQUARE D SUPPLIED BY CONTRACTOR.
  - TERMINATION BOX
  - 4-CANG ELECTRIC METER, SUPPLIED BY CONTRACTOR AND PRE-APPROVED BY POWER COMPANY.
  - PROPOSED 200A METER BY POWER COMPANY TO BE UTILIZED BY CCL. LABEL CARRIER BELOW METERING DEVICE.



**RING MOUNT (ISO-VIEW)**  
 SCALE: N.T.S.

**EQUIPMENT RACK DETAILS (H-FRAME)**  
 SCALE: 3/8" = 1'-0"

**PROPOSED EQUIPMENT LAYOUT**  
 SCALE: 3/8" = 1'-0"

PLANS PREPARED FOR:  
**GILMORE TRAIL**  
 2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
**MARSHCREEK**  
 2000 E. 88TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1385 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

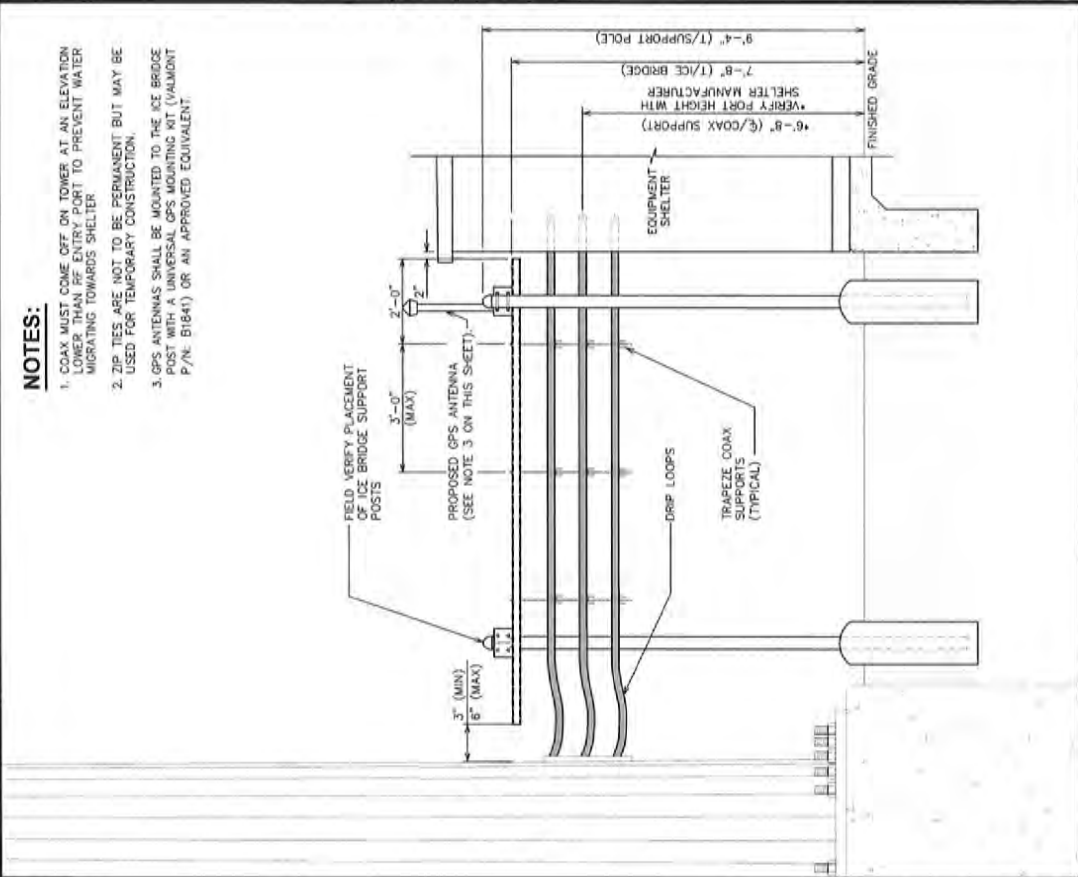
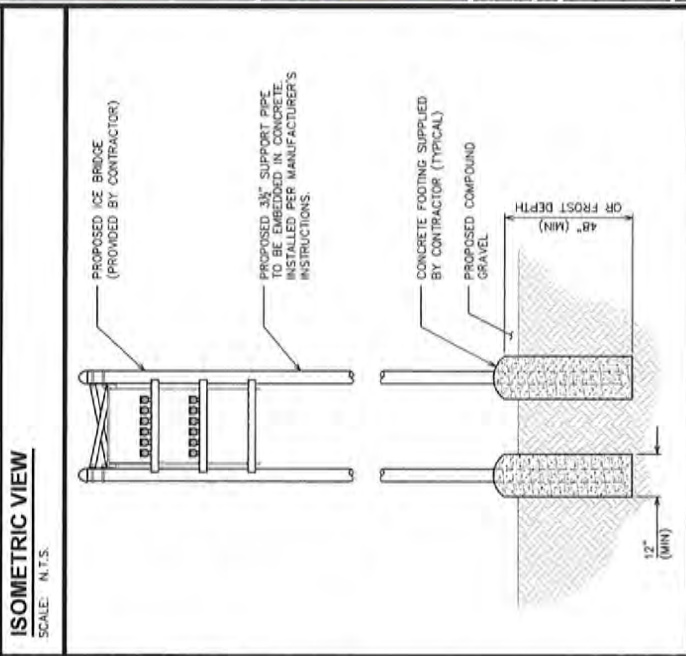
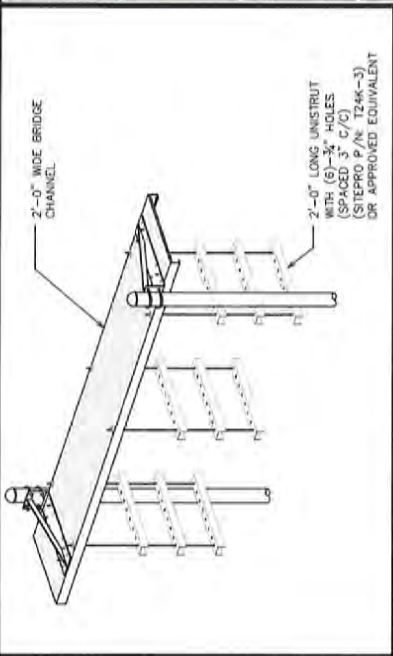
PLANS PREPARED BY:  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 55TH AVE, UNIT E  
 ANCHORAGE, AK 99514  
 OFFICE (303) 996-9814  
 www.tepgroup.net



T	03-20-15	CONSTRUCTION
G	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS		CHECKED BY: INAC

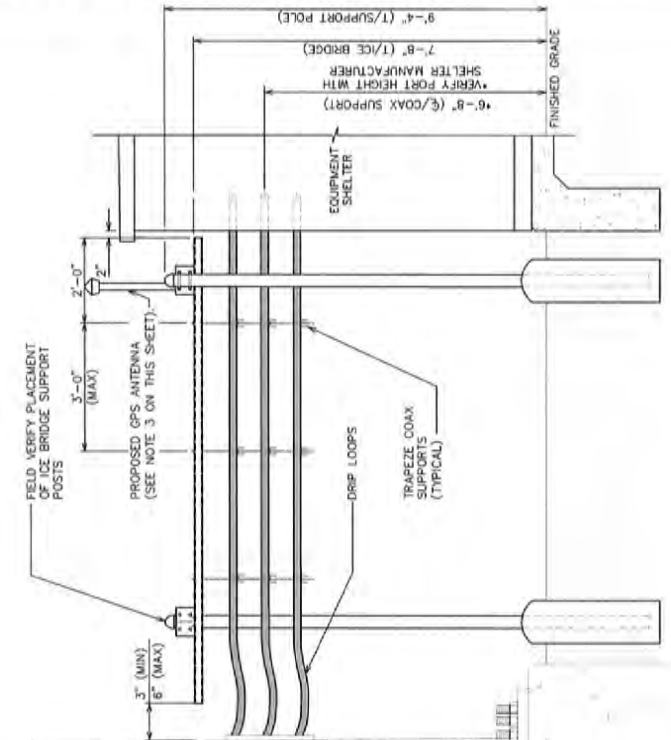
SHEET TITLE:  
**ICE BRIDGE DETAILS**

SHEET NUMBER: **C-5** REVISION: **7**  
 TEP # 55014L27003

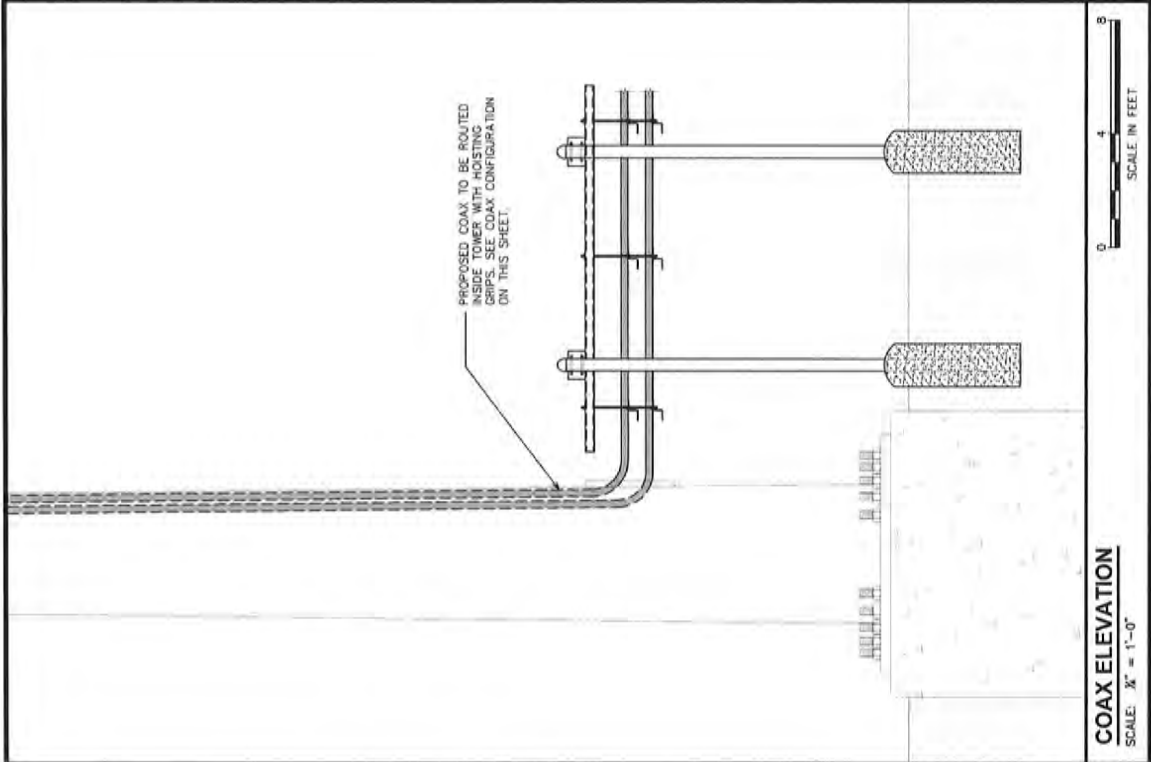
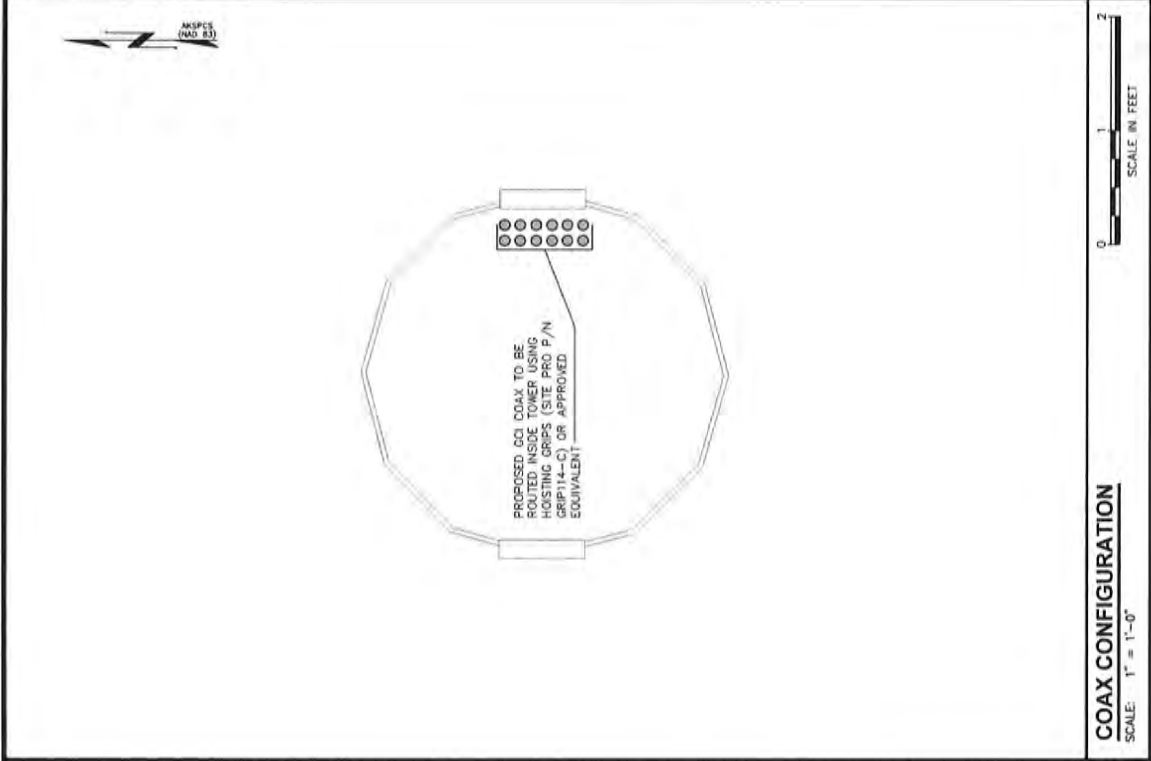


**NOTES:**

1. COAX MUST COME OFF ON TOWER AT AN ELEVATION LOWER THAN RE ENTRY PORT TO PREVENT WATER MIGRATING TOWARDS SHELTER
2. ZIP TIES ARE NOT TO BE PERMANENT BUT MAY BE USED FOR TEMPORARY CONSTRUCTION.
3. GPS ANTENNAS SHALL BE MOUNTED TO THE ICE BRIDGE POST WITH A UNIVERSAL GPS MOUNTING KIT (VALMONT P/N: B1841) OR AN APPROVED EQUIVALENT.



PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2000 E. 88TH AVENUE ANCHORAGE, AK 99507	PROJECT INFORMATION: <b>GILMORE TRAIL</b> 1382 GILMORE TRAIL FAIRBANKS, AK 99712 (FAIRBANKS NORTH STAR BOROUGH)	PLANS PREPARED BY:  <b>TOWER ENGINEERING PROFESSIONALS</b> 5545 W. 56TH AVE., UNIT E ARVADA, CO 80002 OFFICE: (303) 666-8814 www.teppgroup.net	SEAL: 	<table border="1"> <tr> <td>F</td> <td>03-30-15</td> <td>CONTRACTION</td> </tr> <tr> <td>G</td> <td>03-17-15</td> <td>PRELIMINARY</td> </tr> <tr> <td>REV</td> <td>DATE</td> <td>ISSUED FOR:</td> </tr> <tr> <td colspan="3">DRAWN BY: TJS CHECKED BY: INAC</td> </tr> </table>	F	03-30-15	CONTRACTION	G	03-17-15	PRELIMINARY	REV	DATE	ISSUED FOR:	DRAWN BY: TJS CHECKED BY: INAC		
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G	03-17-15	PRELIMINARY															
REV	DATE	ISSUED FOR:															
DRAWN BY: TJS CHECKED BY: INAC																	
SHEET TITLE: <b>COAX MOUNTING DETAILS</b>					SHEET NUMBER: <b>C-6</b>												
REVISION: <b>7</b> TEP # 59014127603																	



**COAX ELEVATION**  
SCALE: 3/4" = 1'-0"

**COAX CONFIGURATION**  
SCALE: 1" = 1'-0"

SCALE IN FEET  
0 1 2

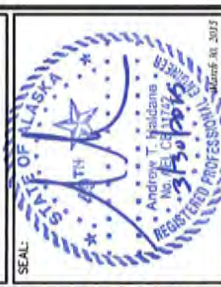


PLANS PREPARED FOR:  
  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 88TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1382 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

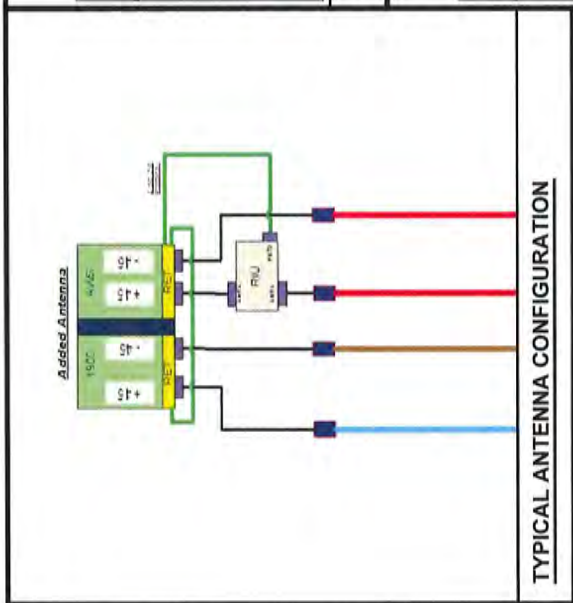
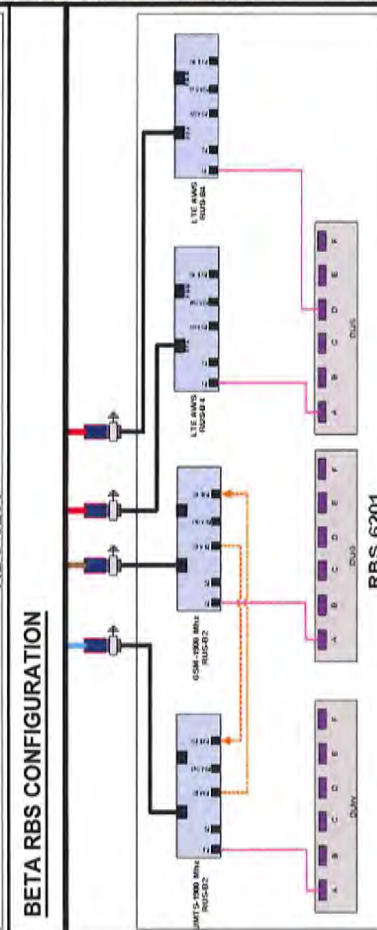
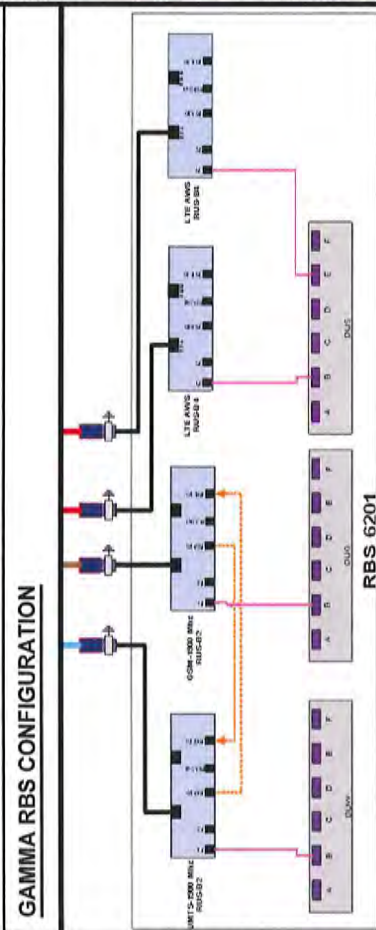
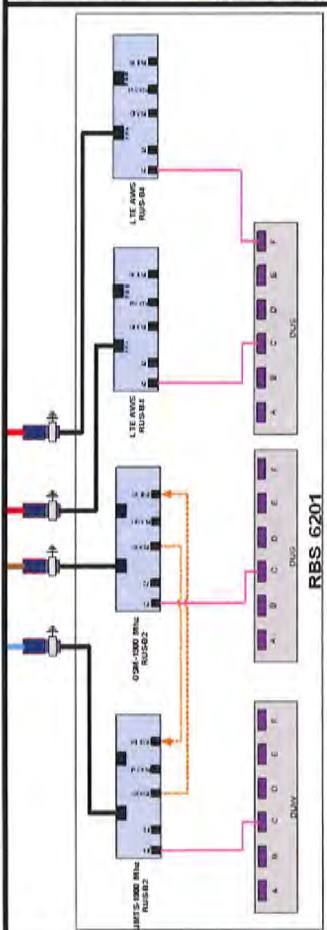
PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 55TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 586-9914  
 www.tepgroup.net



7	03-30-15	CONSTRUCTION
6	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS		CHECKED BY: NMC

SHEET TITLE:  
**ANTENNA CONFIGURATION**

SHEET NUMBER:  
**C-7**  
 REVISION:  
 7  
 TEP # 59014.27603



PLANS PREPARED FOR:  
  
 2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 88TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

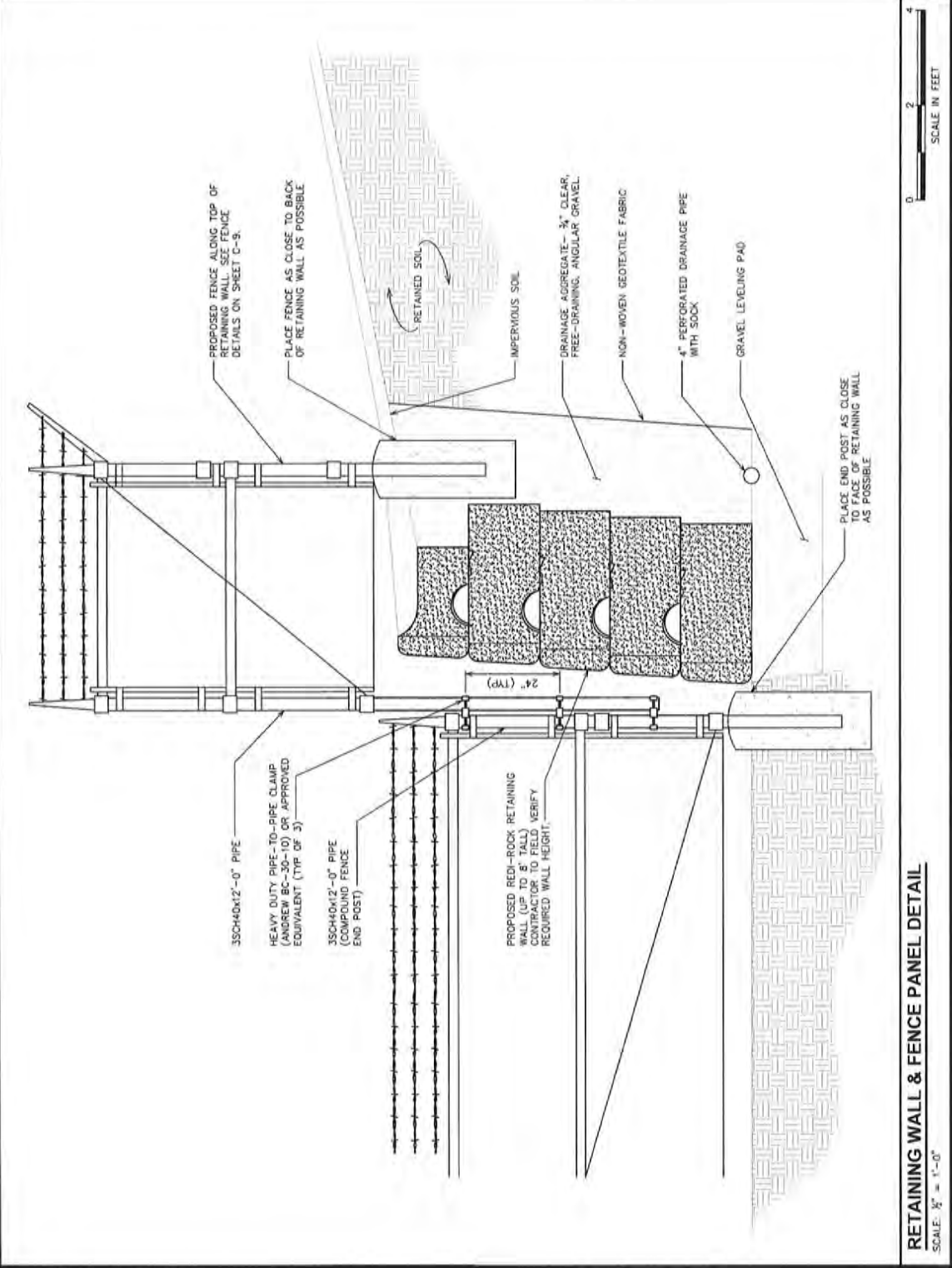
PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 59TH AVE. UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 566-8904  
 WWW.TEPPROF.COM



7	03-30-15	CONSTRUCTION
6	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: TJS CHECKED BY: HMC		
SHEET TITLE:		

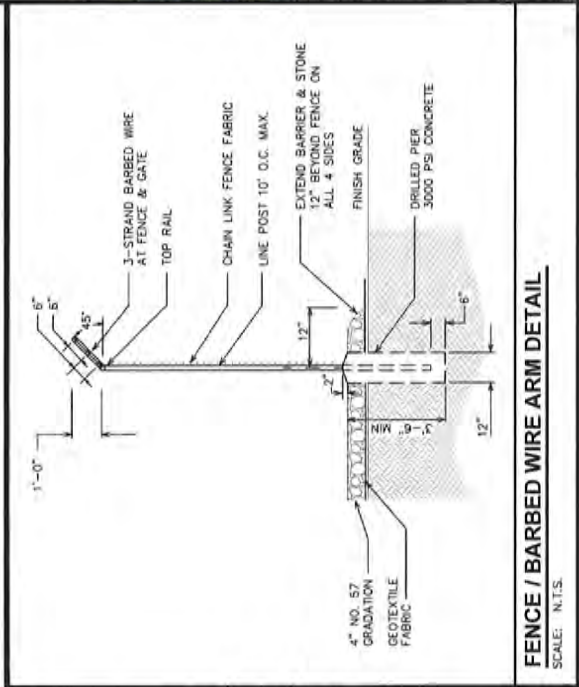
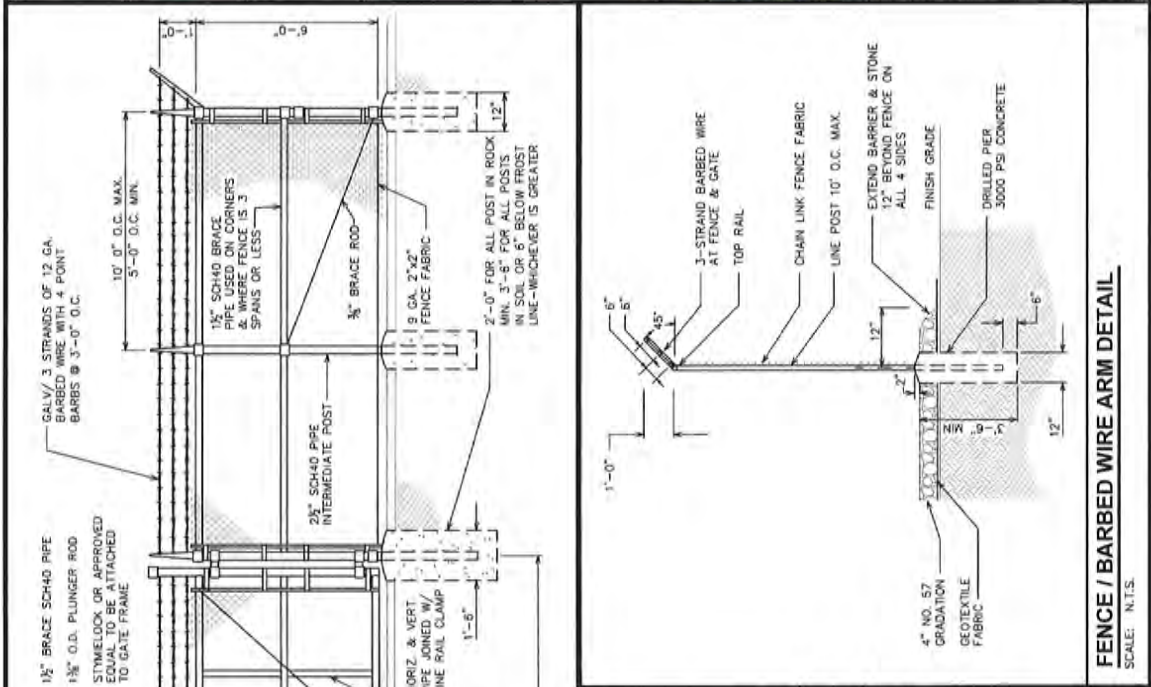
**RETAINING WALL  
 DETAILS**

SHEET NUMBER: **C-8**  
 REVISION: **7**  
 TEP #158014-27-603

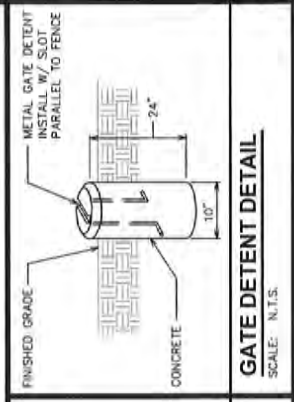


RETAINING WALL & FENCE PANEL DETAIL  
 SCALE: 1/2" = 1'-0"  
 0 2 4  
 SCALE IN FEET

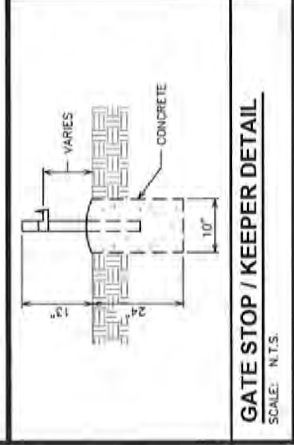
PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2000 E. 88TH AVENUE ANCHORAGE, AK 99507	PROJECT INFORMATION: <b>GILMORE TRAIL</b> 1393 GILMORE TRAIL FAIRBANKS, AK 99712 (FAIRBANKS NORTH STAR BOROUGH)	PLANS PREPARED BY:  <b>TORNER ENGINEERING PROFESSIONALS</b> 5545 W. 56TH AVE., UNIT E ARVADA, CO 80002 OFFICE: (303) 568-8914 www.teppgroup.net	SEAL: 	<table border="1"> <tr> <td>CONSTRUCTION</td> <td>05-30-15</td> </tr> <tr> <td>PRELIMINARY</td> <td>05-17-15</td> </tr> <tr> <td>ISSUED FOR</td> <td></td> </tr> <tr> <td>CHECKED BY:</td> <td>JKC</td> </tr> </table>	CONSTRUCTION	05-30-15	PRELIMINARY	05-17-15	ISSUED FOR		CHECKED BY:	JKC
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PRELIMINARY	05-17-15												
ISSUED FOR													
CHECKED BY:	JKC												
SHEET TITLE: <h2 style="text-align: center;">FENCE DETAILS</h2>													
SHEET NUMBER: <b>C-9</b> REVISION: <b>7</b> SEP. #58014-27-603													



**FENCE / BARBED WIRE ARM DETAIL**  
SCALE: N.T.S.



**GATE DETENT DETAIL**  
SCALE: N.T.S.



**GATE STOP / KEEPER DETAIL**  
SCALE: N.T.S.


**TYPICAL FENCE ELEVATION**  
SCALE: N.T.S.

PLANS PREPARED FOR:  
  
 2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 86TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 56TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 688-8814  
 www.tppgroup.net

SEAL:  
  
 Andrew T. Haldane  
 No. 13012  
 REGISTERED PROFESSIONAL ENGINEER  
 State of Alaska

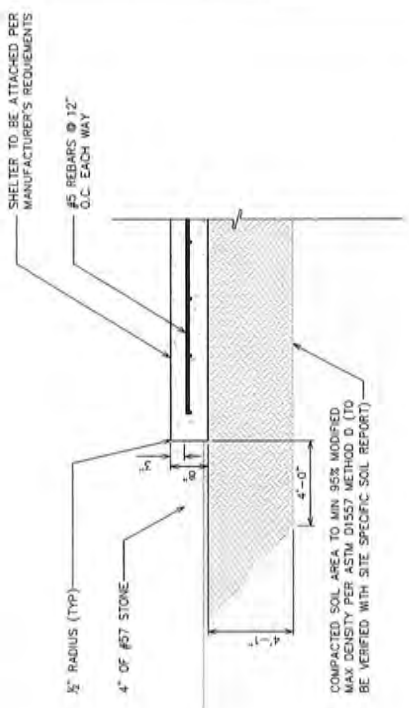
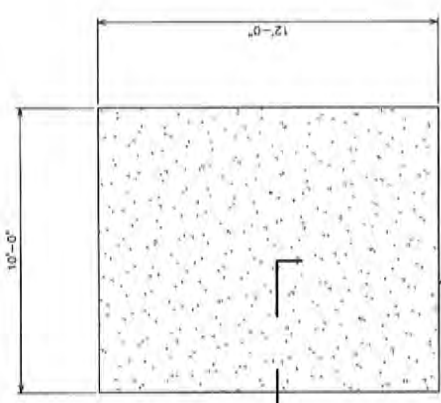
CONSTRUCTION	05-30-15
PRELIMINARY	05-17-15
ISSUED FOR:	
DATE	
DRAWN BY:	DS
CHECKED BY:	RAJC

SHEET TITLE:  
**SHELTER FOUNDATION DETAILS**

SHEET NUMBER: **C-10**  
 REVISION: **7**  
 TEP # 58014-27-003

**FOUNDATION NOTES:**

- DESIGN SHALL BE PER INTERNATIONAL BUILDING CODE, 2009 EDITION.
- FOUNDATION DESIGN BASED ON 2000 PSF SOIL BEARING CAPACITY. IF OTHER CONDITIONS EXIST, FOUNDATION DESIGN SHALL BE REVISED TO REFLECT THE ACTUAL BEARING CAPACITY. VERIFY BY A LICENSED PROFESSIONAL GEOTECHNICAL ENGINEER PRIOR TO INITIATION OF CONSTRUCTION ACTIVITIES.
- CONCRETE WORK SHALL BE PERFORMED IN ACCORDANCE WITH LATEST EDITION OF THE AC CODE.
- CONCRETE SHALL BE 2,500 PSI.
- REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE CONCRETE REINFORCING STEEL INSTITUTE (CRSI) MANUAL OF STANDARD PRACTICE.
- REBAR F<sub>y</sub> = 60,000 PSI.
- ALL BACKFILL SHALL BE THOROUGHLY COMPACTED TO A MINIMUM OF 95% DENSITY USING THE MODIFIED PROCTOR METHOD.
- FOUNDATION WAS DESIGNED PER IBC 15.12.840 CHAPTER 18, SECTION 1805.2.2 FROST PROTECTION-MENDED. (TYPE 1 BUILDING ASSUMED).



**PAD SECTION**  
 SCALE: 3/8" = 1'-0"  


**SHELTER FOUNDATION PLAN**  
 SCALE: 3/8" = 1'-0"  


**SHELTER FOUNDATION PLAN**  
 SCALE: 3/8" = 1'-0"  


## ELECTRICAL SPECIFICATIONS

**SCOPE OF WORK:**  
FURNISH AND INSTALL ALL MATERIAL AND EQUIPMENT AS INDICATED ON THESE DRAWINGS AND SPECIFICATIONS. PROVIDE COMPLETE AND WORKING SYSTEMS. SECURE AND PAY FOR ALL FEES, PERMITS, ETC., REQUIRED BY FEDERAL, STATE AND LOCAL AGENCIES AND ALL LOCAL UTILITY COMPANIES.

**STANDARDS, CODES AND REGULATIONS**  
COMPLY WITH THE LATEST ADOPTED EDITION OF THE NATIONAL ELECTRICAL CODE, INTERNATIONAL BUILDING CODE, INTERNATIONAL FIRE CODE AND THE ADA STANDARDS FOR FACILITY ACCESSIBILITY BY THE PHYSICALLY HANDICAPPED INCLUDING ALL STATE AND LOCAL AMENDMENTS TO THESE CODES, MATERIALS AND EQUIPMENT.

ALL MATERIALS AND EQUIPMENT PROVIDED FOR THE PROJECT SHALL BE ACCEPTABLE TO THE AUTHORITY HAVING JURISDICTION AS SUITABLE FOR THE USE INTENDED. ALL EQUIPMENT SHALL BEAR THE SEAL OF A NATIONALLY RECOGNIZED TESTING LABORATORY ACCEPTABLE TO THE AHI.

**DRAWINGS:**  
THE DRAWINGS ARE DIAGRAMMATIC UNLESS SPECIFICALLY DIMENSIONED. BRING QUESTIONABLE ITEMS AND CONFLICTS AMONG PLANS AND SPECIFICATIONS, GOVERNING CODES OR UTILITIES REGULATIONS TO THE ATTENTION OF THE ENGINEER PRIOR TO THE BID. CODES, ORDINANCES, REGULATIONS, MANUFACTURER'S INSTRUCTIONS OR STANDARDS TAKE PRECEDENCE OVER THE DRAWINGS AND SPECIFICATIONS.

**WORKMANSHIP:**  
INSTALLATION OF ALL WORK SHALL BE MADE SO THAT ITS SEVERAL COMPONENT PARTS SHALL FUNCTION AS A WORKABLE SYSTEM COMPLETE WITH ALL ACCESSORIES NECESSARY FOR ITS OPERATION. INSTALL ALL MATERIAL AND EQUIPMENT PER THE MANUFACTURER'S RECOMMENDATIONS AND INSTRUCTIONS AND PER MECA STANDARDS. MATERIALS AND EQUIPMENT SHALL BE NEW AND SHALL CONFORM WITH APPLICABLE INDUSTRY, NEMA AND UL STANDARDS WHERE APPLICABLE.

**WARRANTY:**  
THE CONTRACTOR SHALL GUARANTEE ALL WORK EXECUTED UNDER THIS CONTRACT TO BE FREE FROM DEFECTS IN MATERIALS AND WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM BENEFICIAL OCCUPANCY. ANY FAULTY MATERIALS OR WORKMANSHIP SHALL BE REPAIRED OR REPLACED TO THE SATISFACTION OF THE OWNER DURING THE GUARANTEE PERIOD.

**IDENTIFICATION:**  
PROVIDE ENGRAVED THREE-LAYER LAMINATED PLASTIC NAMEPLATES WITH WHITE LETTERS ON A BLACK BACKGROUND TO IDENTIFY ALL ELECTRICAL DISTRIBUTION AND CONTROL EQUIPMENT. LETTER HEIGHTS SHALL BE 1/8 INCH FOR INDIVIDUAL SWITCHES, MOTOR STARTERS AND LOADS SERVED AND 1/4 INCH ON PANELBOARDS. SECURE NAMEPLATES TO EQUIPMENT FRONTS USING SCREWS, RIVETS OR ADHESIVES. LABEL EACH CONTROLLER AT EACH TERMINATION OR INTERCONNECTION OF WIRING IN PANEL BOARDS, GLITTERS, PULL BOXES, OUTLETS AND LOAD CONNECTIONS. LABEL SHALL DENOTE PANEL NAME AND CIRCUIT NUMBER. ALL OTHER WIRING SHALL BE LABELED WITH A UNIQUE DESIGNATION. THE DESIGNATIONS SHALL ALSO BE SHOWN ON AS-BUILT DIAGRAMS. COLOR CODE PHASE CONDUCTORS PER CONDUCTOR SPECIFICATION.

**PANEL SCHEDULES:**  
ALL POSTED PANEL SCHEDULES MUST MEET THE REQUIREMENTS OF NEC 408.4 FOR CIRCUIT IDENTIFICATION.

**CONDUCTORS:**  
BRANCH CIRCUIT WIRING MAY BE THIN OR XHHW INSULATED CONDUCTOR. WIRING WHICH ENTERS AREAS EXPOSED TO OUTDOOR, AMBIENT TEMPERATURE SHALL BE TYPE XHHW-2 INSULATED. ALL POWER AND CONTROL CONDUCTORS SHALL BE SOLID OR CLASS B OR C STRANDED, ANNEALED COPPER WITH TYPE THHN OR XHHW-2, 600V INSULATION. MINIMUM BRANCH CIRCUIT CONDUCTOR SIZE SHALL BE #12 AWG. MINIMUM CONTROL CIRCUIT CONDUCTOR SIZE SHALL BE #14 AWG. PULL ALL CONDUCTORS INTO THE RACEWAY AT THE SAME TIME. USE UL LISTED WIRE PULLING LUBRICANT IF REQUIRED. OBSERVE NEC REQUIREMENTS FOR DERATING AND CONDUIT FILL. COLOR CODE CONDUCTORS BLACK, RED, BLUE, WHITE, AND GREEN FOR 208Y/120V CIRCUITS; BROWN, ORANGE, YELLOW, GREEN AND ANY COLOR OTHER THAN GREEN WITH A WHITE STRIPE FOR 480Y/277V CIRCUITS. USE PROPERLY SIZED, INSULATED SPRING WIRE CONNECTORS WITH PLASTIC CAPS FOR ALL CONDUCTORS #6 AWG AND SMALLER. TERMINATE #6 AWG AND LARGER CONDUCTORS WITH INSULATED CRIMP OR COMPRESSION TYPE CONNECTORS.

**CONDUIT:**  
CONDUIT SHALL BE PER THIS SPECIFICATION, UNLESS OTHERWISE NOTED ON THE DRAWINGS. CONDUIT SHALL BE RIGID METAL CONDUIT (RMC), INTERMEDIATE METAL CONDUIT (IMC), ELECTRICAL METALLIC TUBING (EMT), OR RIGID NON-METALLIC CONDUIT (RNM-C). RMC OR IMC SHALL BE USED IN ALL OUTDOOR AREAS. EMT SHALL NOT BE USED OUTDOORS. CONDUIT FITTINGS FOR RMC AND IMC SHALL BE SCREWED TYPE. THREADLESS COMPRESSION AND SET SCREW FITTINGS SHALL NOT BE USED WITH RMC AND IMC CONDUIT. ALL EMT CONDUIT FITTINGS SHALL BE STEEL OR DIE-CAST, COMPRESSION OR SET SCREW TYPE. CONDUIT OUTLET BODIES AND BOXES FOR USE WITH RMC AND IMC CONDUIT SHALL BE GALVANIZED, MALLEABLE IRON WITH THREADED HUBS AND GASKETED COVERS OF THE SAME MATERIAL AS THE BODY OR BOX. CONDUIT BODIES FOR USE WITH EMT MAY BE CAST ALUMINUM WITH COVERS PROVIDED WITH THE BODY. UNDERGROUND CONDUITS SHALL BE RMC, IMC, HDPE SCHEDULE 40/80 OR PVC SCHEDULE 40/80.

MAKE CONNECTIONS TO MOTORS, TRANSFORMERS AND OTHER EQUIPMENT WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT OF GALVANIZED STEEL OR ALUMINUM CORE AND OUTER JACKET OF THERMOPLASTIC MATERIAL SUITED FOR THE INTENDED ENVIRONMENT. USE FITTINGS LISTED FOR USE WITH LIQUIDTIGHT FLEXIBLE METAL CONDUIT OF MALLEABLE IRON OR STEEL CONSTRUCTION, ELECTRO ZINC GALVANIZED.

**OUTLET BOXES:**  
PROVIDE ELECTRO-GALVANIZED OR CADMIUM PLATED, ONE PIECE STEEL OUTLET BOXES 4" SQUARE BY 1 1/2" DEEP MINIMUM FOR USE IN INTERIOR AREAS. PROVIDE NON-METALLIC OUTLET BOXES IN INDOOR AREAS. PROVIDE OUTLET BOXES AND DEVICE COVERS AS SHOWN ON THE DRAWINGS, AND AS REQUIRED FOR SPRINGS, TAPS, WIRE PULLING, EQUIPMENT CONNECTIONS, DEVICE INSTALLATION AND CODE COMPLIANCE. FOR OUTDOOR INSTALLATION, USE GALVANIZED, CAST, MALLEABLE IRON BOXES WITH INTEGRAL HUBS AND COVERS AND GASKETS FROM THE SAME MANUFACTURER. BELL BOXES ARE NOT ACCEPTABLE WITH RIGID CONDUIT. BELL BOXES MOUNTED ON THE BUILDING EXTERIOR AND FED WITH EMT OR MC CABLE ARE PERMITTED PROVIDED THE WIRING IS CONCEALED.

**RECEPTACLES:**  
PROVIDE NEMA 5-20R OR 5-30R, SINGLE OR DUPLEX, GROUNDING, BACK AND SIDE WIRED, RECEPTACLES WITH WHITE FINISH, UL NO. 498 APPROVED, NYLON FACE, BRASS TERMINAL SCREWS, SELF-GROUNDING, CERTIFIED TO COMPLY WITH NEMA WD-1, SCREW TERMINAL OR SCREW CLAMP TYPE ONLY. BACK WIRING SHALL BE CLAMP TYPE TERMINALS WHICH WILL ACCEPT UP TO #10 WIRE. SPRING CLAMPED TYPE TERMINATIONS ARE NOT ACCEPTABLE. PROVIDE DUPLEX CONVENIENCE RECEPTACLES WITH CLASS 3 INTEGRAL GROUND FAULT CURRENT INTERRUPTER AND SPECIFIC USE RECEPTACLES WHERE INDICATED ON THE DRAWINGS. INSTALL RECEPTACLES WITH GROUNDING POLE ON BOTTOM.

**SWITCHES:**  
PROVIDE, NEMA WD-3 20 A, 277 OR 120 V AC, BACK AND SIDE WIRED; BACK WIRING SHALL BE CLAMP-TYPE TERMINALS WHICH WILL ACCEPT UP TO #10 WIRE. GENERAL USE SNAP SWITCH, UL NO. 20 LISTED, SELF-GROUNDING BINDING SCREW-TYPE TERMINALS WITH WHITE TOGGLE, NUMBER OF POLES AS INDICATED ON THE DRAWINGS. SCREW-TYPE TERMINAL OR SCREW CLAMP TYPE ONLY. INSTALL SWITCHES WITH OFF POSITION DOWN.

**DEVICE PLATES:**  
PROVIDE ONE PIECE ROUNDED EDGE "STREAMLINE" DESIGN FLUSH DEVICE PLATES OF STAINLESS STEEL, COUNTERSUNK SCREWS TO MATCH DEVICE PLATE.





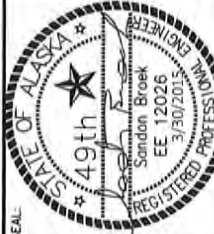
**SUPPORTS:**  
SUPPORT ALL ELECTRICAL EQUIPMENT INCLUDING, BUT NOT LIMITED TO, LIGHT FIXTURES, BOXES, CONDUIT, ETC., PER NEC. PROVIDE NON-METALLIC SUPPORTS, STRUT, HANGARS AND OTHER MATERIAL WHERE REQUIRED FOR CORROSION RESISTANCE.

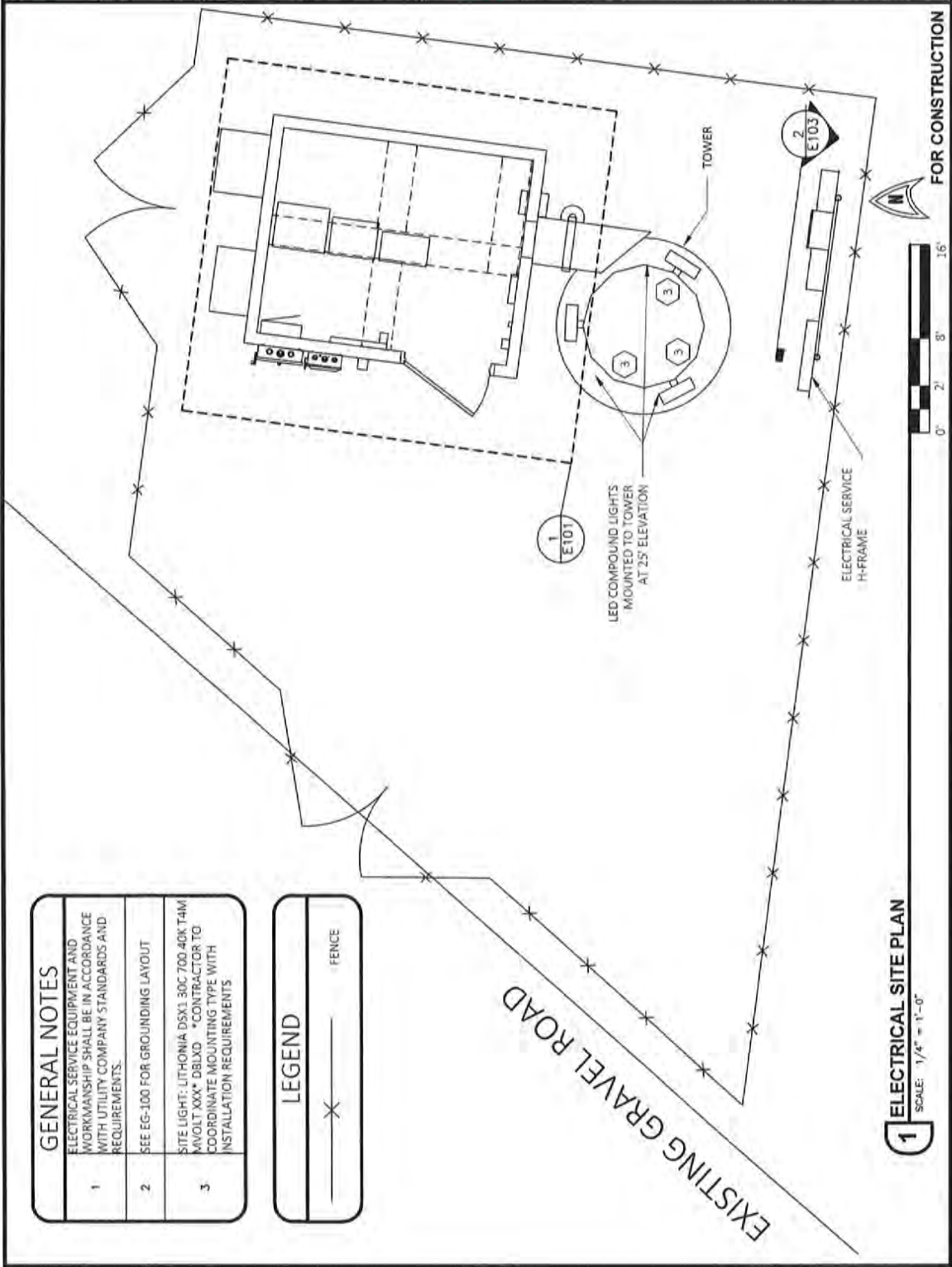
**SAFETY SWITCHES:**  
PROVIDE GENERAL DUTY, 480V, 3 PHASE NEMA 1 OR 3R, NON-FUSIBLE AND FUSIBLE SAFETY SWITCHES WITH PROVISIONS FOR CLASS J FUSING. SWITCHES SHALL BE CAPABLE OF BEING LOCKED IN THE OFF POSITION. SIZE SWITCHES FOR CONNECTED LOAD.

**PANELBOARDS:**  
PROVIDE NEW BRANCH CIRCUIT BREAKERS OF THE SAME TYPE AS THE PANELBOARD AND RATING AS SHOWN ON THE DRAWINGS. PRIOR TO COMPLETION OF THE PROJECT, PROVIDE A NEW, TYPED CIRCUIT DIRECTORY FOR EACH OF THE PANELBOARDS SHOWING CIRCUITING ARRANGEMENT. ALL PANELBOARDS AND SWITCHGEAR SHALL BE SQUARE D, UNLESS OTHERWISE APPROVED BY OWNER.

**FOR CONSTRUCTION**

PLANS PREPARED FOR:  3550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  TOWER ENGINEERING PROFESSIONALS ANCHORAGE, AK 99502	PLANS PREPARED BY:  Q ENGINEERS, INC 700 W. 4TH AVENUE, STE 201 ANCHORAGE, AK 99501	SEAL:  REGISTERED PROFESSIONAL ENGINEER STATE OF ALASKA 49th Sandon Brook EE 12026 3/30/2011	<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">REV.</td> <td style="width: 20%;">DATE</td> <td style="width: 10%;">ISSUED FOR:</td> <td style="width: 15%;">CHECKED BY: SB</td> </tr> <tr> <td> </td> <td> </td> <td> </td> <td> </td> </tr> </table> SHEET TITLE: <b>ELECTRICAL SPECIFICATIONS</b>	REV.	DATE	ISSUED FOR:	CHECKED BY: SB					SHEET NUMBER: <b>E-001</b> REVISION: TEP #
REV.	DATE	ISSUED FOR:	CHECKED BY: SB												

PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  <b>TOWER ENGINEERING PROFESSIONALS</b> 328 3000 ROAD ANCHORAGE, AK 99503	PLANS PREPARED BY:  <b>Q ENGINEERS, INC</b> 700 W INT AIRPORT RD, STE 201 ANCHORAGE, AK 99503	SEAL: 	REV#    DATE    ISSUED FOR: _____    _____    _____ DRAWN BY: DWT    CHECKED BY: SBP	<b>ELECTRICAL OVERALL SITE PLAN</b>	SHEET NUMBER: <b>E-100</b>	REVISION: _____ TEP #
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GENERAL NOTES	
1	ELECTRICAL SERVICE EQUIPMENT AND WORKMANSHIP SHALL BE IN ACCORDANCE WITH UTILITY COMPANY STANDARDS AND REQUIREMENTS.
2	SEE EG-100 FOR GROUNDING LAYOUT
3	SITE LIGHT: LITHONIA DSX1 30C 700 40K T4M MVOLT XXX DBLXD "CONTRACTOR TO COORDINATE MOUNTING TYPE WITH INSTALLATION REQUIREMENTS"

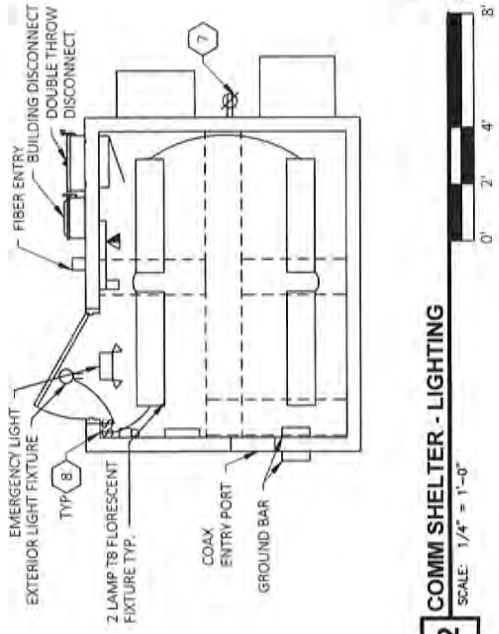
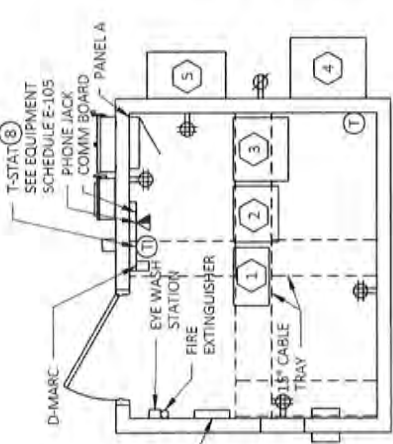
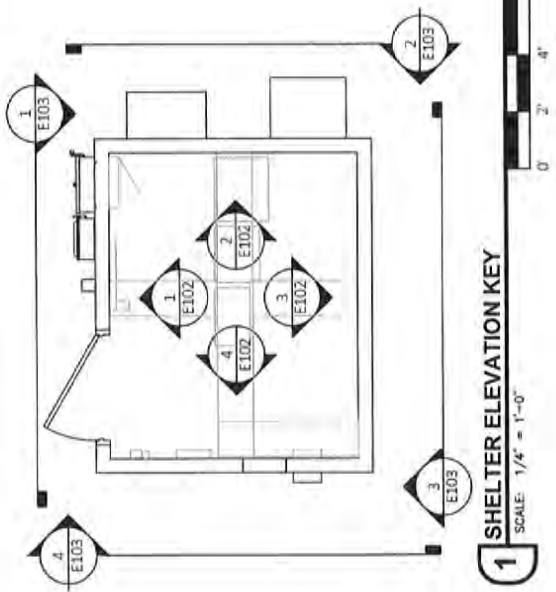
LEGEND	
	FENCE

**1 ELECTRICAL SITE PLAN**  
 SCALE: 1/4" = 1'-0"

FOR CONSTRUCTION

PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  TOWER ENGINEERING PROFESSIONALS 300 PROSPECTOR ANCHORAGE AK 99503	PLANS PREPARED BY:  Q ENGINEERS, INC 1000 W. AIRPORT RD. STE.201 ANCHORAGE AK 99503		REV:    DATE:    ISSUED FOR: DRAWN BY: OWT    CHECKED BY: BS	SHEET TITLE: <b>COMM SHELTER -          POWER AND LIGHTING</b>	SHEET NUMBER: <b>E-101</b>	REVISION: TYP #
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SHEET NOTES	
1	23" RELAY RACK
2	RBS 6201
3	PBC 6200
4	1800 CFM DC FREE AIR COOLER PROVIDED BY GCI
5	3 TON BARD HYAC PROVIDED BY GCI
6	3000W 240V AC HEATER PROVIDED BY GCI
7	OUTSIDE RECEPTACLES SHALL BE INSTALLED WITH WEATHER-PROOF COVER
8	ALL ELECTRICAL DEVICE COVERS SHALL BE STAINLESS STEEL



<b>2 COMM SHELTER - LIGHTING</b> SCALE: 1/4" = 1'-0"	<b>3 COMM SHELTER - POWER</b> SCALE: 1/4" = 1'-0"
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FOR CONSTRUCTION

PLANS PREPARED FOR:  
  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 400 W. 10TH ST.  
 ANCHORAGE, AK 99501

PLANS PREPARED BY:  
  
**Q ENGINEERS, INC**  
 700 W. 4TH AVENUE, STE. 201  
 ANCHORAGE, AK 99501

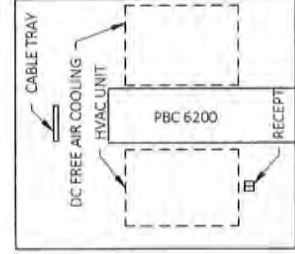


REV	DATE	ISSUED FOR:
DRAWN BY: DWT		CHECKED BY: SS

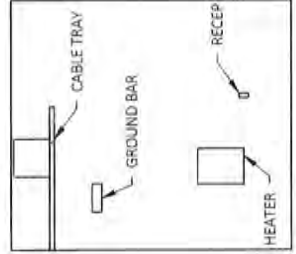
SHEET TITLE:  
**COMM SHELTER -  
 INTERIOR ELEVATIONS**

SHEET NUMBER:  
**E-102**

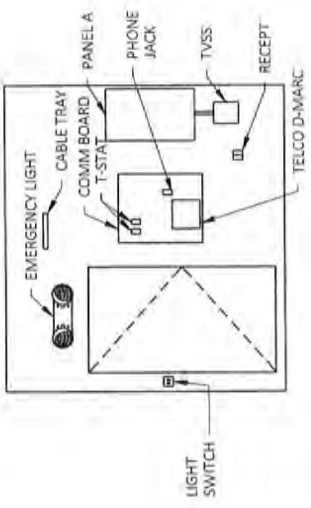
REVISION:  
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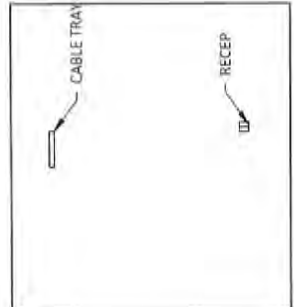
**2 WEST INT. ELEVATION**  
 SCALE: 1/4" = 1'-0"



**4 EAST INT. ELEVATION**  
 SCALE: 1/4" = 1'-0"



**1 SOUTH INT. ELEVATION**  
 SCALE: 1/4" = 1'-0"





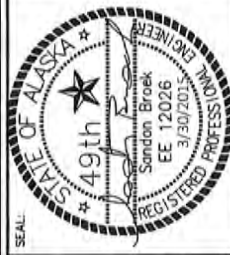


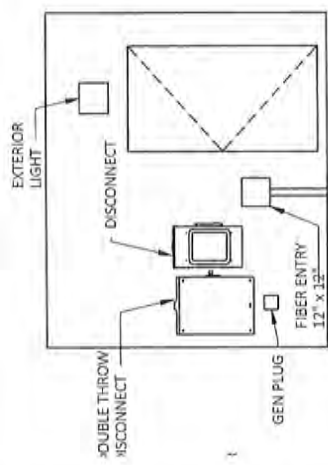
**3 NORTH INT. ELEVATION**  
 SCALE: 1/4" = 1'-0"



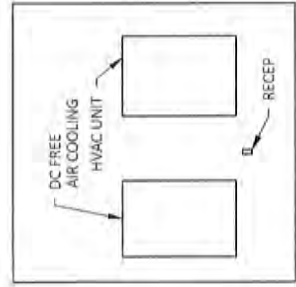
FOR CONSTRUCTION



PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  <b>TOWER ENGINEERING PROFESSIONALS</b> 1000 W. 10TH AVE. ANCHORAGE, AK 99501	PLANS PREPARED BY:  <b>Q ENGINEERS, INC</b> 700 W. 4TH AVENUE, STE 201 ANCHORAGE, AK 99501	SEAL: 	REV. DATE ISSUED FOR: DRAWN BY: CWT CHECKED BY: JSB	SHEET TITLE: <b>COMM SHELTER -          EXTERIOR          ELEVATIONS</b>	SHEET NUMBER: <b>E-103</b>	REVISION: TYP #
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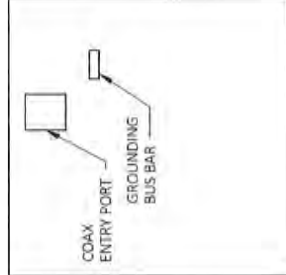
**1** SOUTH EXT. ELEVATION  
 SCALE: 1/4" = 1'-0"



**2** WEST EXT. ELEVATION  
 SCALE: 1/4" = 1'-0"



**3** NORTH EXT. ELEVATION  
 SCALE: 1/4" = 1'-0"



**4** EAST EXT. ELEVATION  
 SCALE: 1/4" = 1'-0"



FOR CONSTRUCTION

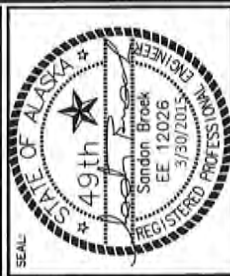
PLANS PREPARED FOR:  
  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY:  
  
 TOWER ENGINEERING PROFESSIONALS  
 315 W. 10TH AVE.  
 ANCHORAGE, AK 99501

PLANS PREPARED BY:  
  
 G ENGINEERS, INC  
 700 W. 4TH AVENUE, SUITE 201  
 ANCHORAGE, AK 99501



REV	DATE	ISSUED FOR:

SHEET TITLE:  
**H-FRAME ELEVATION  
 AND PANEL  
 SCHEDULE**

SHEET NUMBER:  
**E-104**

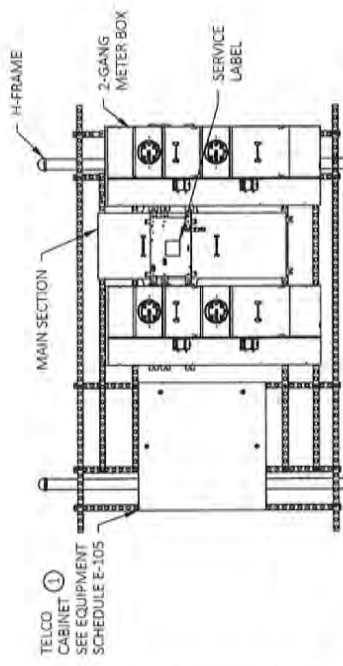
**WARNING**

**HIGH VOLATGE**

MAXIMUM AVAILABLE FAULT CURRENT:  
 9,600 AMPERES  
 DATE: 1/27/2015  
 XFMR RATINGS: 100 KVA  
 XFMR IMPEDANCE: 4%  
 CONDUCTOR DISTANCE: 125 FEET  
 NOTE: AT TIME OF DESIGN, THE ACTUAL UTILITY  
 TRANSFORMER CHARACTERISTICS WERE NOT  
 AVAILABLE  
 FED FROM: ELECTRICAL SERVICE H-FRAME

NOTE: LABEL TO BE LOCATED AT FIRST POINT OF DISCONNECT

**1 SERVICE LABEL**  
 SCALE: NTS



NOTE: SEE CIVIL FOR H-FRAME CONSTRUCTION REQUIREMENTS.

**2 H-FRAME ELEVATION**  
 SCALE: NTS

FOR CONSTRUCTION

GCI PANEL SCHEDULE									
Panel Name: GCI PANEL									
Panel Amperage: 225A									
Voltage & Phase: 120/240-1Ø									
Mounting: Surface									
Other: MLO									
Description	Brk	Phase	Btk	Description					
Ericsson PBC6200	202	1 A	2 20/2	3000 W/HEATER					
—	—	3 B	4 —	—					
Ericsson PBC6200	20/2	5 A	6 35/2	3 TON HVAC					
—	—	7 B	8 —	—					
Ericsson PBC6200	20/2	9 A	10 20/1	RECEPT, INDOOR					
—	—	11 B	12 20/1	RECEPT, INDOOR					
Ericsson PBC6200	202	13 A	14 20/1	RECEPT, OUTDOOR					
—	—	15 B	16 20/1	LIGHTS					
SMOKE DETECTOR	20/1	17 A	18 20/1	EXTERIOR LIGHTS					
—	—	19 B	20 —	—					
—	—	21 A	22 —	—					
Load Codes	VA Load per Phase			Calculations					
	A	B	C	Total VA	Multiplier	VA Load			
C = Cooling Only	0	0	0	0	0.00	0			
E = Existing Load	0	0	0	0	1.25	0			
H = Heating Only	1920	1920	0	3840	1.00	3840			
K = Kitchen	0	0	0	0	1.00	0			
L = Lighting	500	500	0	1000	1.25	1250			
M = Motors	2784	2784	0	5568	1.00	5568			
O = Other Load	7260	7260	0	14520	1.00	14520			
R = Receptacles	540	180	0	720	1.00	720			
Load Totals	13004	12644	0	25648	1.01	25858			
Total VA Loads	13129	12769	0						
Load Balance	101.4%	96.6%	0.0%						
Total VA of Largest Motor on this Panel				6440	0.25	1610			
VA Load This Panel				27508					
Amperage This Panel Per Largest Phase VA				116.1					
KW @ .85 PF				23.4					

PLANS PREPARED FOR:  
  
 2550 DENAU ST, SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2550 DENAU ST, SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY:  
  
 TORNER ENGINEERING PROFESSIONALS  
 2500 BRIDGEWAY  
 ANCHORAGE, AK 99503

PLANS PREPARED BY:  
  
 Q ENGINEERS, INC  
 700 W. 4TH AVENUE, SUITE 207  
 ANCHORAGE, AK 99501



REV.	DATE	ISSUED FOR:

DRAWN BY: DMF  
 CHECKED BY: SSE  
 SHEET TITLE:  
**ELECTRICAL ONE-LINE**

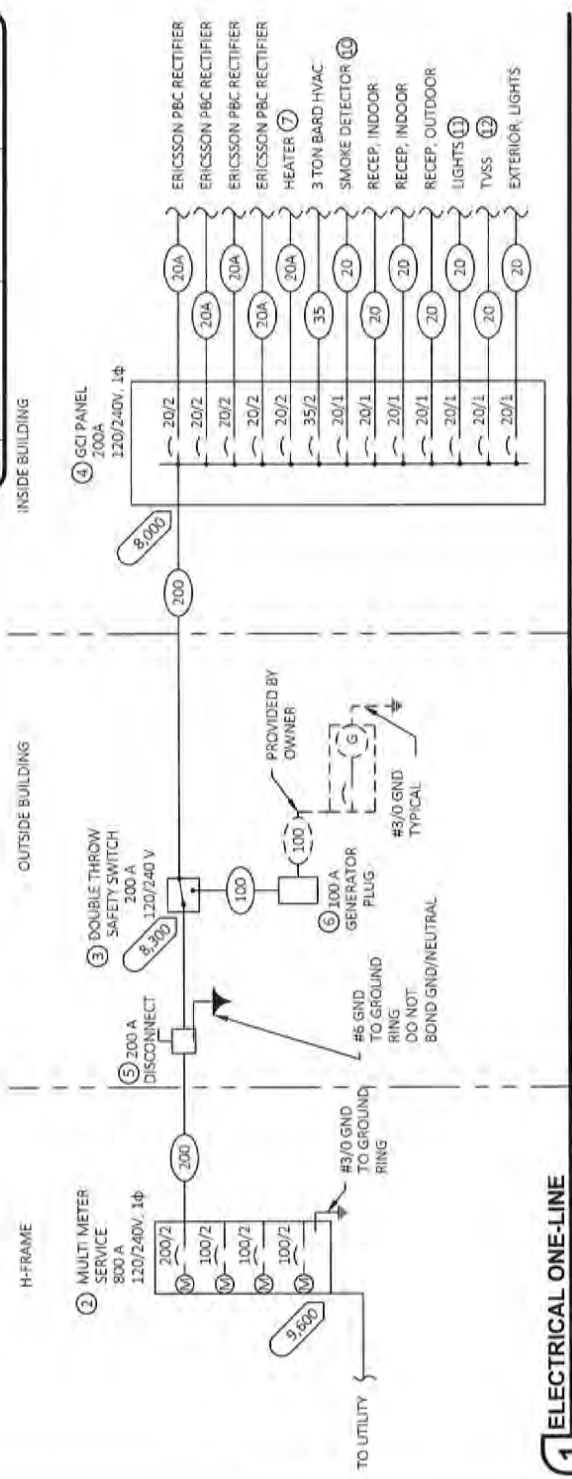
SHEET NUMBER:  
**E-105**  
 REVISION:  
 TEP #

### EQUIPMENT LIST

ITEM #	EQUIPMENT	MANUFACTURER	MODEL
1	TELECOM BOX	HOFFMAN	ASBR3612HCR
2	4-PACK METERBASE, 800A	SQUARE-D	EZMT112225
3	MANUAL TRANSFER SWITCH, 200A	SQUARE-D	DTU324NRB
4	LOAD CENTER, 30 SPACE, 200A	SQUARE-D	DO130L200G
5	DISCONNECT, NON-FUSED, 200A	SQUARE-D	HU364RB
6	GENSET RECEPTACLE	APPLETON	ADR1044RS
7	BASEBOARD HEATER, 72"	CADET	6F1500W
8	HEATER T-STAT	HONEYWELL	CT410B
9	DOOR ALARM CONTACTS	SENTROL	1045T
10	SMOKE DETECTOR	EDWARDS	EDW517T
11	LIGHT FIXTURE	LITHONIA	SB43212014 GESB
12	TVSS	RAYCAP	L52X0R

### FEEDER SCHEDULE

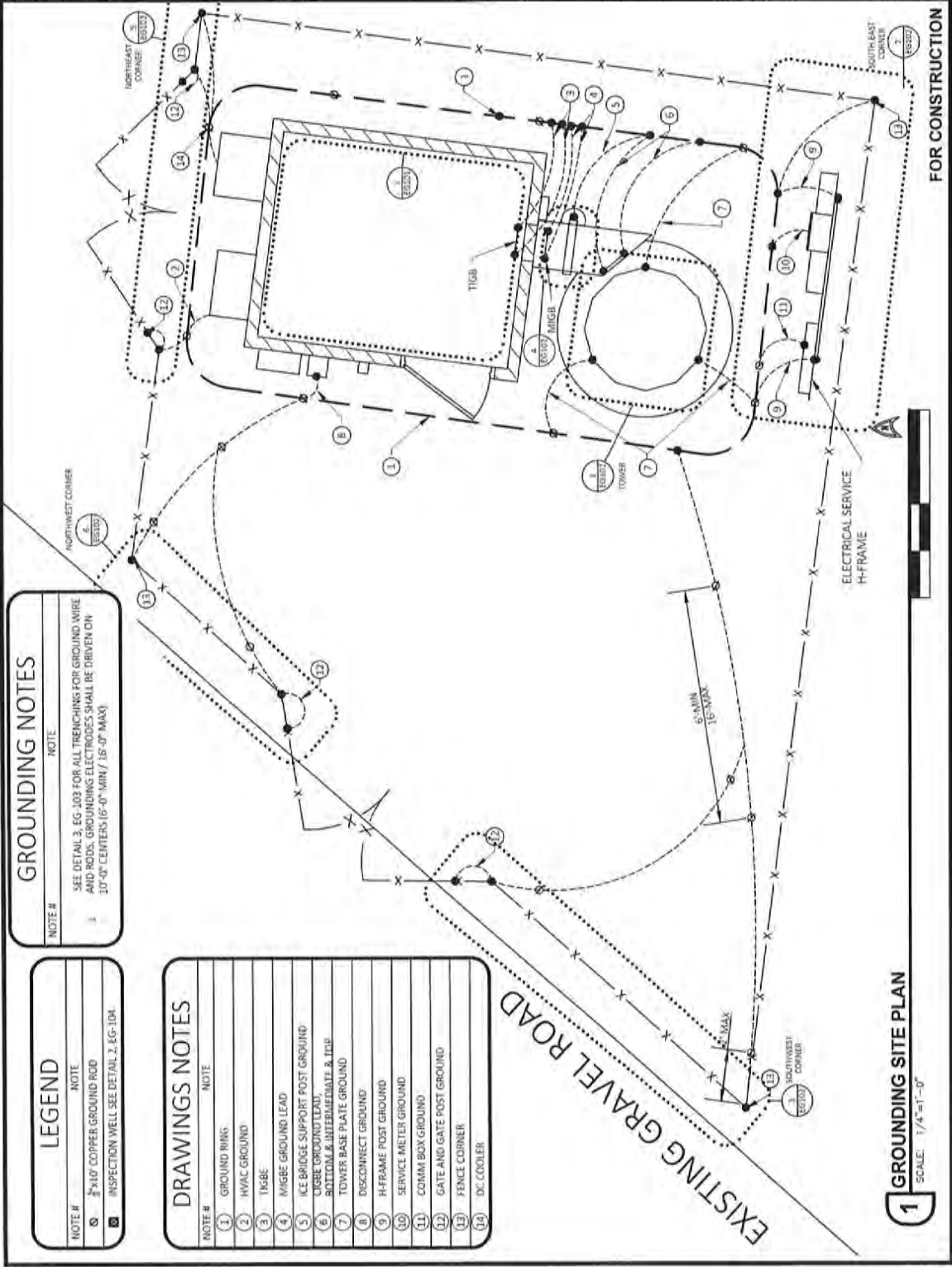
FEEDER #	# OF SETS	# OF HOTS	HOT SIZE (AWG/KCMIL)	# OF NEUTRALS	NEUTRAL SIZE (AWG/KCMIL)	# OF GROUNDS	GROUND SIZE (AWG/KCMIL)	INSULATION TYPE	CONDUIT TYPE	CONDUIT SIZE (IN.)
20	1	1	#12	1	#12	1	#12	THHN	EMT	1/2"
20A	1	2	#12	1	#12	1	#12	THHN	EMT	1/2"
35	1	2	#8	1	#8	1	#10	THHN	EMT	3/4"
50	1	2	#6	1	#6	1	#10	XHHW	RMC	1"
100	1	2	#2	1	#2	1	#8	XHHW	RMC	1-1/4"
200	1	2	#3/0	1	#3/0	1	#6	XHHW	RMC	2"



**1 ELECTRICAL ONE-LINE**  
 SCALE: NTS

**FOR CONSTRUCTION**

PLANS PREPARED FOR:  2550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  TIME ENGINEERING PROFESSIONALS ANCHORAGE, AK 99503	PLANS PREPARED BY:  Q ENGINEERS, INC 707N 4TH AVENUE, SUITE 200 ANCHORAGE, AK 99501	SEAL: 	REV. DATE ISSUED FOR: DRAWN BY: CAR   CHECKED BY: JMC SHEET TITLE: <b>GROUNDING PLAN AND DETAILS</b>	SHEET NUMBER: <b>EG-100</b> REVISION: REF. #
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**GROUNDING NOTES**

NOTE #	NOTE
1	SEE DETAIL 3, EG-100 FOR ALL TRENCHING FOR GROUND WIRE AND RODS. GROUNDING ELECTRODES SHALL BE DRIVEN ON 10'-0" CENTERS (6'-0" MIN / 16'-0" MAX)

**LEGEND**

NOTE #	NOTE
1	1/2" x 10' COPPER GROUND ROD
2	INSPECTION WELL SEE DETAIL 2, EG-104.

**DRAWINGS NOTES**

NOTE #	NOTE
1	GROUND RING
2	HVAC GROUND
3	TIGBE
4	MIGBE GROUND LEAD
5	ICE BRIDGE SUPPORT POST GROUND
6	CIRCUIT BREAKER, DISCONNECT & TIE
7	TOWER BASE PLATE GROUND
8	DISCONNECT GROUND
9	H-FRAME POST GROUND
10	SERVICE METER GROUND
11	COMM BOX GROUND
12	GATE AND GATE POST GROUND
13	FENCE CORNER
14	DC COOLER

**1** GROUNDING SITE PLAN  
SCALE: 1/4"=1'-0"

FOR CONSTRUCTION

PLANS PREPARED FOR: **MARSHCREEK**  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR: **AWN**  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY: **TOWER ENGINEERING PROFESSIONALS**  
 ANCHORAGE, AK 99503

PLANS PREPARED BY: **Q ENGINEERS, INC**  
 700 W. 4th AVENUE, SUITE 201  
 ANCHORAGE, AK 99501

SEAL: **STATE OF ALASKA**  
 49th  
 Sandton Brook  
 EE 12026  
 3/30/2015  
 REGISTERED PROFESSIONAL ENGINEER

REV. DATE ISSUED FOR:  
 DRAWN BY: [ ] CHECKED BY: [ ]

SHEET TITLE:  
**GROUNDING ONE-LINE  
 LEGEND AND  
 SCHEDULES**

SHEET NUMBER: **EG-101**  
 REVISION: [ ]  
 TEP # [ ]

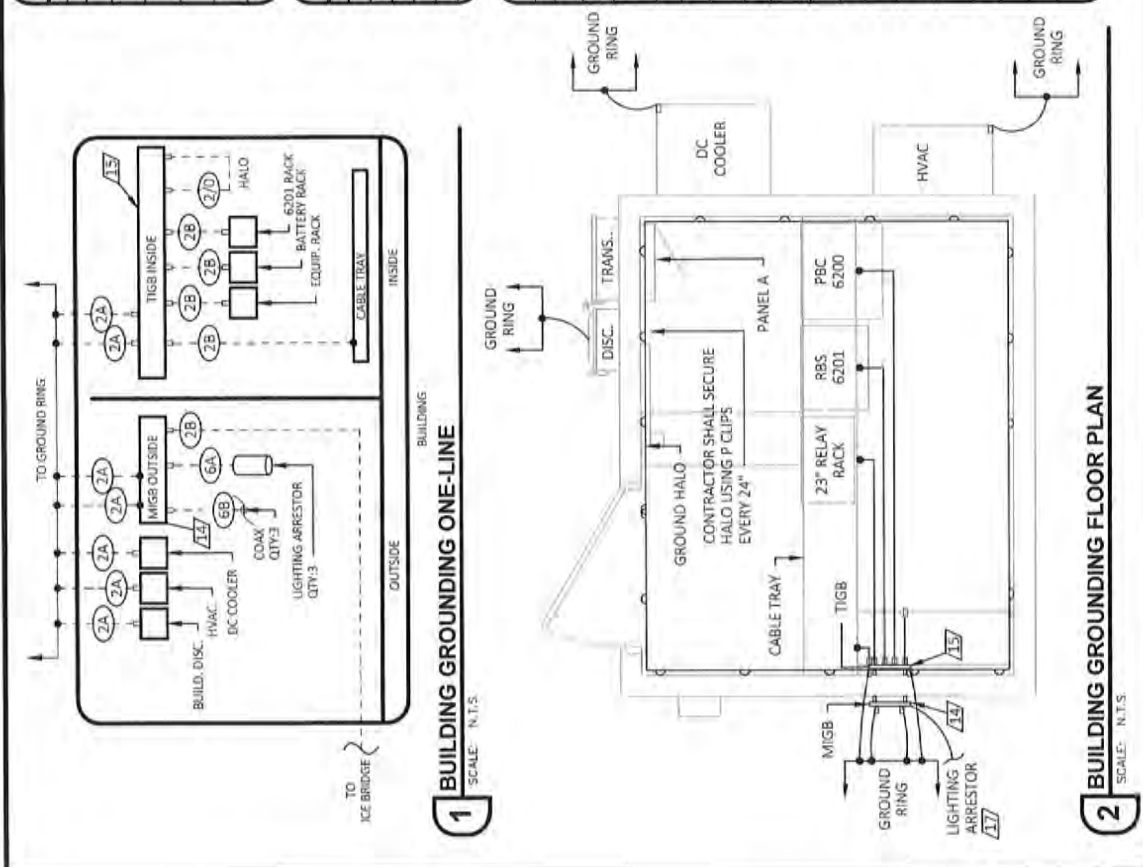
LEGEND	
SYMBOL	TYPE
—	MECHANICAL CONNECTION
—	CADWELD CONNECTION
○	GROUND ROD
⊗	FENCE CORNER
○	POST, FENCE/H/F/RAME
—	P CLAMP
—	COAX/WAVEGUIDE GROUND. SEE DETAIL 7, EG-106

GROUNDING SCHEDULE	
FEEDER	TYPE
2A	SOLID
2B	GREEN XHHW
6A	GREEN XHHW
6B	STRANDED COPPER GROUND WIRE
6C	SUPERFLEX OR WELDING CABLE
2/0	STRANDED INSULATED GROUND WIRE

DETAIL SCHEDULE			
SYMBOL	DETAIL NAME	SHEET NUMBER	DETAIL NUMBER
1/1	SINGLE CONNECTOR AT GROUND BARS	EG-103	1
2/1	SINGLE CONNECTOR AT STEEL OBJECTS	EG-103	1
3/1	SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS	EG-103	1
4/1	TEST WELL DETAIL	EG-103	2
5/1	TRENCH DETAIL	EG-103	3
6/1	ICE BRIDGE, COAX, STANCHION AND TOWER GROUNDING DETAIL	EG-104	1
7/1	CADWELD AND GROUND ROD DETAIL	EG-105	1
8/1	STANDARD GROUND BAR ISOMETRIC DETAIL	EG-105	2
9/1	STANDARD GROUND BAR SIDE DETAIL	EG-105	3
10/1	TYPE 1 GROUND BAR	EG-106	1
11/1	TYPE 2 GROUND BAR	EG-106	2
12/1	COAX ISOLATED GROUND BAR EXTERNAL CIGBE - BOTTOM	EG-106	3
13/1	COAX ISOLATED GROUND BAR EXTERNAL CIGBE - INTERMEDIATE AND TOP	EG-106	4
14/1	MAIN INSULATED GROUND BAR (MIGB)	EG-106	5
15/1	TELCO GROUNDING INSIDE SHELTER (TIGB)	EG-106	6
16/1	COAX GROUNDING DETAIL	EG-106	7
17/1	LIGHTING ARRESTOR DETAIL	EG-106	8
18/1	WALL PENETRATION DETAIL	EG-106	9



FOR CONSTRUCTION

PLANS PREPARED FOR:  
**MARSH CREEK**  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
**AWN**  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY:  
**TOWER ENGINEERING PROFESSIONALS**  
 437 STROUD ROAD  
 MEDINA, MO 64461

PLANS PREPARED BY:  
**Q ENGINEERS, INC**  
 700 W. AIRPORT RD. STE 201  
 ANCHORAGE, AK 99503

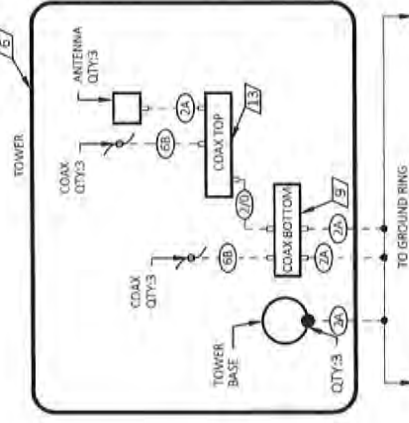


REV	DATE	ISSUED FOR
DRAWN BY: DMT		CHECKED BY: SB

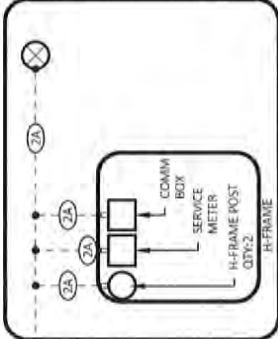
SHEET TITLE:  
**GROUNDING SITE DETAILS**

SHEET NUMBER:  
**EG-102**

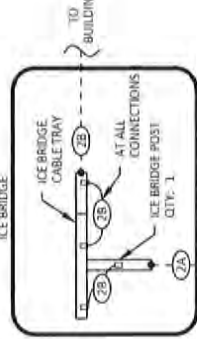
REVISION:  
 REP #:



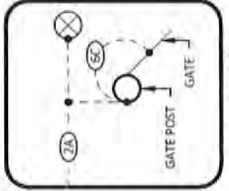
**1 TOWER GROUNDING**  
 SCALE: N.T.S.



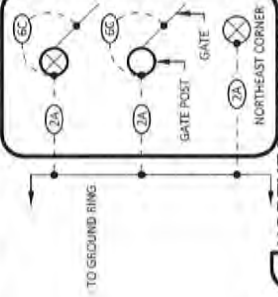
**2 SOUTH EAST CORNER**  
 SCALE: N.T.S.



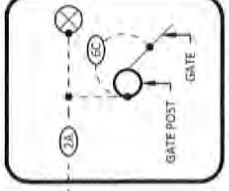
**4 ICE BRIDGE**  
 SCALE: N.T.S.



**3 SOUTH WEST CORNER**  
 SCALE: N.T.S.







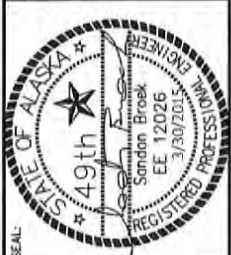
**5 NORTH EAST CORNER**  
 SCALE: N.T.S.

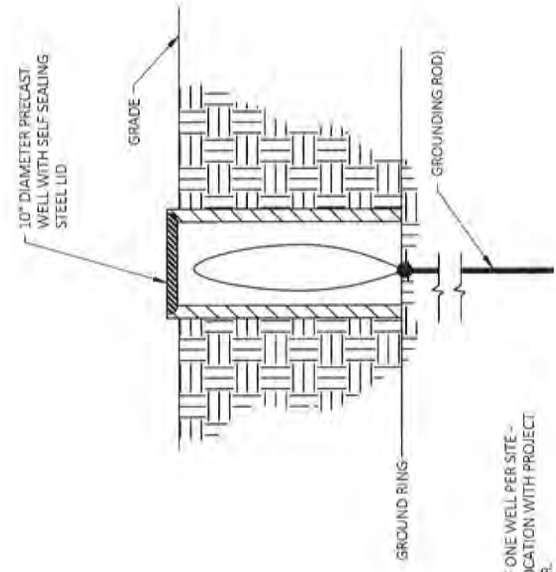


**6 NORTH WEST CORNER**  
 SCALE: N.T.S.

GROUNDING SCHEDULE	
FEEDER	TYPE
2A	#2 SOLID
2B	GREEN XHHW #2
2C	GREEN XHHW #6
2D	STRANDED COPPER GROUND WIRE #6
2E	SUPERFLEX OR WELDING CABLE #6
2/0	STRANDED INSULATED GROUND WIRE

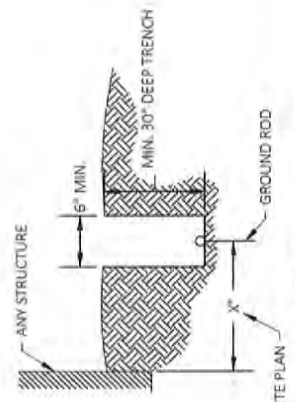
FOR CONSTRUCTION

PLANS PREPARED FOR:  2550 DENAU ST., SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENAU ST., SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  TOWER ENGINEERING PROFESSIONALS 307 STATION ROAD ANCHORAGE, AK 99503	PLANS PREPARED BY:  <b>Q ENGINEERS, INC</b> 701 W. AIRPORT RD. STE 201 ANCHORAGE AK 99503	SEAL: 	REV. DATE ISSUED FOR: DRAWN BY: CHECKED BY: SHEET TITLE: <b>GROUNDING DETAILS</b>	SHEET NUMBER: <b>EG-103</b>	REVISION: REF. #
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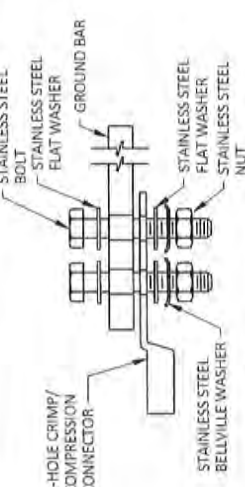


NOTE:  
TOTAL OF ONE WELL PER SITE -  
VERIFY LOCATION WITH PROJECT  
MANAGER.

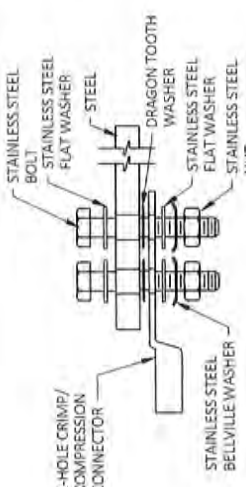
**2** INSPECTION WELL DETAIL  
SCALE: N.T.S.



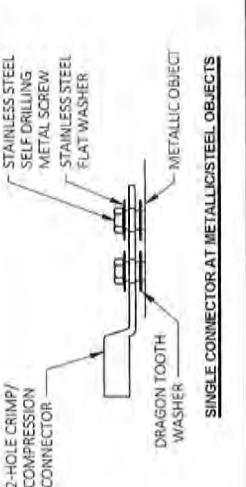
**3** TRENCH DETAIL  
SCALE: N.T.S.



**SINGLE CONNECTOR AT GROUND BARS**



**SINGLE CONNECTOR AT STEEL OBJECTS**





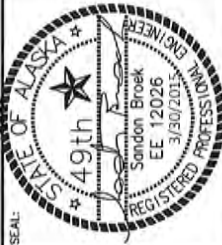


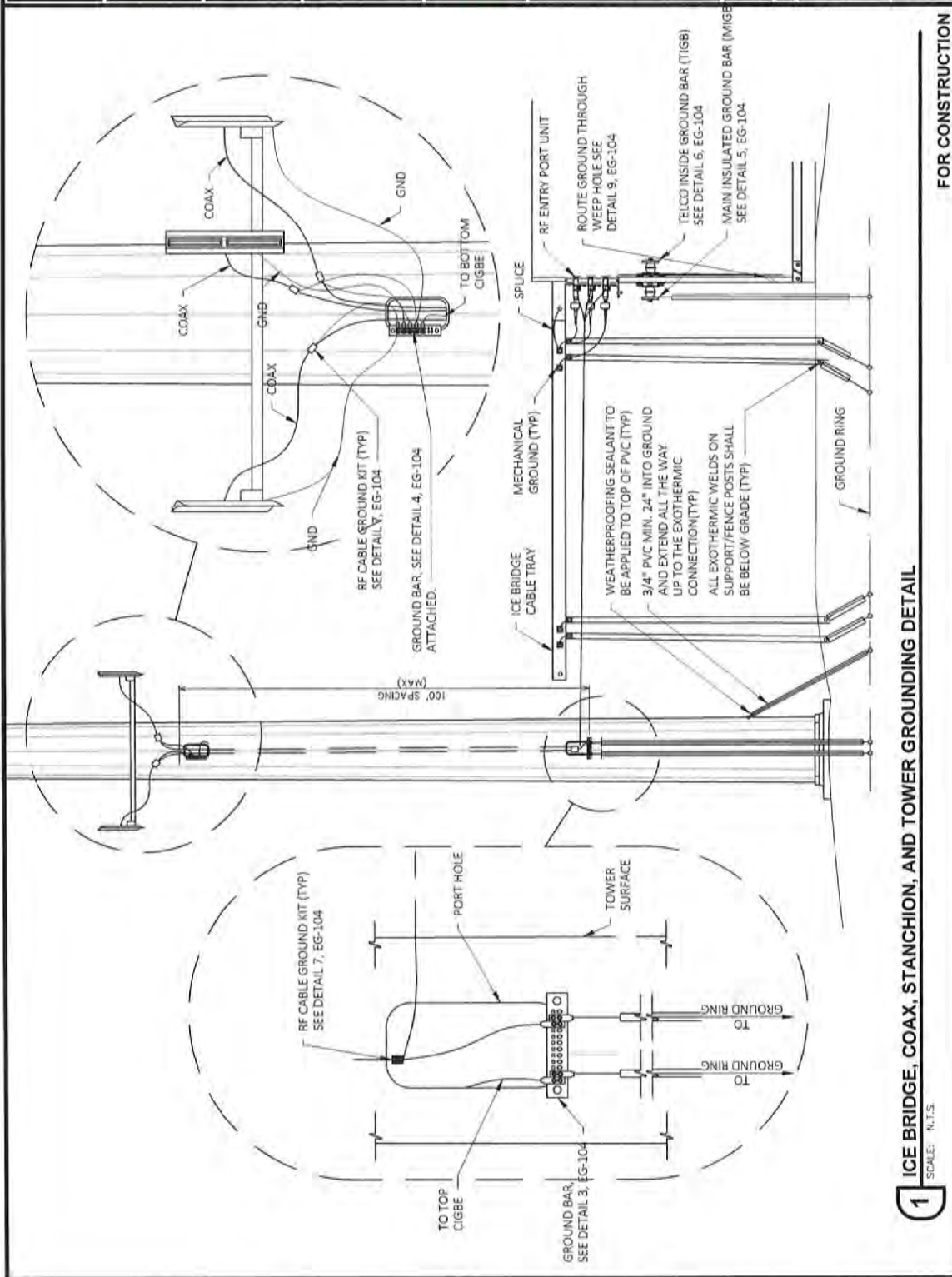
**SINGLE CONNECTOR AT METALLIC/STEEL OBJECTS**

- 1) CHOOSE BOLT LENGTH TO ALLOW A MIN. OF THREE THREADS EXPOSED.
- 2) BURNISH MOUNTING SURFACE TO REMOVE PAINT IN THE AREA OF THE CONNECTOR
- 3) APPLY ANTI-OXIDANT COMPOUND TO MATING SURFACE OF CONNECTOR AND WIPE OFF EXCESS COMPOUND
- 4) APPLY CLEAR HEAT-SHRINK OVER ENTIRE LENGTH OF LABEL FOR PROTECTION.

**1** CONNECTOR AND HARDWARE DETAIL  
SCALE: N.T.S.





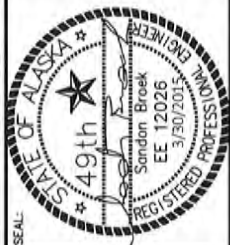
FOR CONSTRUCTION

PLANS PREPARED FOR:  2550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST., SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  TOWER ENGINEERING PROFESSIONALS 2000 W. 10TH AVE. ANCHORAGE, AK 99503	PLANS PREPARED BY:  <b>Q ENGINEERS, INC</b> 700 W. 4TH AVENUE, SUITE 201 ANCHORAGE, AK 99501	SEAL: 	REV.    DATE    ISSUED FOR: _____ DRAWN BY:    CHECKED BY: _____ SHEET TITLE: <b>GROUNDING DETAILS</b>	SHEET NUMBER: <b>EG-104</b> REVISION: _____ TYP #: _____
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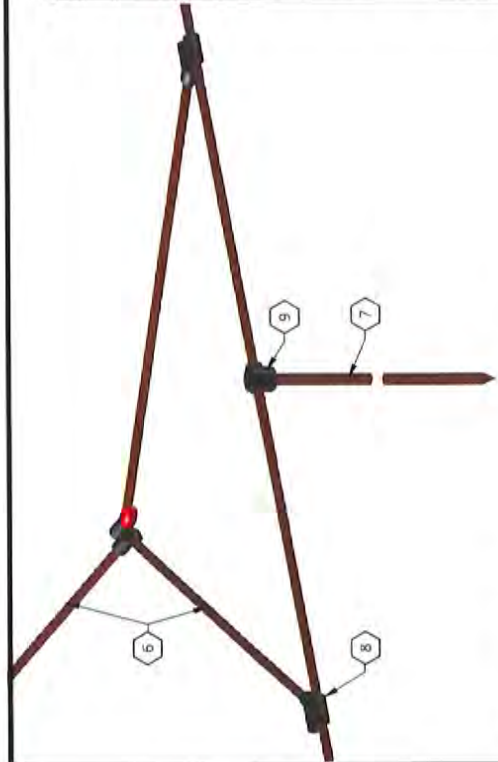


**1 ICE BRIDGE, COAX, STANCHION, AND TOWER GROUNDING DETAIL**  
 SCALE: N.T.S.  
**FOR CONSTRUCTION**

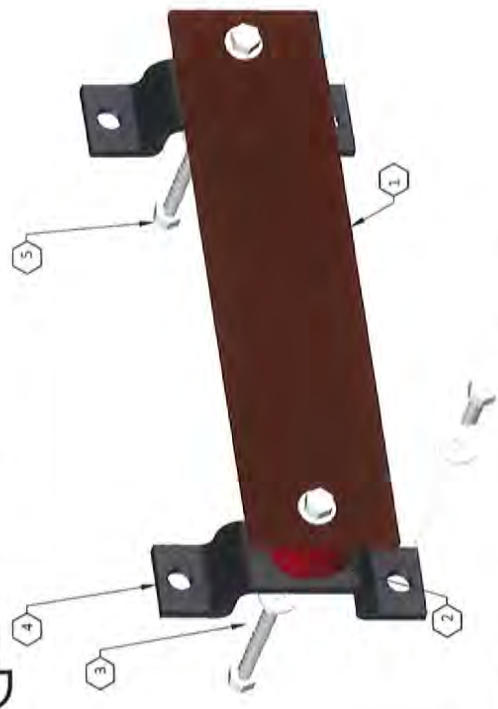


PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PLANS PREPARED FOR:  2550 DENALI ST, SUITE 1000 ANCHORAGE, AK 99503	PROJECT INFORMATION: <b>GILMORE TRAIL</b>	PLANS PREPARED BY:  <b>TOWER ENGINEERING PROFESSIONALS</b> 205 PROGRESS BLVD ANCHORAGE, AK 99503	PLANS PREPARED BY:  <b>Q ENGINEERS, INC</b> 700 W 4TH AVENUE, SUITE 201 ANCHORAGE, AK 99503	SEAL: 	REV. DATE ISSUED FOR: DRAWN BY: CHECKED BY: SHEET TITLE:	SHEET NUMBER: <b>EG-105</b>	REVISION: REV #
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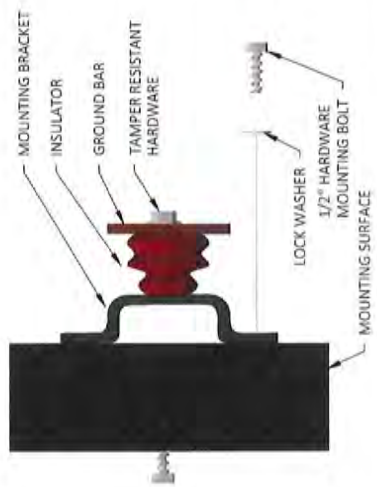
ITEM #	DESCRIPTION
1	TINNED COPPER GROUND BUS BAR, TESSCO 1/4"x4"x20" OR APPROVED EQUAL. HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION
2	INSULATORS, MEET REQUIREMENTS OF UL 94 VO FOR SELF-EXTINGUISHING MATERIALS
3	5/8" LOCKWASHERS
4	WALL MOUNTING BRACKET
5	5/8-11x1" HHCS BOLTS
6	MAIN CONDUCTOR, COPPER CABLE
7	5/8"x10' COPPER CLAD STEEL GROUND ROD
8	CADWELD TYPE "NC"
9	CADWELD TYPE "GT"



**1** GROUND ROD AND CADWELD DETAIL  
SCALE: N.T.S.



**2** ISOLATED GROUND BAR ISOMETRIC DETAIL  
SCALE: N.T.S.



**3** ISOLATED GROUND BAR SIDE DETAIL  
SCALE: N.T.S.

FOR CONSTRUCTION

PLANS PREPARED FOR:  
  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:  
**GILMORE TRAIL**

PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 1020 W. 10th Ave  
 ANCHORAGE, AK 99501

PLANS PREPARED BY:  
  
**Q ENGINEERS, INC**  
 701 W 1st APT 101, SUITE 201  
 ANCHORAGE, AK 99501

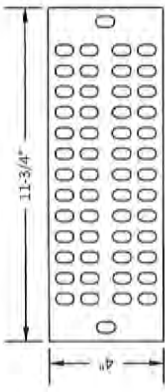


REV: \_\_\_\_\_ DATE: \_\_\_\_\_ ISSUED FOR: \_\_\_\_\_  
 DRAWN BY: \_\_\_\_\_ CHECKED BY: \_\_\_\_\_  
 SHEET TITLE:

**GROUNDING DETAILS**

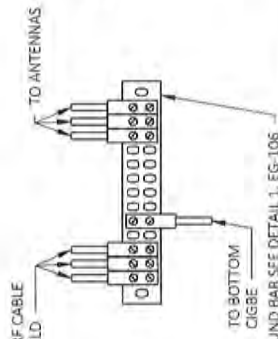
SHEET NUMBER: **EG-106**  
 REVISION:  
 TEP #

**SHEET NOTES**  
 1. ALL GROUND BARS SHALL BE INSTALLED WITH TAMPER RESISTANT MOUNTING HARDWARE

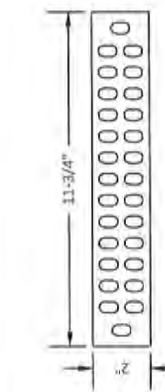
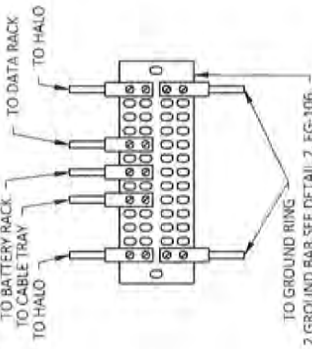


**NOTES**  
 1) 1/2"x4"x1/4" GROUND BAR, ADVANCED TOWER COMPONENTS BB-412 OR SIMILAR  
 2) HOLES TO HAVE 1/8" COUNTERSINK ON EACH SIDE.

**2 TYPE 2 GROUND BAR**  
 SCALE: NTS

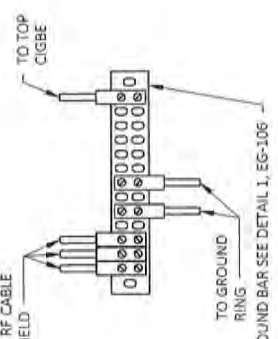


**4 COAX ISOLATED GROUND BAR EXTERNAL CIGBE - TOP**  
 SCALE: NTS

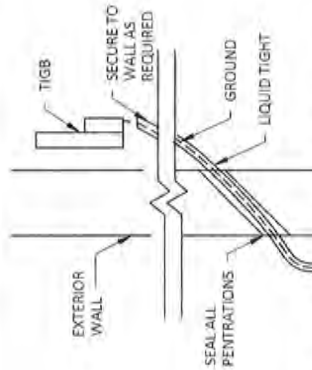
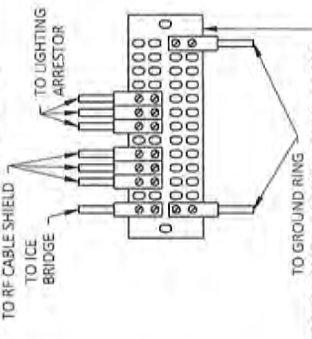


**NOTES**  
 1) 1/2"x2"x1/4" GROUND BAR, ADVANCED TOWER COMPONENTS BB-212 OR SIMILAR  
 2) HOLES TO HAVE 1/8" COUNTERSINK ON EACH SIDE.

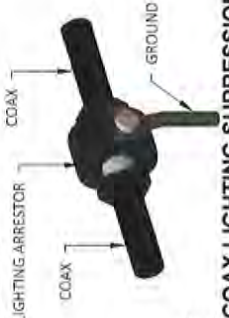
**1 TYPE 1 GROUND BAR**  
 SCALE: NTS



**3 COAX ISOLATED GROUND BAR EXTERNAL CIGBE - BOTTOM**  
 SCALE: NTS



**9 WALL PENETRATION DETAIL**  
 SCALE: NTS



**8 COAX LIGHTING SUPPRESSION**  
 SCALE: NTS

**NOTES:**  
 1) DO NOT INSTALL COAX GROUND KIT AT BEND.  
 2) CONTRACTOR SHALL WEATHERPROOF COAX GROUND



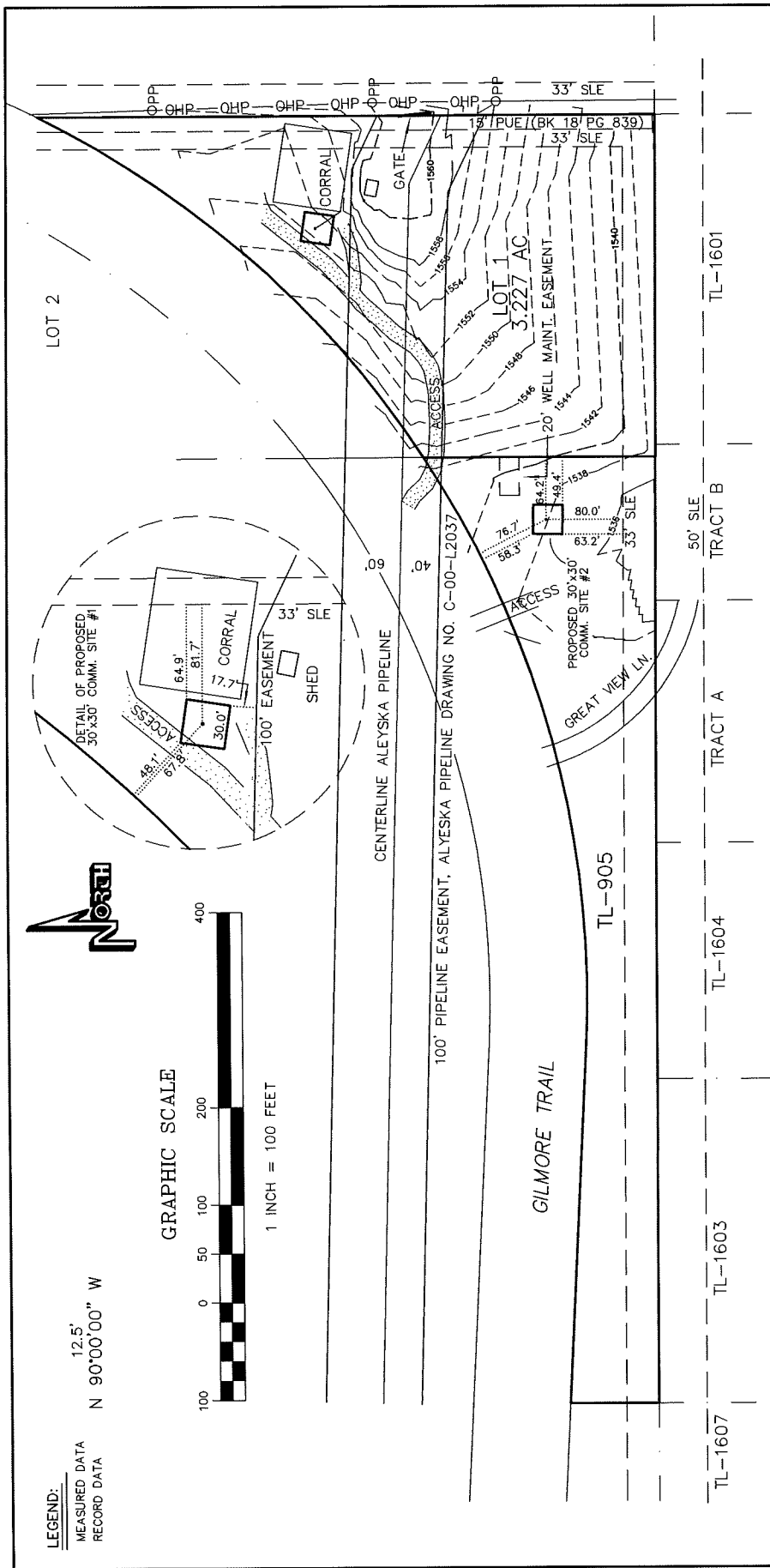
**7 COAX GROUNDING INSIDE**  
 SCALE: NTS

**6 TELCO GROUNDING INSIDE SHELTER (TIGB)**  
 SCALE: NTS

**5 TELCO GROUNDING OUTSIDE SHELTER (MIGB)**  
 SCALE: NTS

FOR CONSTRUCTION

**Exhibit B**  
Site Plan



**LEGEND:**

MEASURED DATA  
RECORD DATA

12.5°  
N 90°00'00" W

**GRAPHIC SCALE**



**NOTES:**

1. ALL BEARINGS, DISTANCES AND AREAS SHOWN ARE RECORD, UNLESS NOTED OTHERWISE.
2. TRANS-ALASKA PIPELINE LOCATION IS DETERMINED BY ABOVE GROUND APPURTENANCES. EXACT LOCATION TO BE DETERMINED.
3. GROUND ELEVATIONS ARE BASED ON NAVD88.
4. PREPARED FOR G.C.I.

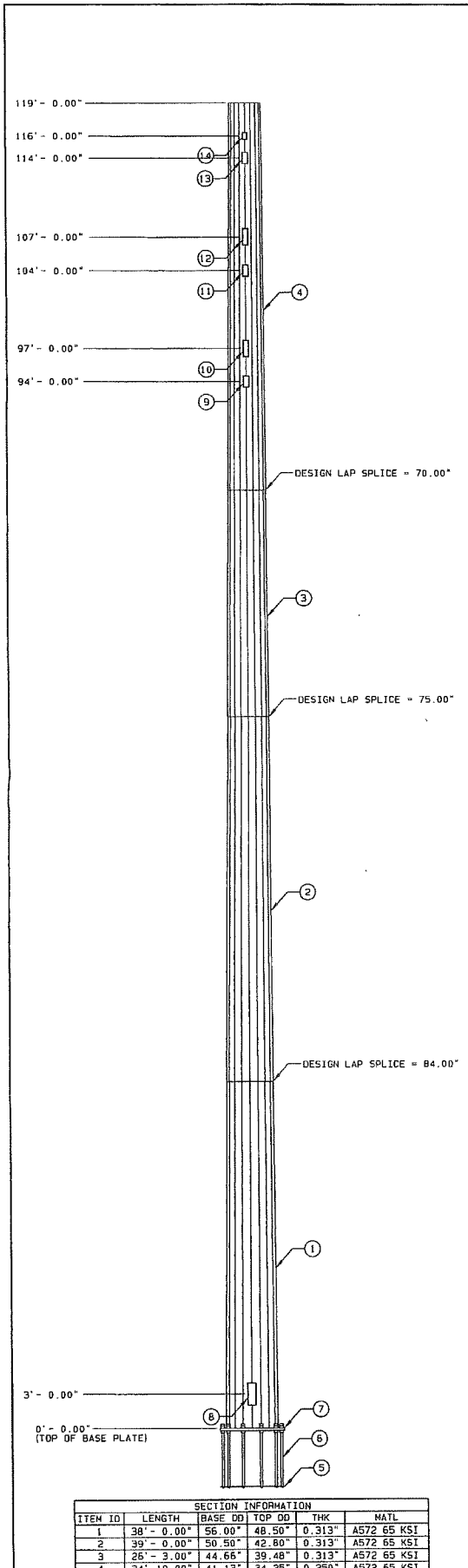
PROJECT TITLE:

GILMORE TRAIL

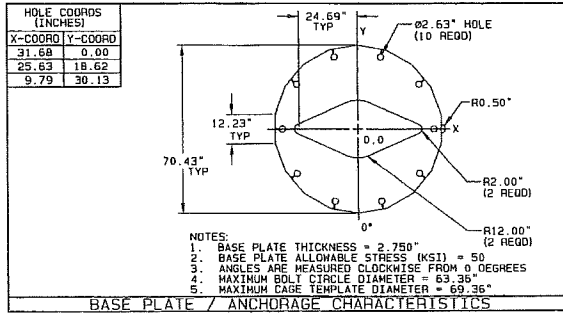
**SITE PLAN**



5095 E. BLUE LUPINE DR #104, WASILLA, AK 99654  
(907) 376-8800 FAX (907) 376-8229 E-MAIL admin@agateksurvey.com



ITEM NO. / RECD	FEATURES	UNIT WEIGHT (LBS)	HEIGHT (LBS)
1	SECTION A VALMONT S-22 0.313" THK (A572 GR65)	6.651	6.661
2	SECTION B VALMONT S-22 0.313" THK (A572 GR65)	6.099	6.099
3	SECTION C VALMONT S-22 0.313" THK (A572 GR65)	3.699	3.699
4	SECTION D VALMONT S-22 0.250" THK (A572 GR65)	3.521	3.521
5	BOTTOM CAGE PLATE	131	131
6	10 2.25" ANCHOR BOLT, LENGTH=5.50" A615 GR75	96	956
7	BASE PLATE VALMONT S-56 2.750" THK (A572 GR50)	2,345	2,345
1	TOP CAGE PLATE (REMOVE BEFORE SETTING POLE)	170	170
1	SAFETY CLIMBING CABLE (LENGTH = 109.00')	68	68
3	GROUNDING LUG	2	6
	GALVANIZING	476	476
102	STEP AND CLIP (VALMONT STANDARD)	1	51
8	3 HAND HOLE STD (9" x 24")	46	144
9	1 HAND HOLE STD (6" x 12")	22	22
10	3 HAND HOLE STD (6" x 18")	18	54
11	1 HAND HOLE STD (6" x 12")	22	22
12	3 HAND HOLE STD (6" x 18")	18	54
13	1 HAND HOLE STD (6" x 12")	22	22
14	3 HAND HOLE UR (6" x 18")		
1	POLE CAP	56	56



**BASE PLATE / ANCHORAGE CHARACTERISTICS**

NOTES:

- FACTORED REACTIONS FOR FOUNDATION DESIGN:  
 MOMENT = 35,803 IN-KIPS  
 SHEAR = 36,550 #  
 VERTICAL = 34,240 #
- GALVANIZED PER ASTM A-123.
- DESIGN CRITERIA: ANSI/TIA 222-G ADDENDUM 2
- THIS STRUCTURE HAS BEEN DESIGNED FOR THE FOLLOWING LOADING:  
 EXPOSURE CATEGORY = C  
 STRUCTURE CLASSIFICATION = 2  
 TOPOGRAPHY CATEGORY = 2  
 H = 575.00 FT  
 EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT SHORT PERIODS  $S_s = 1.09$   
 EARTHQUAKE SPECTRAL RESPONSE ACCELERATION AT ONE SECOND  $S_1 = 0.30$   
 EARTHQUAKE SITE CLASS = 3  
 WIND LOAD CASES ARE BASED ON 3 SECOND GUST AND 50 YEAR WIND RETURN PERIOD  
 A. CASE 1: WIND = 90 MPH WIND SPEED  
 B. CASE 2: WIND = 60 MPH ICE AND WIND SPEED  
 DESIGN ICE THICKNESS = 0.25 INCH  
 C. CASE 3: WIND = 60 MPH WIND SPEED  
 D. EQUIPMENT

DESCRIPTION	HTG HT (FT)	CENTROID HT (FT)	WITHOUT ICE EPA WT (FT*42) (LBS)	WITH ICE EPA WT (FT*42) (LBS)		
6-APXV18-206516L-C	119.00	119.00	15.42	222	17.86	468
3-A18 21	119.00	119.00	13.08	303	14.43	519
3-ERICSSON RRUS-11 (19.7"x17")	119.00	119.00	4.47	153	4.98	240
1-12" SPI LP PLATFORM W/HR	119.00	120.50	27.02	1365	33.13	1837
6-APXV18-206516L-C	109.00	109.00	15.42	222	17.86	468
1-12" SPI LP PLATFORM W/HR	109.00	110.50	27.02	1365	33.11	1834
6-APXV18-206516L-C	99.00	99.00	15.42	222	17.86	468
1-12" SPI LP PLATFORM W/HR	99.00	100.50	27.02	1365	33.07	1831
1-4" HIGH PERFORMANCE (18GHZ)	114.00	114.00	17.18	253	18.41	352
1-4" HIGH PERFORMANCE (18GHZ)	104.00	104.00	17.18	253	18.40	352
1-4" HIGH PERFORMANCE (18GHZ)	94.00	94.00	17.18	253	18.39	351

- FEEDLINES ARE PLACED INTERIOR TO POLE SHAFT (UNLESS NOTED OTHERWISE).
- TOTAL POLE HEIGHT IS 120 FT AGL
- ELEVATIONS ARE MEASURED FROM THE TOP OF BASE PLATE (APPRDX. 1 FT AGL)



DEC 05 2014

ITEM ID	LENGTH	BASE OD	TOP OD	THK	MATL
1	38' - 0.00"	56.00"	48.50"	0.313"	A572 65 KSI
2	39' - 0.00"	50.50"	42.80"	0.313"	A572 65 KSI
3	26' - 3.00"	44.66"	39.48"	0.313"	A572 65 KSI
4	34' - 10.00"	41.13"	34.25"	0.250"	A572 65 KSI

DESIGN	PROJECT	FILE ID	SCALE	DATE	ENGR
252472	252472	252472	NONE	12/01/14	NARI

DESCRIPTION: BCI 119' POLE, SITE: FBL 11 (AK) 252472

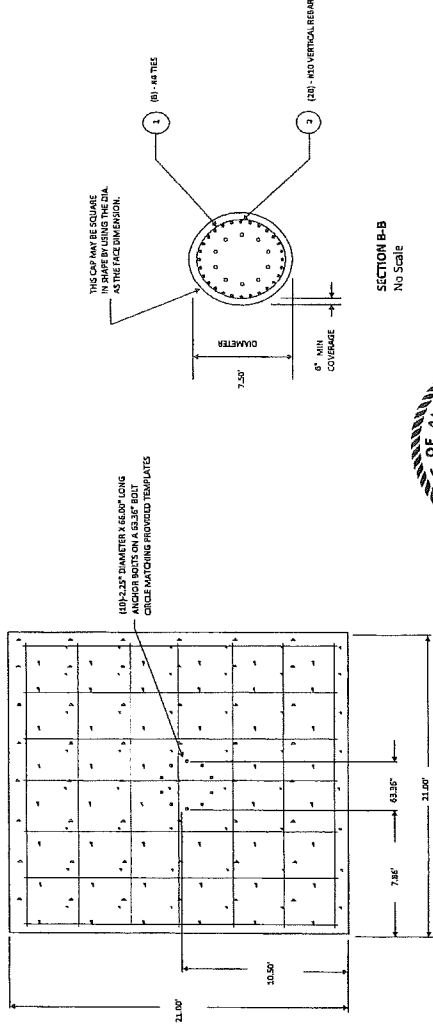


**GENERAL NOTES: SLAB FOUNDATION**

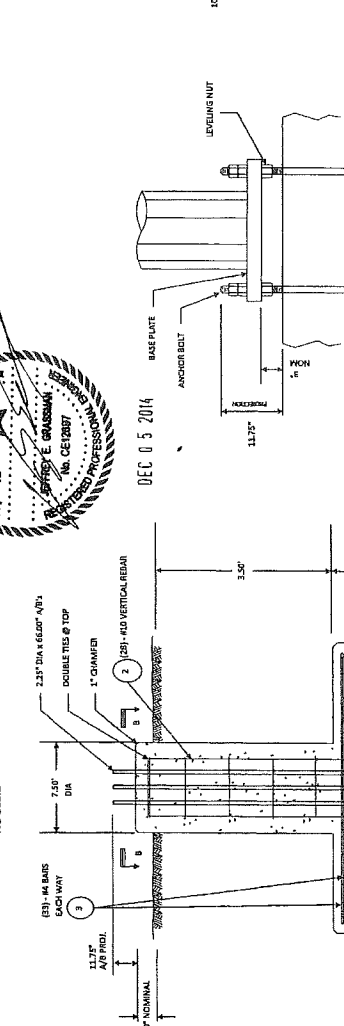
- Prior to excavation, check the area for underground facilities.
- All reinforcing shall be provided per conforming to ASTM A615 Grade 60 (60,000 psi min. yield) steel shall be provided by the foundation contractor.
- All concrete shall be placed in the ACI Building Code requirements for Reinforced Concrete, ACI 318, the latest edition.
- Concrete shall be placed against undisturbed soil to the depth indicated on the foundation drawing. The portion above grade shall be formed. If an area is excavated beyond the limits shown, this volume shall be filled with concrete or formed. After the forms are removed, the excavation shall be replaced and compacted.
- Ground water was not encountered below grade during boring.
- Foundation design based on vertical bearing pressure of 6000 psi.
- Minimum concrete volume = 25.7 cu yd.
- Design based on the following loads from installation drawing for order No: 252472.

Factored Moment = 2898 FT-KIPS  
 Factored Download = 23.7 KIPS  
 Factored Shear = 38.6 KIPS

- Rebar shall be compared to a depth of 100 pct.
- Anchor bolts to be ASTM A615, G1, 75 ksi.
- Reference: SHANNON & WILSON REPORT 31-3-02412-001 DATED 11/2014
- Ref Soil Report for installation recommendations.



**SECTION B-B**  
No Scale

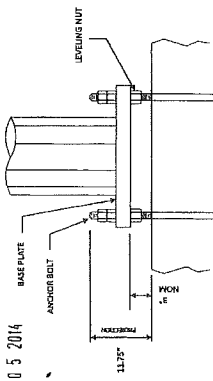
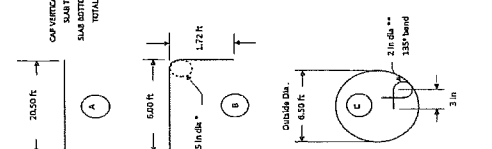


DEC 05 2014

Qty	Type	Bar	Weight (lb/ft)	Length (ft)	Weight (lb)	Qty
1	C	#4	EQUAL	100	B	1
2	B	#4	EQUAL	100	B	2
4	A	#4	EQUAL	100	B	4

Grade 60 Rebar	Size	Area (in²)	Wt/L (lb/ft)	Wt (lb)	Area (in²)	Wt (lb)
#3	11.97208	0.38	2.35	2.35	3.10	3.10
#4	14.97024	0.67	3.00	3.00	3.90	3.90
#5	19.97358	1.04	4.37	4.37	5.60	5.60
#6	24.97399	1.54	6.45	6.45	8.30	8.30
#7	31.97399	2.04	8.52	8.52	11.00	11.00
#8	39.97399	2.67	10.80	10.80	14.00	14.00
#9	48.97399	3.45	13.80	13.80	17.80	17.80
#10	58.97399	4.35	17.00	17.00	22.10	22.10
#11	69.97399	5.31	20.40	20.40	26.50	26.50

Rebar Lap Splice	Rebar	Grade	Specified Concrete Strength (psi)	Yield Strength (psi)	Top Bars	Bottom Bars	Top Bars	Bottom Bars
1	#3	60	3000	3600	18	25	25	25
2	#4	60	3000	3600	18	25	25	25
3	#5	60	3000	3600	18	25	25	25
4	#6	60	3000	3600	18	25	25	25
5	#7	60	3000	3600	18	25	25	25
6	#8	60	3000	3600	18	25	25	25
7	#9	60	3000	3600	18	25	25	25
8	#10	60	3000	3600	18	25	25	25
9	#11	60	3000	3600	18	25	25	25



ANCHOR BOLT INSTALLATION  
 U.S.A.  
 EXTREME CARE SHOULD BE TAKEN TO  
 INSURE THAT ALL ANCHOR BOLTS ARE  
 INSTALLED CORRECTLY PRIOR TO  
 ERECTION OF THE STRUCTURE

**ELEVATION**  
No Scale

Rev	Description	Date	By/CD

**valmont**  
 MICROTECH  
 1577 20TH STREET, ANCHORAGE, ALASKA 99501  
 (907) 562-1100  
 FAX (907) 562-1101  
 E-MAIL: info@valmont.com  
 WWW: www.valmont.com  
 SHEET: 252472-1 OF 1  
 DATE: 12/05/14  
 SHEET NO: 11 (A)

# *acutec geomatics*

*Surveyors, Planners & Land Development*  
5099 E. Blue Lupine Dr., Ste. 104  
Wasilla, Alaska 99654  
Phone 376-8800 Fax 376-9629  
E-Mail [admin@acutecsurvey.com](mailto:admin@acutecsurvey.com)

8/6/2014

AWN  
2550 Denali Street  
Anchorage, AK 99503

Attention: Bill Freimuth

Re: physical information for FAA 2C Letter

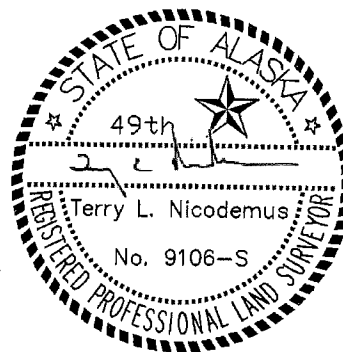
As per your request, I provide the following information.

Site Name:	"Gilmore Trail"
Site Address:	1392 Gilmore Trail, Fairbanks, Alaska 99712
Latitude:	N 64° 55' 19.82" (NAD 83)
Longitude:	W 147° 32' 31.74" (NAD 83)
Base Elevation:	1553.0' (NAVD 88)
Proposed Antenna Height:	120.0'

I, Terry Nicodemus, L.S. 9106, hereby certify that I am a registered Professional Land Surveyor in the State of Alaska and that this information is within an accuracy of 50 feet horizontal and 20 feet vertical.

Terry Nicodemus, PLS  
Owner/acutec geomatics

10/6/2014



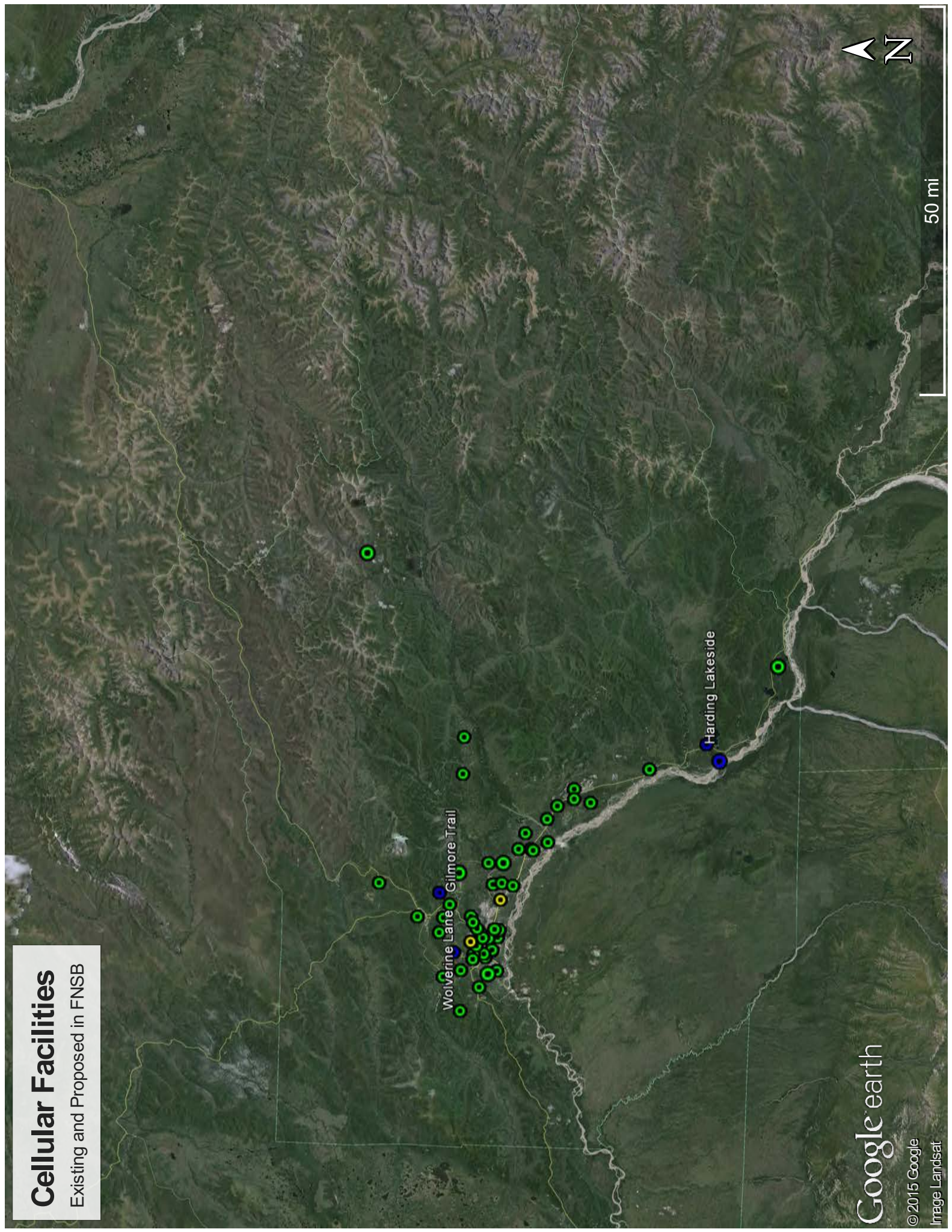
**Exhibit C**

Map - GCI Facilities in FNSB



# Cellular Facilities

Existing and Proposed in FNSB

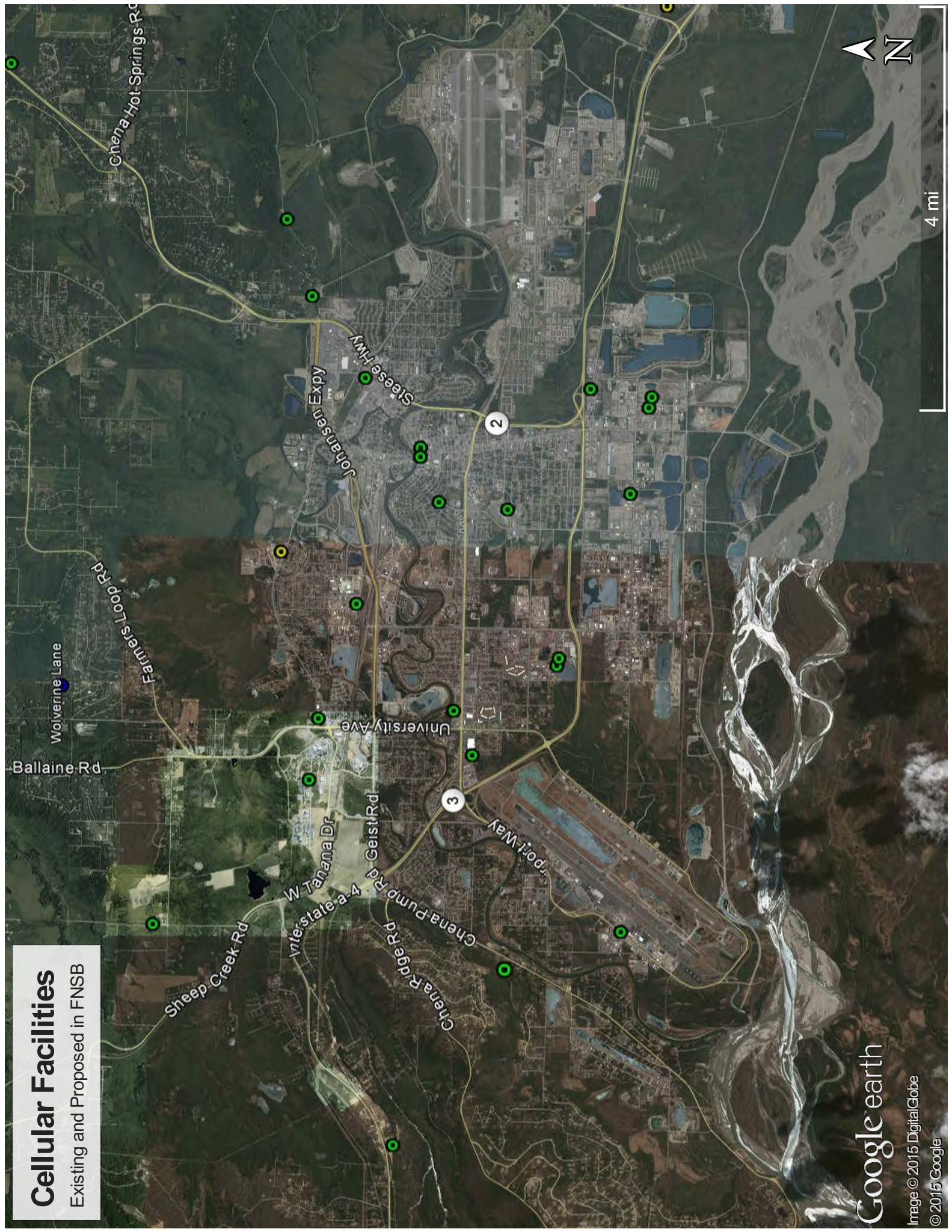


Google earth

© 2015 Google  
Image Landsat

# Cellular Facilities

Existing and Proposed in FNSB

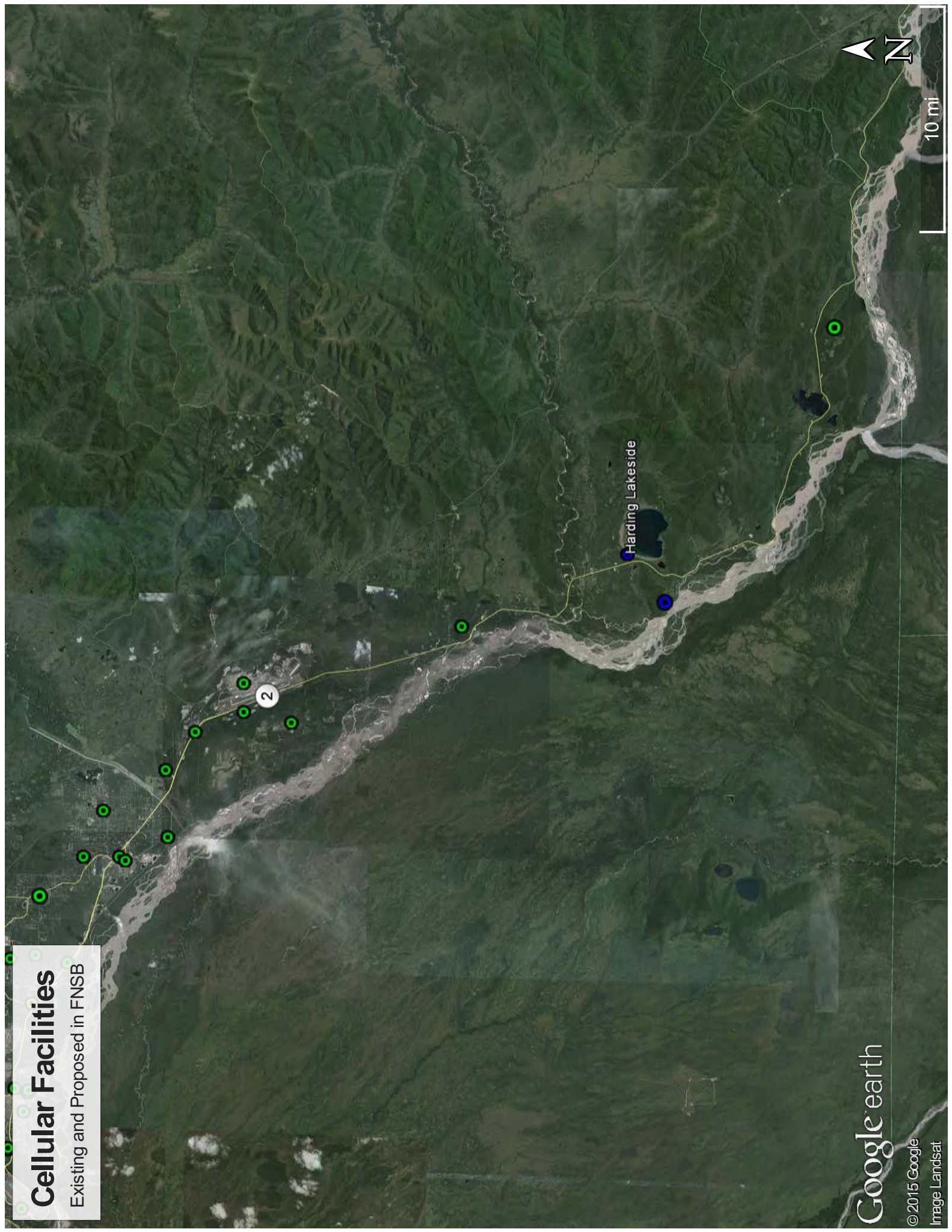


Google earth

Image © 2015 DigitalGlobe  
© 2015 Google

# Cellular Facilities

Existing and Proposed in FNSB



Google earth

© 2015 Google  
Image Landsat

# Cellular Facilities

Existing and Proposed in FNSB

- Existing Site - AWN Tower and AWN Equipment Shelter
- Proposed 2015 Site - AWN Tower and AWN Equipment Shelter
- Existing Tower Owned by Others - AWN Antennas and AWN Shelter Co-Location



Google earth

Image © 2015 DigitalGlobe  
© 2015 Google

# Cellular Facilities

Existing and Proposed in FNSB

- Existing Site - Awn Tower and Awn Equipment Shelter
- Proposed 2015 Site - Awn Tower and Awn Equipment Shelter
- Existing Tower Owned by Others - Awn Antennas and Awn Shelter Co-Location

Wolverine Lane  
Gilmore Trail  
Harding Lakeside



50 mi

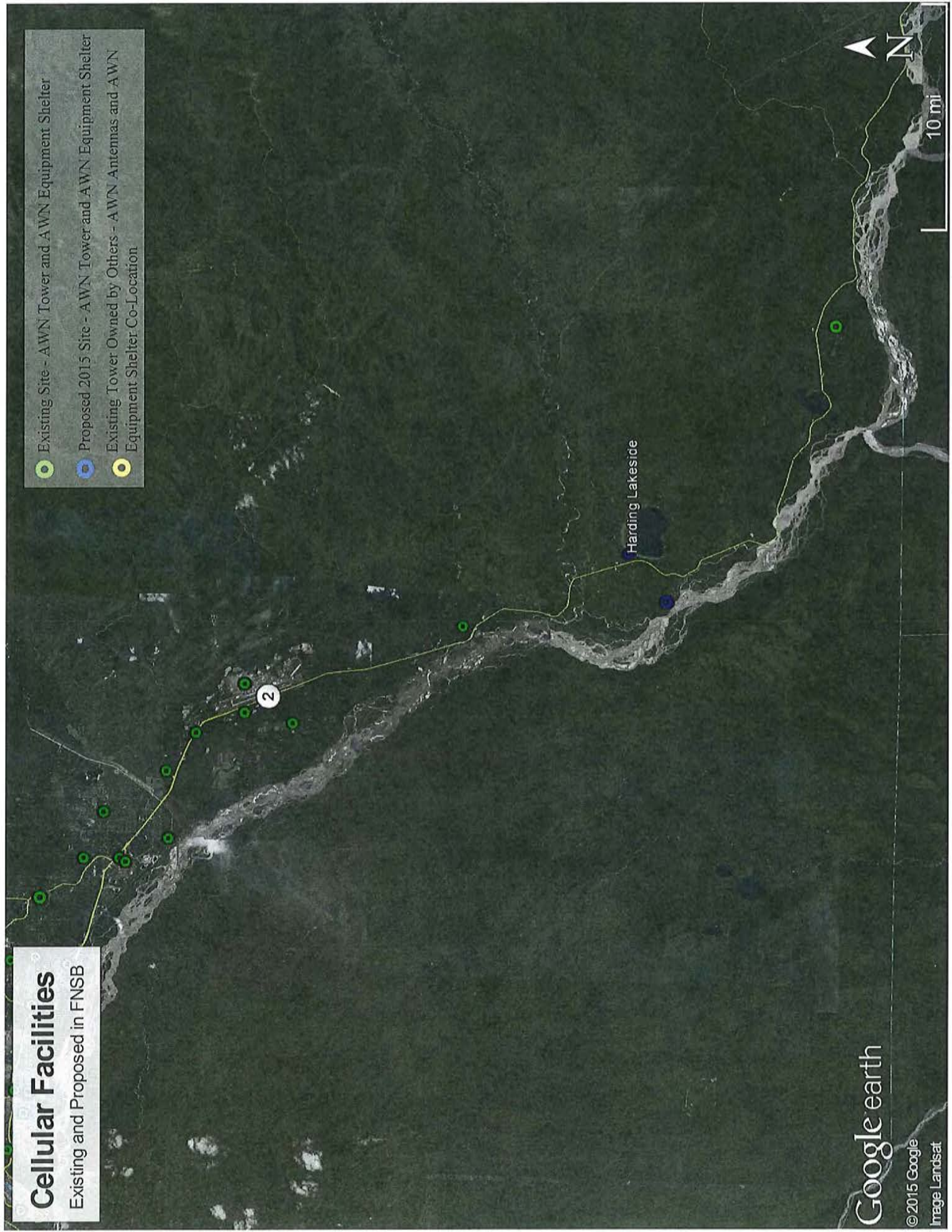
Google earth

© 2015 Google  
Image Landsat

# Cellular Facilities

Existing and Proposed in FNSB

- Existing Site - AWN Tower and AWN Equipment Shelter
- Proposed 2015 Site - AWN Tower and AWN Equipment Shelter
- Existing Tower Owned by Others - AWN Antennas and AWN Equipment Shelter Co-Location



Google earth

© 2015 Google  
Image Landsat

# Cellular Facilities

Existing and Proposed in FNSB

EXISTING Site - AWN Tower and AWN  
Emittment Shelter  
PROPOSED 2015 Site - AWN Tower and AWN  
Emittment Shelter  
Existing Tower Owned by Others - AWN  
Antennas and AWN Shelter Co-Location



Google earth

Image © 2015 Digital Globe  
© 2015 Google

4 mi

# Cellular Facilities

Existing and Proposed in FNSB

Existing Site - AWN Tower and AWN  
Equipment Shelter  
Proposed 2015 Site - AWN Tower and AWN  
Equipment Shelter  
Existing Tower Owned by Others -  
AWN Antennas and AWN Shelter Co-  
Location

Wolverine Lane  
Gilmore Trail

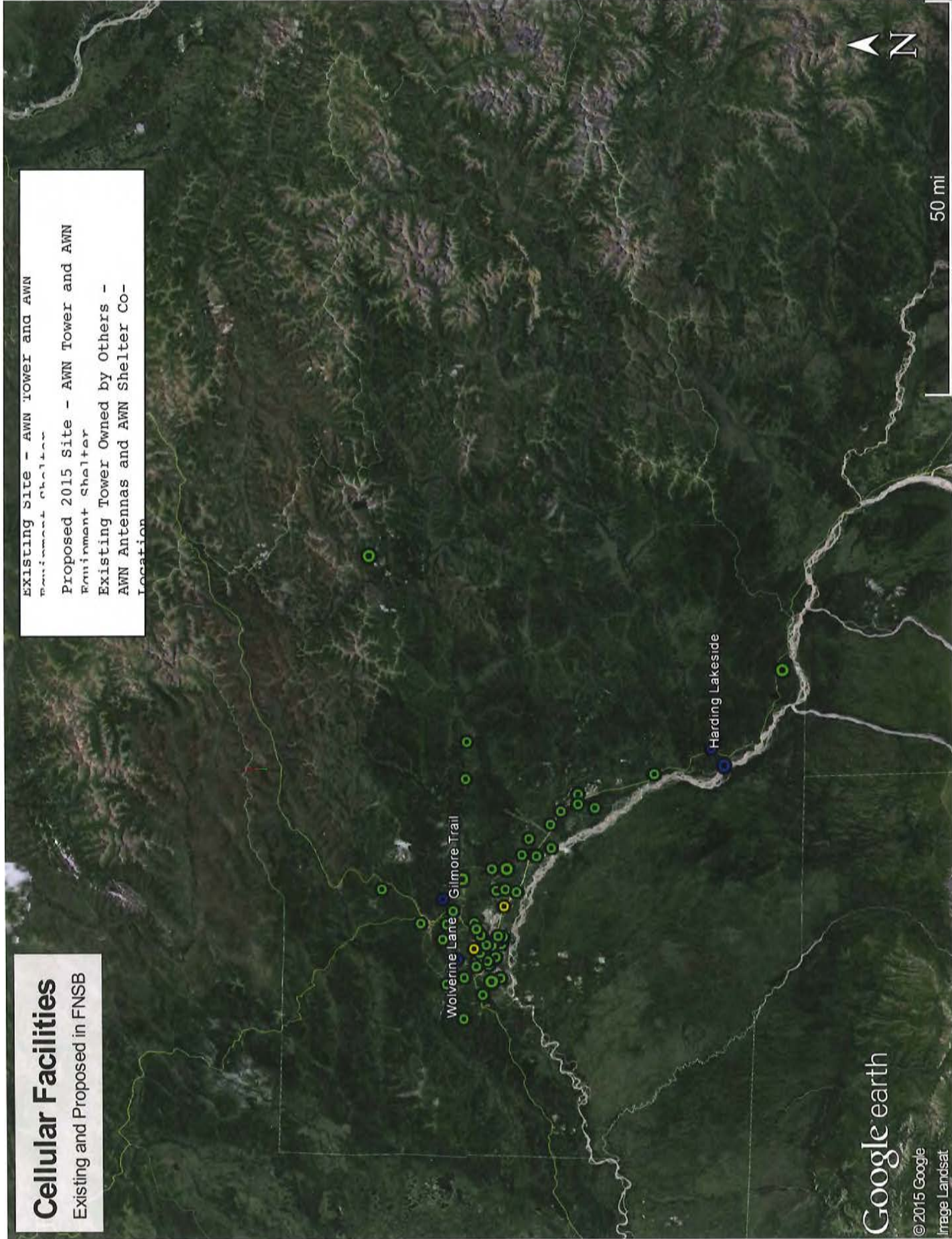
Harding Lakeside



50 mi

Google earth

© 2015 Google  
Image Landsat





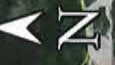
# Cellular Facilities

Existing and Proposed in FNSB

EXISTING SITE - Awn tower and Awn  
PROPOSED 2015 SITE - Awn tower and Awn  
EXISTING TOWER OWNED BY OTHERS - Awn  
Antennas and Awn Equipment Shelter Co-

Harding Lakeside

2



10 mi

Google earth

© 2015 Google  
Image Landsat

**Exhibit D**  
Lease Agreement

## LAND LEASE AGREEMENT

This Lease Agreement ("Lease") is made effective as of August 1, 2014 ("Effective Date"), between Derrell and Sharon Jaeke, a ("Landlord") under the laws of Alaska with its head office located at 1392 Gilmore Trail Fairbanks, AK 99712 and The Alaska Wireless Network, LLC, 2550 Denali Street, Suite 1000, Anchorage, AK 99503-2751, a Delaware limited liability company, on its own behalf and on behalf of its telecommunications affiliates (collectively, "Tenant") (each a "Party" and collectively, the "Parties").

NOW, THEREFORE, it is hereby agreed as follows:

1. **Premises.** Landlord leases to Tenant the following premises ("Premises"): A portion of LOT 1 JAEKE PROPERTY Waiver 001-84 7/19/1984 Previously assessed as 1N 1E 09 906 more particularly defined on Exhibit A & B.

2. **Authorized Uses.** This Lease is issued for the following authorized uses: Tenant may construct, maintain, and operate a technical facility and related communications equipment at the Premises in conjunction with Tenant's operation as a communications provider.

3. **Term.** The initial term of this Lease is 5 years ("Term"), commencing as of August 1, 2014 with 3, 5 year extensions (individually, an "Extension" and collectively, the "Extensions") at the sole option of Tenant, so long as Tenant is not in violation of any terms or conditions as set forth in this Lease. The Extensions shall be automatic unless: (a) Tenant notifies Landlord at least 30 days prior to the expiration of the then-current term of its intent not to renew this Lease, or (b) Landlord notifies Tenant in writing of a default, and Tenant fails to timely cure that default. At the conclusion, of the original Term or final Extension, if any, this Lease shall continue year to year unless either Party has given notice of termination. Notice of termination during the year to year period shall be given no later than 30 days before the expiration of the then-current Lease term.

4. **Rent.** The rent for the Premises will be \_\_\_\_\_ per month, payable on the 1<sup>st</sup> day of each month. Payment shall be made by check, bank draft, or money order made payable to Landlord. All unpaid rents and fees will accrue interest at 10% percent per annum beginning 30 days after payment is due.

5. **Improvements.** At no additional charge, Tenant and Tenant's sub-lessees may operate, maintain, add and replace equipment at the Premises so long as the size of Tenant's Premises is not increased thereby. Any construction on the Premises must be neat, presentable, and compatible with its use and surroundings.

6. **Maintenance.** Tenant shall keep the Premises and all its improvements thereon neat and presentable. Tenant shall not strip, waste, or remove any material from the Premises without the prior written permission of Landlord, which permission shall not be unreasonably withheld, conditioned or delayed.

7. **Utilities.** Tenant shall be solely responsible for and promptly pay all charges for gas, electricity, telephone service, or any other utility used or consumed by Tenant on the Premises. Tenant shall have an electrical current meter installed at the Premises for Tenant's electrical usage, and Tenant shall pay for the cost installation, maintenance, and repair of same. Such meter will be billed by and paid directly to the power company.

8. **Disposition of Improvements.**

(a) Within 180 days after the end of this Lease, improvements and personal property must be:

1. removed by Tenant if required by Landlord; or
2. with Landlord's consent, be sold to the succeeding Tenant; or
3. abandoned on the Premises.

(b) Landlord may grant additional time for the removal of improvements if hardship is

established by Tenant.

- (c) At the end of this Lease, Tenant must peaceably and quietly vacate the Premises and return possession to Landlord. The Premises must be left in a clean, neat and presentable condition, at least as good as existed at the commencement of the Lease, normal wear and tear excepted. If Tenant causes any abnormal wear and tear or abuse of or to the Premises, Tenant shall, at its expense and upon demand by Landlord, immediately eliminate such abnormal wear and tear or abuse or waste and pay for the restoration of the affected area(s) to a commercially reasonable equivalent condition to the Premises' condition at the commencement of this Lease.

9. **Title.** Title to any improvements or other property owned by Tenant which is not disposed of as set out above shall automatically vest in Landlord.

10. **Hazardous Materials.** If fuel, lead acid batteries, coolants, fire suppressants, lubricants or any other hazardous materials are placed on the Premises, Tenant agrees to have properly trained personnel, equipment and procedures in place for safely handling the materials in accordance with the National Fire Protection Code and all applicable federal, state and local laws. In the event of a material spill of fuel or other hazardous materials on the Premises, Tenant shall promptly notify Landlord and act promptly to contain the spill, repair any damage, absorb and clean up the spill area, and restore the Premises to a condition reasonably satisfactory to Landlord.

11. **Warranties.** Landlord shall indemnify and defend Tenant for any breach of the following warranties: The execution of this Lease has been duly authorized by Landlord and all necessary consents have been received. To the actual knowledge of Landlord, no hazardous substances have been placed, released, or disposed on the Premises. Landlord has all right, title, and interest in the Premises, and to execute and to perform its obligations under this Lease. Other than the express warranties above, Landlord makes no express or implied warranties concerning the title or condition of the Premises, including survey, access, or suitability for any use, including those uses authorized by this Lease. Tenant takes the Premises as-is, subject to all other provisions to this Lease.

12. **Liability.** Tenant shall indemnify and defend Landlord from any liability, action, claim, suit, loss, property damage, or personal injury of whatever kind resulting from or arising out of any act of commission or wrongful omission by Tenant, to the extent arising from or connected with Tenant's use and occupation of the Premises or its exercise of the rights and privileges granted by this Lease, except that it shall have no duty to indemnify Landlord to the extent of its own negligence, wrongful omission, or misconduct, fraud, or breach of the terms of this Lease.

13. **Insurance.**

- (a) Tenant shall secure and keep in force during the term of this Lease adequate insurance to protect both Landlord and Tenant against comprehensive public liability and property damage:
1. Property damage arising from one occurrence in the amount of not less than \$1,000,000.00, and
  2. Personal injury or death in an amount of not less than \$1,000,000.00 per person and \$1,000,000.00 per occurrence.
- (b) All insurance required by this covenant must:
1. name Landlord as an additional assured;
  2. provide that Landlord be notified prior to any termination or cancellation in the insurance coverage; and
  3. include a waiver of subrogation by which the insurer waives all rights of subrogation against Landlord for payments made under the policy.
- (c) The requirement of insurance coverage does not relieve Tenant of any other obligations under this Lease. Tenant may self-insure against the risks undertaken herein.

14. **Holding Over.** Subject to the Extensions available to Tenant in Section 3 above, if Tenant holds over after the expiration of this Lease, the holding over will not operate as a renewal or extension of this Lease, but only creates a tenancy from month to month, regardless of any rent payments accepted by Landlord. Tenant's obligations for performance under this Lease will continue until the month-to-month tenancy is terminated by Landlord. Landlord may terminate the hold-over, month-to-month tenancy at any time by giving Tenant at least 30 days' prior written notice.

15. **Sale, Assignment or Sublease.** The Parties may not sell or assign this Lease without the written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed, except Tenant may assign this Lease to a Tenant's parent, subsidiary, or affiliate under common control without Landlord's consent. Tenant may execute space and power and collocation agreements anywhere within the Premises, including Tenant's tower if one is built. Tenant's sublessee(s) will be entitled to the same rights and privileges as Tenant. Landlord retains exclusive right to lease ground space adjacent to the Premises to other carriers and tenants. Landlord may not sell or assign this Lease to a party that is not the legal owner of the Premises without the written consent of Tenant, which consent may be withheld at Tenant's sole discretion.

16. **Condemnation.** If the Premises are condemned by any proper authority, the term of this Lease will end on the date Tenant is required to surrender possession of the Premises. Landlord is entitled to all the condemnation proceeds except Tenant will be paid the portion of the proceeds attributable to the fair market value of any improvements placed on the Premises by Tenant. Rent will also be adjusted to reflect the prorata value of the remaining Premises.

17. **Cancellation.** Landlord may cancel this Lease and recover possession of the Premises by giving Tenant 30 days' prior written notice, upon the happening of any of the events listed below, that are not cured within the 30 day notice period:

- (a) Tenant's failure to pay when due the rents or fees specified in this Lease, including any increases made pursuant to this Lease.
- (b) The return for insufficient funds of checks for payment of rents or fees.
- (c) The use of the Premises by Tenant for any purpose not authorized by this Lease.
- (d) The appointment of a trustee or receiver for the Tenant's assets in a proceeding brought by or against the Tenant.
- (e) The failure of Tenant to perform any provision or covenant in this Lease. If such provision or covenant is not possible to perform within such 30 day cure period, Tenant shall not be in default under this Lease if it has promptly commenced and is diligently pursuing the cure thereof.

Tenant may cancel this Lease with 30 days' written notice if (a) for any reason the Premises become unsuitable for its communications purposes, (b) the appointment of a trustee or receiver for the Landlord's assets in a proceeding brought by or against Landlord, or (c) the failure of Landlord to perform any provision or covenant in this Lease. If such provision or covenant is not possible to perform within such 30 day cure period, Landlord shall not be in default under this Lease if it has promptly commenced and is diligently pursuing the cure thereof.

18. **Easements.** Landlord covenants and agrees that Tenant and Tenant's sub-lessees shall have access to the Premises for parking vehicles, pedestrian traffic, and ingress and egress to the Premises for all uses authorized or required by this Lease, including, but not limited to, Tenant's right to place underground conduits or aerial feeds as needed for power and telephone or other purposes from the Premises to all utility easements and rights-of-way which are owned by Landlord, without any further compensation due to Landlord. Landlord agrees to provide utility easements to the Premises in recordable form, as may be required by utility service providers. Landlord reserves the right to grant to third parties or reserve to itself easements or right-of-way through, on, or above the Premises. No easement or right-of-way on the Premises may unreasonably interfere with Tenant's use of the Premises.

19. **Laws and Taxes.** Tenant will conduct all activities authorized by this Lease in compliance with all applicable federal, state, and local laws, including but not limited to matters of health, safety, sanitation, pollution and communications. Landlord shall pay all property taxes, except that Tenant shall pay for taxes based on its improvements to the Premises.

20. **Disputes.** In any disputes between the Parties, the laws of the State of Alaska will govern. Any lawsuit must be brought in the courts of the State of Alaska. Either Party may request a mediation of any unresolved dispute. Tenant agrees to notify Landlord of any claim, demand, or lawsuit arising out of Tenant's occupation or use of the Premises. Upon Landlord's request, Tenant will reasonably cooperate and assist in the investigation and litigation of any claim, demand, or lawsuit affecting the Premises.

21. **Liens.** Tenant shall keep the Premises free of all liens, pay all costs for labor and materials arising out of any construction or improvements by Tenant on the Premises, and hold Landlord harmless from liability for any liens, including costs and reasonable attorney fees related to Tenant's activities. By this provision, Landlord does not recognize that it is in any way liable for any liens on the Premises.

22. **No Waiver; Consents.** The failure of a Party to insist upon the strict performance of any provision in this Lease may not be considered as a waiver or relinquishment of that provision for the future. The waiver of any provision or covenant in this Lease cannot be enforced or relied upon unless the waiver is in writing and executed by the Party waiving such provision. Whenever consent by one Party is required in this Agreement, the granting of such consent in any one instance will not constitute continuing consent to subsequent instances where such consent is required.

23. **Validity of Parts.** If any provision of this Lease is declared to be invalid by a court of competent jurisdiction, the remaining covenants and provisions will continue in full force.

24. **Natural Disasters.** If any cause which occurs without the fault or negligence of either Party renders the Premises permanently unusable, this Lease may be terminated by either Party upon 30 days' written notice to the other, in accordance with Section 26 below. Causes include but are not restricted to acts of God or the public enemy, acts of the United States, fires, floods, epidemics, quarantine restrictions, or strikes. No Party shall be liable for any delay or failure in performance due to such events outside of the defaulting Party's reasonable control. The obligations and rights of the excused Party shall be extended on a day-to-day basis for the time period equal to the period of the excusable delay.

25. **Notices.** Any notices to be given under this Lease by either Party to the other may be effected either by personal delivery in writing or by mail, registered or certified, postage prepaid with return receipt requested, to the recipient at the address indicated below:

**Landlord:**  
Derrell and Sharon Jaeke  
Attn: Darrell Jaeke  
1392 Gilmore Trail.  
Fairbanks, AK 99712  
Telephone: 907-457-5175  
Email:

**Tenant:**  
The Alaska Wireless Network, LLC  
Attn.: Rachelle A. Alger, Contracts Administrator  
2550 Denali St., Suite 1000  
Anchorage, AK 99503  
Telephone: 907.868.5771  
Email: raalger@gci.com

**With a copy of legal notices to:**  
Derrell and Sharon Jaeke  
Attn: Darrell Jaeke  
1392 Gilmore Trail  
Fairbanks, AK 99712

**With a copy of legal notices to:**  
The Alaska Wireless Network, LLC  
Attn: VP & Senior Legal Counsel  
2550 Denali St., Suite 1000  
Anchorage, AK 99503

or such other address or to the attention of such other person as the recipient Party shall have specified by prior written notice to the sending Party. Such notice shall be effective as of the date of its receipt. Unless specified otherwise in writing, the primary contacts for Landlord and Tenant shall be:

**Landlord Contact:**

Derrell Jaeke  
1392 Gilmore Trail  
Fairbanks, AK 99712  
Telephone:  
Cell: 907-457-5175  
Email:

**Tenant Contact:**

Dave Baker  
2550 Denali Street, Suite 1000  
Anchorage, AK 99503  
Telephone: 907.868.5771  
Cell: 907.227.5609  
Email: dbaker@gcl.com

26. **Inspection.** Landlord reserves the right to enter any part of the Premises, including buildings, for the purpose of inspection at any reasonable time. Except in the case of an emergency, all inspections will be coordinated with Tenant in advance, in order to minimize interference with Tenant's activities.

27. **Quiet Enjoyment; Access.** So long as Tenant is not in breach of this Lease, it shall have the right of quiet enjoyment of the Premises for the Term and all Extensions thereof, regardless of any sale, transfer, assignment or foreclosure of the Premises. This Lease shall be binding on each Party's successors and assigns. Under no circumstances shall Tenant and Tenant's sub-lessees be prevented or delayed from accessing its equipment during the Term and all Extensions, twenty-four hours a day, seven days a week.

28. **Binding Agreement; Amendments; Counterparts.** This Lease shall be binding upon each Party's heirs, representatives, executors, successors and assigns. This Lease may only be amended in writing, and such amendment shall be signed by authorized representatives of both Parties. The Parties may execute this Lease in counterparts, each of which shall be deemed an original, and both of which, collectively, taken together shall constitute one and the same Lease. Delivery of an executed counterpart by electronic transmission email or fax shall be as effective as physical delivery of an executed counterpart.

29. **Non-Disclosure Agreement.** Neither Party shall disclose the terms and conditions of this Lease, including the rent due hereunder, outside its organization, except Tenant may disclose this Lease with potential sublessees who have submitted a collocation application; prior to disclosure Tenant will redact financial information and any other sensitive materials that will not pertain to a sublessee.

Tenant: The Alaska Wireless Network, LLC

By: [Signature]  
Name: Jimmy R. Sipes  
Title: VP Network Services & Chief Engineer  
Date: 7-3-2014

Landlord: Derrell and Sharon Jaeke

By: [Signature]  
Name: Derrell Jaeke  
Title: Owner  
Date: \_\_\_\_\_

By: [Signature]  
Name: Sharon Jaeke  
Title: Owner  
Date: 7-1-14

Exhibit A

Legal Description, Property Address and Borough Parcel Number

**Legal Description:** LOT 1 JAEKE PROPERTY Waiver 001-84 7/19/1984 Previously assessed as 1N 1E  
09 906

**Property Address:** 1392 Gilmore Trail Fairbanks, AK 99712

**Borough Parcel Number:** 594653

Tenant EPA Landlord [Signature]  
AWN Contract # 6838  
May 19, 2014 Version [Signature]

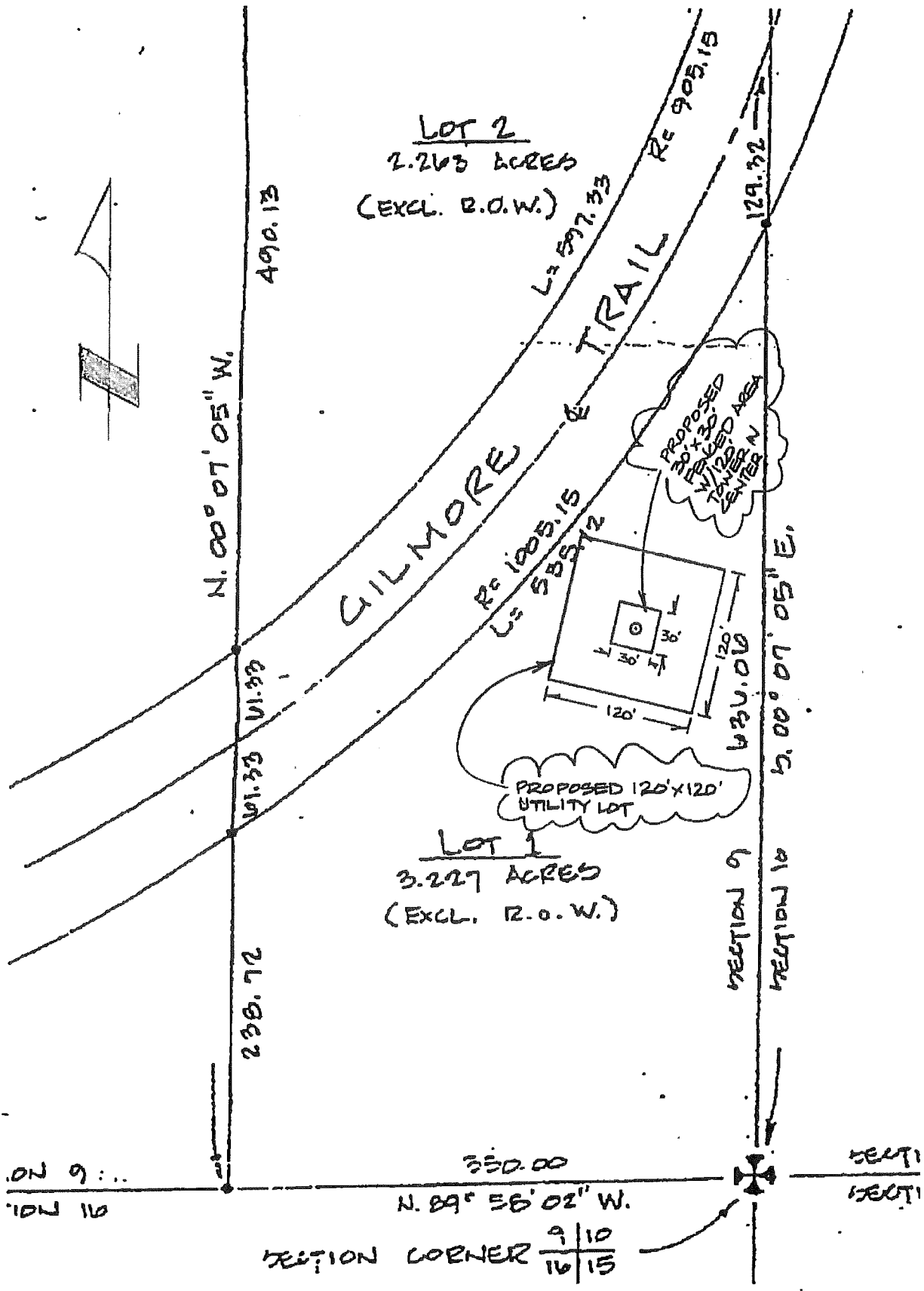


**Exhibit B**

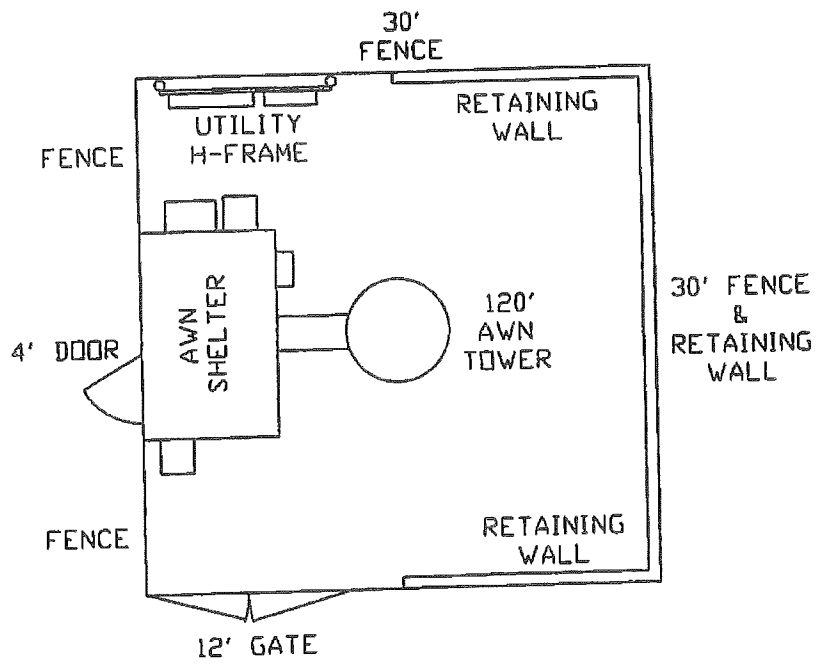
Site Drawing and Plat Map

Hereby attached behind this place holder.

Tenant RPA Landlord NO  
AWN Contract # 6838  
May 19, 2014 Version

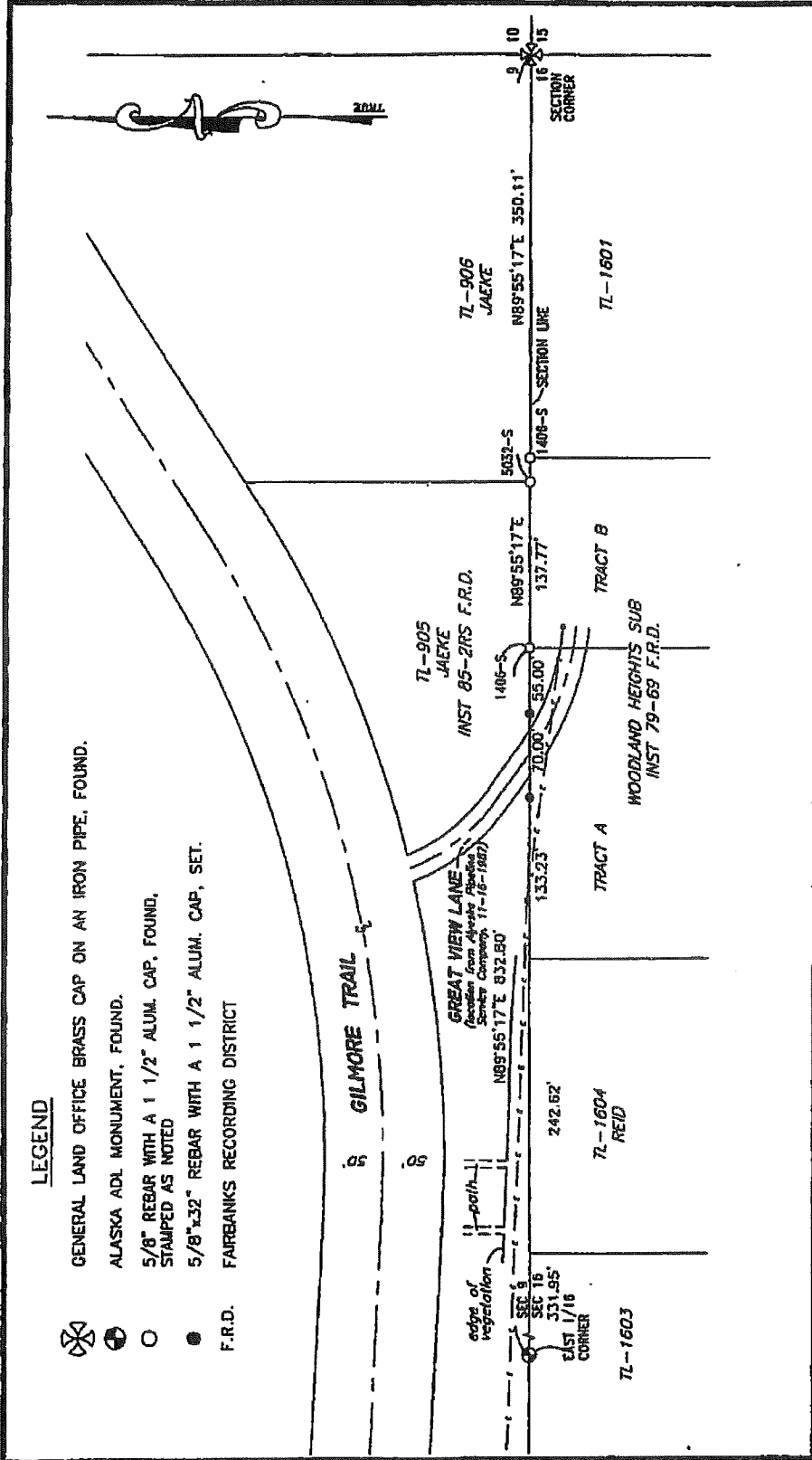


# 30' X 30' AWN LEASE AREA



**LEGEND**

- GENERAL LAND OFFICE BRASS CAP ON AN IRON PIPE, FOUND.
- ALASKA ADL MONUMENT, FOUND.
- 5/8" REBAR WITH A 1 1/2" ALUM. CAP, FOUND.  
STAMPED AS NOTED
- 5/8" x 32" REBAR WITH A 1 1/2" ALUM. CAP, SET.
- F.R.D.

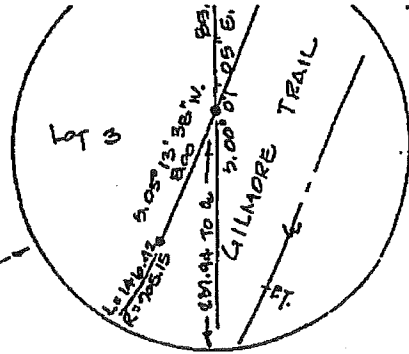
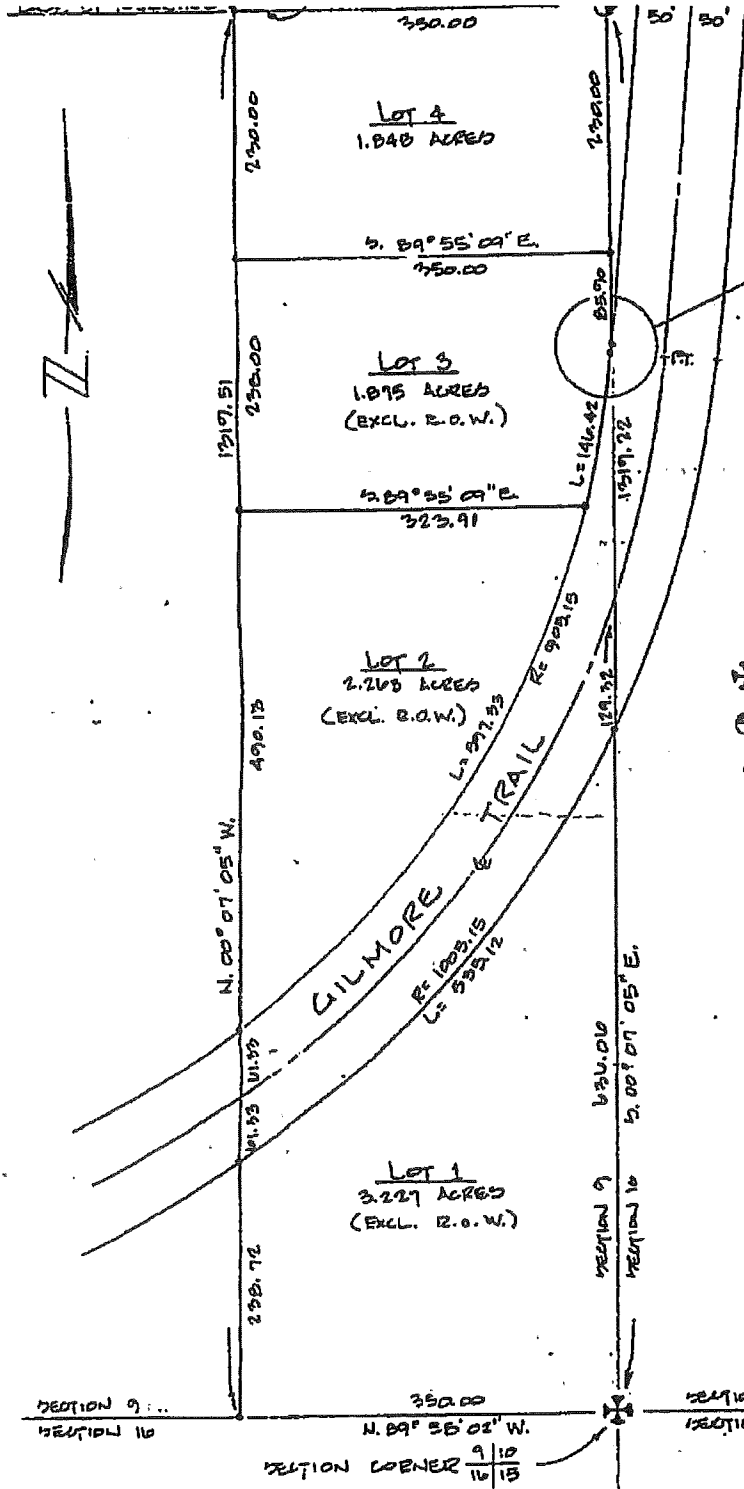


SCALE: 1" = 120'



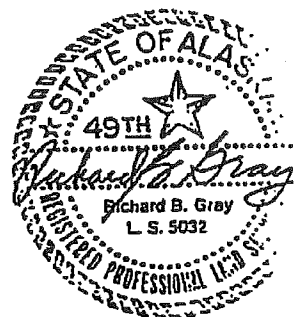
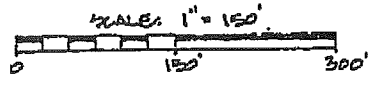
**JAEKE PROPERTY LINE**  
SECTIONS 9 & 16, T.1N., R.1E., FM AK

PREPARED BY: RCH SURVEYS, LTD.  
DATE: AUGUST 6, 2009  
SHEET 1 OF 2



**NOTE:**  
A 30' SECTION LINE ROADWAY EASEMENT EXISTS ON EITHER SIDE OF THE LINE COMMON TO SECTIONS 9 & 10.

- LEGEND**
- ⊕ OLD BRASS-CAPPED MONUMENT RECOVERED THIS SURVEY.
  - ⊙ 2 1/2" PIPE MONUMENT RECOVERED THIS SURVEY.
  - NO. 5 x 30" REBAR W/ STAMPED ALUM. CAP SET THIS SURVEY.



**SURVEY & PARTITION OF THE JAEKE PROPERTY**  
BEING THE EAST 300' OF THE 1/4 1/4 1/4 SEC. 9, T.1N., R.1E., F.M.

*Westman*

# Property Summary

[back to Search Page](#)

<b>PAN</b> 0504663	<b>PROPERTY PHYSICAL DESCRIPTION</b> LOT 1 JAEKE PROPERTY Waiver 001-84 7/19/1984 Previously assessed as 1N 1E 09 808	
<b>NEIGHBORHOOD</b> 0601 Chena Hot Springs Hills	<b>BUSINESS</b>	<b>PROPERTY CLASS</b> Residential
<b>MILLAGE GROUP</b> 0837 Steese Volunteer Fire Service Area	<b>MOST RECENT MILLAGE RATE</b> 15.1220	<b>STATUS</b> TAXABLE
<b>FIRE SERVICE AREA</b> STEESE VOL FIRE S A		<b>ADDITIONAL INFORMATION</b> <a href="#">Building Details</a> <a href="#">View Property Location</a>
<b>LAND AREA</b> Parcel Lot 1 3.227 Acres		

OWNER		ADDRESS
NAME	INTEREST	SITUS ADDRESS
JAEKE, SHARON L	CO-OWNER	1392 GILMORE TRL
JAEKE, DERRELL D	OWNERSHIP	1398 GILMORE TRL

### Documents

The FNSB provides a link to view the recorded document at the State of Alaska Records Office through the instrument #. The FNSB has no control over the contents posted on any external web sites and these sites may have separate terms of use and privacy policies. The inclusion of this web link does not imply endorsement by the FNSB of the site, its content, advertisers or sponsors.

DESCRIPTION	RECORD DATE	BOOK	PAGE	INSTRUMENT #
Waiver	7/19/1984	001	84	

### Assessment History

For questions regarding assessments, contact the FNSB Department of Assessing at 907-459-1428.

YEAR	LAND	STRUCTURES ETC.	FULL VALUE TOTAL	EXEMPTIONS TOTAL	TAXABLE
2014	\$40,265	\$158,460	\$198,725	\$20,000	\$178,725
2013	\$40,265	\$159,443	\$199,708	\$20,000	\$179,708
2012	\$35,069	\$169,829	\$204,898	\$20,000	\$184,898
2011	\$35,069	\$156,477	\$191,546	\$20,000	\$171,546
2010	\$35,069	\$156,460	\$191,529	\$20,000	\$171,529
2009	\$35,069	\$160,713	\$195,782	\$20,000	\$175,782

[Pay Property Taxes by credit card](#)

### Tax History (Updated: 06/30/14 04:00 AM)

If taxes are delinquent interest calculation date is: 9/2/2014 and payment must be made with guaranteed funds.

For payments made after the due dates, please call the FNSB Division of Treasury and Budget at 907-459-1441 for the correct amount.

YEAR	TAX LEVIED	TAXES EXEMPTED	FEES	TOTAL DUE	TOTAL PAID	NET DUE
2014	\$2,722.42	\$0.00	\$0.00	\$2,722.42	\$0.00	\$2,722.42
2013	\$2,690.10	\$0.00	\$0.00	\$2,690.10	\$2,690.10	\$0.00
2012	\$2,758.50	\$0.00	\$0.00	\$2,758.50	\$2,758.50	\$0.00
2011	\$2,554.72	\$0.00	\$0.00	\$2,554.72	\$2,554.72	\$0.00
2010	\$2,540.92	\$0.00	\$0.00	\$2,540.92	\$2,540.92	\$0.00

BOOK 154 PAGE 169  
Fairbanks Recording District

FAIRBANKS  
Serial No. 63-3914

Form 1125  
April 1959

Fairbanks 013526

# The United States of America

To all to whom these presents shall come, Greeting:

WHEREAS, a certificate of the Land Office at Fairbanks, Alaska, is now deposited in the Bureau of Land Management, whereby it appears that pursuant to the act of Congress of May 20, 1862 (12 Stat. 392) and the acts supplemental thereto, the claim of James Lee Harrison has been established and that the requirements of law pertaining to the claim have been met, for the following described land:

Fairbanks Meridian, Alaska.

T. 1 N., E. 1 E.,

Sec. 9, SE4.

The area described contains 160 acres, according to the official plat of the survey of the said land, on file in the Bureau of Land Management:

NOW KNOW YE, That the UNITED STATES OF AMERICA, in consideration of the premises, DOES HEREBY GRANT unto the said claimant and to the heirs of the said claimant the tract above described; TO HAVE AND TO HOLD the same, together with all the rights, privileges, immunities, and appurtenances, of whatsoever nature, therunto belonging, unto the said claimant and to the heirs and assigns of the said claimant forever; subject to (1) any vested and accrued water rights for mining, agricultural, manufacturing, or other purposes, and rights to ditches and reservoirs used in connection with such water rights, as may be recognized and acknowledged by the local customs, laws, and decisions of courts; and (2) the reservation of a right-of-way for ditches or canals constructed by the authority of the United States, in accordance with the act of August 30, 1890 (26 Stat. 391, 43 U. S. C. sec. 945). There is also reserved to the United States a right-of-way for the construction of railroads, telegraph and telephone lines, in accordance with section 1 of the act of March 12, 1914 (38 Stat. 305, 43 U. S. C. sec. 305).

RECORDED IN FILED D  
FAIRBANKS RECORDING DISTRICT  
Date JUN 25 1963 Time 4:28 AM  
Recorded by James L. Harrison  
Notary Public  
Fairbanks, Alaska

IN TESTIMONY WHEREOF, the undersigned authorized officer of the Bureau of Land Management, in accordance with the provisions of the Act of June 17, 1948 (62 Stat. 478), has, in the name of the United States, caused these letters to be made Patent, and the Seal of the Bureau to be hereunto affixed.

GIVEN under my hand, in the District of Columbia, the SIXTEENTH day of MAY in the year of our Lord one thousand nine hundred and SIXTY-THREE and of the Independence of the United States the one hundred and EIGHTY-SEVENTH.

For the Director, Bureau of Land Management.

By Charles M. Mayfield  
Acting Chief, Patents Section

Patent Number 1231952



KNOW ALL MEN BY THESE PRESENTS, that ~~I~~we the undersigned,

James Lee & Helen Florence Harrison

for a good and valuable consideration, the receipt whereof is hereby acknowledged do hereby grant unto Golden Valley Electric Association, a cooperative corporation, whose post office address is Fairbanks, Alaska, and to its successors or assigns, the right to enter upon the lands of the undersigned, situated in the Fourth Division, Territory of Alaska, and more particularly described as follows:

Land description - SE 1/4 Sec 9 T10R R1E F47100A

and to construct, operate and maintain on the above-described lands and/or upon all streets, roads or highways abutting said lands, an electric transmission or distribution line or system, to cut, trim and control the growth by chemical means, machinery or otherwise, trees and shrubbery that may interfere with, or threaten to endanger the operation and maintenance of said line or system, including any control of the growth of other vegetation in the right-of-way which may incidentally and necessarily result from the means of control employed.

The undersigned covenant that they are the owner/s of the above described lands and that the said lands are free and clear of encumbrances and liens of whatsoever character except those held by the following persons:

US Homestead Entry

IN WITNESS WHEREOF, the undersigned have set their hands and seals this 22nd day of October, 1958

Signed, sealed and delivered in the presence of:

Veratent Huppon  
Thomas C. Smith

James Lee Harrison (S)  
Helen Florence Harrison (S)

UNITED STATES OF AMERICA }  
- TERRITORY OF ALASKA }

Instrument No. 60-3148  
Filed for GOLDEN VALLEY ELECTRIC ASSN. INC.  
By R. Burgess  
on MAY 7 1960 at Fairbanks, Alaska  
and recorded in Vol. 113 of Alaska  
Page 351 Fairbanks Recording District, Alaska  
[Signature]  
Recorder

On this 22nd day of October, 1958, before me, the undersigned, a Notary Public for the Territory of Alaska, personally appeared James Lee and Helen Florence Harrison to me personally known and known to me to be the particular individual named in, and who executed the foregoing instrument and they acknowledged to me that they signed the same freely and voluntarily and for the purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my Notarial Seal this 22nd day of October, 1958



R. E. Hall  
NOTARY PUBLIC in and for the  
Territory of Alaska  
My Commission expires 6 Sept 1961

6/21/60



WFF-444  
FORM 200-140  
RECORDING DISTRICT  
FAIRBANKS (Form 200-140)

257 64

### RIGHT-OF-WAY AGREEMENT

KNOW ALL MEN BY THESE PRESENTS: That the undersigned (hereinafter called GRANTORS, whether one or more), for and in consideration of Three Thousand Four Hundred Thirty-seven and 50/100 DOLLARS (\$3,437.50) cash in hand paid to GRANTORS, the receipt of which is hereby acknowledged, do hereby grant, bargain, sell, convey and warrant unto the parties named below (hereinafter referred to as GRANTEEES whether one or more) in the proportions set forth opposite their respective names, to wit:

NAMES OF GRANTEEES:	PERCENTAGE OF INTEREST
ARCO PIPE LINE COMPANY	28.08
SOHIO PIPE LINE COMPANY	28.08
HUMBLE PIPE LINE COMPANY	25.52
AMERADA HESS CORPORATION	3.00
MOBIL PIPE LINE COMPANY	8.68
PHILLIPS PETROLEUM COMPANY	3.32
UNION OIL COMPANY OF CALIFORNIA	3.32

RECORDED  
INDEXED  
MAY 19 9 32 AM '31  
REQUESTED BY  
FARRIS  
DISRICT  
71-03369  
B-11

The right-of-way and easement to construct, lay, maintain, operate, use, inspect, repair, remove or change the size of, and replace one pipe line(s) and appurtenances thereto (including but not limited to Cathodic Protection equipment) for the transportation of oil, gas, petroleum products, water, or any other liquids, gases or other substances which can be transported through pipelines, and to construct, lay, erect, maintain, operate, use, inspect, renew, add to and remove roads, electrical and/or communication lines and cables (both above and underground) and poles with all incidental equipment, GRANTEEES to have the right to select, change or alter the routes, upon, over and through lands which the undersigned own or in which the undersigned have an interest, situated in Fairbanks Recording District, State of Alaska, described as follows:

A right of way, 100 feet in width, lying within:

T. 1N., R. 1E., F.M.  
Sec. 9: SE4

By acceptance hereof Grantees agree that after construction of the first pipeline hereunder, they will furnish Grantors an instrument in recordable form describing the route along which the said line was laid across the above described property.

And for the additional consideration of Ten dollars (\$10), receipt of which is hereby acknowledged, GRANTORS hereby grant unto GRANTEEES, their successors and assigns, the right to construct, lay, maintain, operate, use, inspect, alter, repair, remove, change the size of and replace, within the right-of-way described above, at any time and from time to time one or more additional lines of pipe, similar to or different in size from and along side of the line or lines herein mentioned, and appurtenances thereto and to build additional electrical and/or communication lines and appurtenances alongside the lines herein mentioned; provided, however, that for each additional line built, GRANTEEES, their successors, or assigns, shall within sixty (60) days after exercising such right, pay GRANTORS, or their heirs or assigns, the sum of \$3,437.50 DOLLARS for each additional line when built under, upon, over or through said hereinabove described property. In the event the undersigned GRANTORS own an interest in said premises less than the entire fee simple estate, the payment shall be reduced proportionately.

GRANTEEES, their successors and assigns, are hereby expressly granted the right to assign the rights herein granted and conveyed or any part thereof, or interest therein. The same shall be divisible among two or more owners as to any right or rights granted hereunder so that each assignee or owner shall have the rights and privileges herein granted, to be owned and enjoyed either in common or in severalty.

TO HAVE AND TO HOLD unto the GRANTEEES, their successors and assigns with the right of ingress and egress over and across the above described        lands of any one or more of GRANTORS for the purposes herein granted.

GRANTORS retain for themselves and their heirs and assigns the right to farm, graze or otherwise use and enjoy said premises except as the same may be necessary for the purposes herein granted; provided, however, GRANTEEES shall not excavate any right-of-way nor construct or permit to be constructed, any house, structures or constructions on or over or that will interfere with the construction, maintenance or operation of any pipeline, road, electrical and/or communication line or cable or other appurtenance constructed hereunder.

GRANTEEES hereby agree to bury all pipe lines and all underground electrical and/or communication lines constructed hereunder below ordinary plow depth at the time of construction. GRANTEEES agree to pay for any damage to improvements, growing crops and timber which may arise from the exercise of the rights granted hereunder. Said damage, if not mutually agreed upon, shall be ascertained and determined by three disinterested persons; one thereof to be appointed by said GRANTORS, one to be appointed by the GRANTEEES, their successors or assigns, and the third to be chosen by the two persons appointed as aforesaid. The award of such three persons or any two of them shall be final and conclusive. Neither party shall commence legal action without complying with this provision.

It is mutually understood and agreed that this agreement as written covers all the agreements and stipulations between the parties and that no statements or representations, oral or written, have been made modifying, adding to, or changing the terms hereof.

IN TESTIMONY WHEREOF, WITNESS My HAND this 12<sup>th</sup> day of May, 19 31

EXECUTED IN THE PRESENCE OF:  
John A. Stutz  
Subscribing Witness:

James Lee Harrison  
JAMES LEE HARRISON

DEEDS

STATUTORY WARRANTY DEED  
(A.S. 34.15.030)

BOOK 270 PAGE 403  
Fairbanks Recording District

The Grantor, JAMES LEE HARRISON, for and in consideration of TEN DOLLARS (\$10.00) and other good and valuable considerations in hand paid, CONVEYS and WARRANTS to JAMES LEE HARRISON and CAROLYN SUE HARRISON, husband and wife, as tenants by the entirety with the right of survivorship, their assigns, and the heirs of the survivor, the following described real estate situated in the Fairbanks Recording District, Fourth Judicial District, State of Alaska:

The East 350 feet of the Southeast quarter of the Southeast quarter (SE 1/4 of SE 1/4) of Section Nine (9), Township One North (T 1 N), Range One East (R 1 E), of the Fairbanks Meridian, said 350 feet to be measured along the south boundary line of said section, and the dividing line to run parallel with the East boundary line of said section,

TOGETHER with the right to take one-half of the water produced by an existing well situated approximately 380 feet West from the Southeast corner of said Section 9, and approximately 150 feet North of the South section line, TOGETHER with an easement 20 feet in width running easterly from said well to the West boundary line of the 350 foot tract above excepted, for the purpose of installing, using, repairing, maintaining and operating a water pipeline.

DATED this 24 day of July, 1972, at Fairbanks, Alaska.

*James Lee Harrison*  
JAMES LEE HARRISON

STATE OF ALASKA )  
FOURTH JUDICIAL DISTRICT ) ss.

THIS IS TO CERTIFY that on this 24 day of July, 1972, before me, a Notary Public duly commissioned and sworn for the State of Alaska, personally appeared JAMES LEE HARRISON, the Grantor herein, to me known to be the identical individual described in and who executed the within instrument and he acknowledged to me that he signed the same freely and voluntarily for the uses and purposes therein mentioned.

DATED at Fairbanks, Alaska, the day, month and year herein last above written.

*[Signature]*  
Notary Public for Alaska  
My commission expires: 11-19-74

DORIS LOENNIG  
Attorney at Law  
556 Second Avenue  
Fairbanks, Alaska  
99701



*James Harrison  
270-8302  
Fairbanks, AK  
Held Here!!*

JUL 24 2 19 PM '72  
RECORDED BY  
155

*7/24/72*

257 65

### ACKNOWLEDGMENT FOR INDIVIDUALS

UNITED STATES OF AMERICA

STATE OF \_\_\_\_\_

BEFORE ME the undersigned, a Notary Public in and for the State of \_\_\_\_\_, on this day personally appeared \_\_\_\_\_ single person/husband and wife, known to me to be the person whose name is/are subscribed to the foregoing instrument, and acknowledged to me that he executed the same as \_\_\_\_\_ free and voluntary act and deed for the purposes and consideration therein expressed.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 19 \_\_\_\_\_

Notary Public in and for the State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

### CORPORATION ACKNOWLEDGMENT

UNITED STATES OF AMERICA

STATE OF \_\_\_\_\_

BEFORE ME the undersigned, a Notary Public in and for the State of \_\_\_\_\_ on this day personally appeared \_\_\_\_\_ and \_\_\_\_\_ known to me to be the persons and officers whose names are subscribed to the foregoing instrument, who being duly sworn, did say that they are the \_\_\_\_\_ and \_\_\_\_\_ respectively, of \_\_\_\_\_ a corporation, and acknowledged to me, that they executed said instrument as their free and voluntary act and deed in their said capacities and as the free and voluntary act and deed of said corporation for the purposes and consideration therein expressed, and that the said affixed seal is the corporate seal of said corporation.

GIVEN UNDER MY HAND AND SEAL OF OFFICE, this \_\_\_\_\_ day of \_\_\_\_\_ A.D. 19 \_\_\_\_\_

Notary Public in and for the State of \_\_\_\_\_

My Commission Expires: \_\_\_\_\_

### ACKNOWLEDGEMENT FOR WITNESS

UNITED STATES OF AMERICA

STATE OF ALASKA

On the 12th day of May 1971, before me Shirley A. Pippin \_\_\_\_\_, a Notary Public for the State of Alaska, residing therein and duly commissioned and sworn, personally appeared John A. Pate \_\_\_\_\_ with whom I am personally acquainted and who is known to me to be the same person whose name is subscribed to the within and annexed instrument as a subscribing witness thereto and who, being by me duly sworn, deposes, acknowledges and states: That he, the affiant, resides in Fairbanks, Alaska \_\_\_\_\_ and that he, the affiant, was present and saw James Lee Harrison \_\_\_\_\_ known to him to be the same person whose name is/are subscribed to, and who executed, the within and annexed instrument, personally executed and deliver the same, and he acknowledged to said affiant that he executed the same as his free and voluntary act and deed for the purposes and consideration therein expressed and that said affiant subscribed his name thereto as a witness.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my official seal the day and year in this certificate first above written.



*Shirley A. Pippin*  
Notary Public for the State of  
Alaska

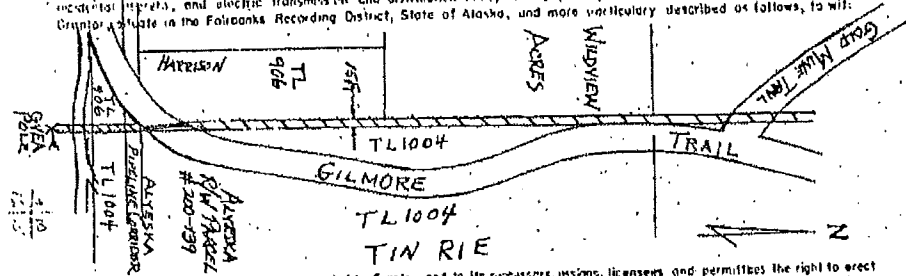
residing at Fairbanks, \_\_\_\_\_

Alaska  
My Commission Expires: 1/1/73

### City of Fairbanks, Alaska MUNICIPAL UTILITIES SYSTEM RIGHT OF WAY EASEMENT

KNOW ALL MEN BY THESE PRESENTS, that JAMES L. HARRISON & CAROLYN SUE HARRISON  
TAK LOT 906 SEC. 9 T14 R1E F41

and his heirs, executors, administrators, agents, successors, and assigns, hereinafter called, without consideration of gender or number, Grantor, for and with valuable consideration, the receipt of which is hereby acknowledged, does hereby grant, bargain, sell and convey to MUNICIPAL UTILITIES SYSTEM of the City of Fairbanks, Alaska, hereinafter called "Grantee", and to its successors, assigns, licensees, and permittees, an easement for the erection, construction, and installation, and continued operation, maintenance, repair, alteration, inspection, replacement, improvement, and relocation, and removal, of telephone transmission and distribution lines, including poles, cross-arms, cross-ticks and other attachments and equipment incidental thereto, and electric transmission and distribution lines, through, over, in, under, and across the lands of Grantor, situate in the Fairbanks Recording District, State of Alaska, and more particularly described as follows, to wit:



AND specifically, there is hereby granted to Grantee, and to its successors, assigns, licensees, and permittees the right to erect, construct, and install, and to continue to operate, maintain, repair, alter, inspect, replace, improve, and relocate, and to remove, such telephone transmission and distribution lines and their related facilities, and electric transmission and distribution lines and their related facilities, through, over, in, under, and across the aforesaid premises as may from time to time be necessary or desirable for the use, occupation, and enjoyment of such right of way, including the right of ingress and egress to said premises, and the right to cut and keep clear of all trees, shrubbery, undergrowth, and other obstructions on said premises as may be reasonably required for the construction, installation, operation and maintenance of such facilities.

TO HAVE AND TO HOLD the same to Grantee, its successors, assigns, licensees, and permittees, FOREVER.

Grantor agrees that all poles, wire, conductor, and other facilities, including any main service entrance equipment, which may be installed on the above described premises at Grantee's expense, or at the expense of its successors, assigns, licensees, and permittees, shall remain the property of Grantee, or the property of such successors, assigns, licensees, or permittees, as the case may be, and removable at its or their option.

Grantor covenants that he is the owner of the above described premises and that the said premises are free and clear of encumbrances and liens of whatever character, except those held by the following persons:

IN WITNESS WHEREOF, Grantor has set his hand and seal, or has caused these presents to be executed by his duly authorized representative or agent, all of the 17th day of August, 1975.

James L. Harrison (Seal) \_\_\_\_\_ (Grantor)  
Carolyn S. Harrison (Seal) \_\_\_\_\_ (Grantor)

75-14092  
522  
AUG 25 11 55 AM '75  
REC'D  
ST. ALASKA  
S.A.H. et.

STATE OF ALASKA  
FAIRBANKS RECORDING DISTRICT

THIS IS TO CERTIFY that on this 17th day of August, 1975  
before me, the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn as such, personally appeared  
James L. Harrison and Carolyn S. Harrison  
known to me and to me known to be the individual, named in and who executed the foregoing instrument and acknowledged to me  
that they signed and sealed the same as their voluntary act and deed for the uses and purposes therein mentioned.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal the day and year first above written.

James B. Osborne  
Notary Public in and for Alaska  
My commission expires 3-1-77

9/29/75

WARRANTY DEED  
(ALASKA)

The Grantor ... SHARON LEE FUNK .....  
(Place of residence) Star Route, Box 40560, 2.1 Mile Gilmore Trail, Fairbanks Alaska, 99701....  
for and in consideration of ..... (\$10.00) and other good and valuable consideration .....  
..... in hand paid, conveys and warrants to  
DERRELL DUANE JAEKE and SHARON LEE JAEKE .....  
Star Route, Box 40560, 2.1 Mile Gilmore Trail, Fairbanks Alaska, 99701..... (grantee(s))  
the following described real estate:

The east 350 feet of the Southeast quarter  
(SE 1/4) of the Southeast quarter (SE 1/4)  
of Section Nine (9), Township 1 North,  
Range 1 East, Fairbanks Meridian together  
with all water rights and easements re-  
served unto the said James Lee Harrison,  
his heirs and assigns, by that deed recorded  
July 24, 1972 in deed of records volume 270  
at page 404 or conveyed to both of the within  
grantors by that deed recorded July 24, 1972  
in deed records volume 270 at page 403.

8-1-0328  
RECORDED  
FAIRBANKS REC.  
DISTRICT  
JAN 8 11 37 AM '81  
REQUESTED BY  
ADDRESS  
SPRAY HOBBS  
CARR, ALASKA  
17131416

situated in the State of Alaska.

DATED this 8 day of January, 1981

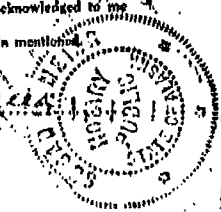
Signed, Sealed and Delivered in the Presence of  
Sharon L. Funk (FKA) ..... (SEAL)  
Derrell Duane Jaek

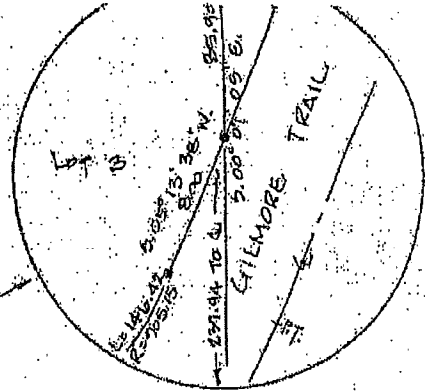
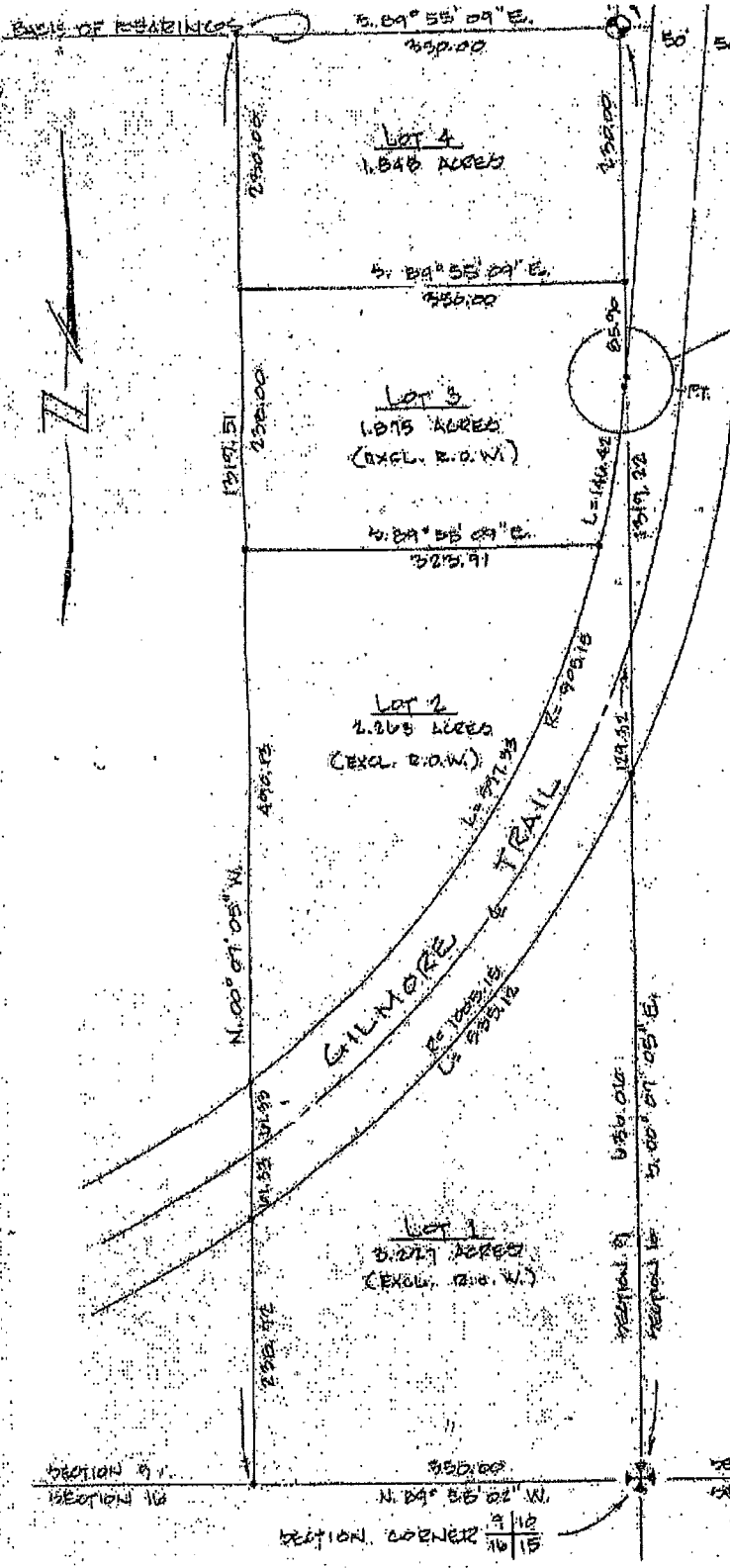
UNITED STATES OF AMERICA  
STATE OF ALASKA, SS. Individual Acknowledgment (Alaska)

THIS IS TO CERTIFY that on this 8th day of January, 1981, before  
the undersigned, a Notary Public in and for the State of Alaska, duly commissioned and sworn, personally appeared  
Sharon L. Funk (FKA) and Derrell Duane Jaek

to me known to be the person, described in and who executed the above and foregoing instrument, and acknowledged to me  
that he signed and sealed the same freely and voluntarily for the uses and purposes therein mentioned.

WITNESS my hand and official seal the day and year in this certificate first above written.  
Susan M. Meeks  
Notary Public for Alaska. My commission expires 10/28/84

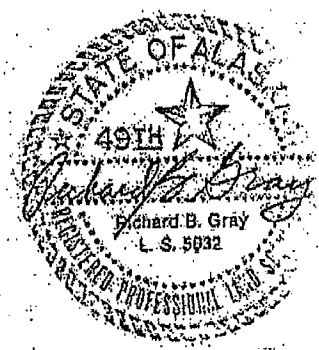
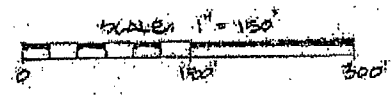




**NOTE:**  
 A 33' SECTION LINE ROADWAY EASEMENT EXISTS ON EITHER SIDE OF THE LINE COMMON TO SECTIONS 9 & 10.

**LEGEND**

- 60 BRASS-CAPPED MONUMENT RECOVERED THIS SURVEY.
- 1/2" PIPE MONUMENT RECOVERED THIS SURVEY.
- 1/2" x 50" BEARING W/ STAMPED ALUM. CAP SET THIS SURVEY.



*Worffmeyer*

**SURVEY & PARTITION OF THE JAEKE PROPERTY**  
 BEING THE EAST 330' OF THE 1/4 1/4 1/4 1/4 SEC. 9, T.11N., R.1E., F.M.

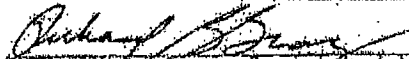
BEING THE EAST END OF THE BETA BETA TRIP, T.I.N., R.I.E., P.M.  
PREPARED BY: ELLENDE ALASKA DRAWN: 9 MAY 1984  
1981 COLLEGE ROAD BY: R. GRAY  
FAIRBANKS, AK. 99701  
PREPARED FOR: DEBBIE & MURRAY JAEVE  
B.F. 2144 ROAD  
FAIRBANKS, AK. 99701

SURVEYOR'S CERTIFICATE

I hereby certify that I am properly registered and licensed to practice land surveying in the State of Alaska, and that this plat represents a survey made by me or under my direct supervision, and the monuments shown hereon actually exist as described, and that all dimensions and other details are correct.

Date 14 MAY 1984

Registration Number 5032-5

  
Richard B. Gray, Registered Land Surveyor

Ellerbe Alaska  
Architects Engineers Planners  
601 College Road  
Fairbanks, AK 99701  
907 452 1241

**Ellerbe**

May 11, 1984

Derrel and Sharon Jaeke  
S. R. Box 40560  
Fairbanks, Alaska 99701

Dear Mr. and Mrs. Jaeke:

Following are the descriptions of the four parcels we recently surveyed for you in Section 9, T.1N., R.1E., F.M. We suggest that as you record deeds to the individual parcels being sold you attach a copy of the enclosed survey sketch as a second page of each deed. This will allow the eventual owners to see the property drawn to scale along with full dimensional data and what corners were set to define their parcels.

PARCEL ONE

That portion of the East 350 feet of the Southeast Quarter of the Southeast Quarter of Section 9, T.1N., R.1E., F.M., Alaska lying south of the right-of-way of Gilmore Trail, Alaska Department of Transportation and Public Facilities project number A-80241. Said parcel containing 3.227 acres, more or less, and being subject to reservations, restrictions, and easements of record, if any.

PARCEL TWO

That portion of the East 350 feet of the Southeast Quarter of the Southeast Quarter of Section 9, T.1N., R.1E., F.M., Alaska lying northwesterly of the right-of-way of Gilmore Trail, Alaska Department of Transportation and Public Facilities project number A-80241, excepting therefrom the North 468 feet thereof. Said parcel containing 2.263 acres, more or less, and being subject to reservations, restrictions, and easements of record, if any.

PARCEL THREE

That portion of the North 468 feet of the East 350 feet of the Southeast Quarter of the Southeast Quarter of Section 9, T.1N., R.1E., F.M., Alaska lying northwesterly of the right-of-way of Gilmore Trail, Alaska Department of Transportation and Public Facilities project number A-80241, excepting therefrom the North 230 feet thereof. Said parcel containing 1.875 acres, more or less, and being subject to reservations, restrictions, and easements of record, if any.



Derrel and Sharon Jaeke  
May 11, 1984  
Page 2

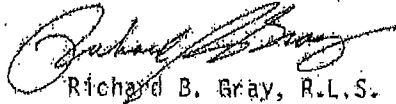
PARCEL FOUR

The North 230 feet of the East 350 feet of the Southeast Quarter of the Southeast Quarter of Section 9, T.1N., R.1E., F.M., Alaska. Said parcel containing 1.848 acres, more or less, and being subject to reservations, restrictions, and easements of record, if any.

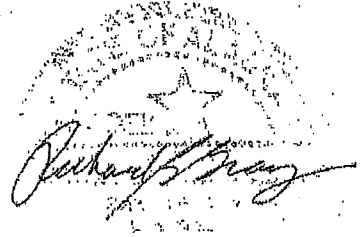
If you have any questions or require any further services, please do not hesitate to call on us.

Very truly yours,

ELLERBE ALASKA

  
Richard B. Gray, R.L.S.

RBG:SC  
enclosure





**Fairbanks  
North  
Star  
Borough**

July 19, 1984

272860

Mayor: B.B. Allen

Derrel and Sharon Jaeko  
S.R. Box 40560  
Fairbanks, Alaska 99701

Re: WY 001-84

Dear Mr. and Mrs. Jaeko:

Your waiver request (WY 002-84) is approved as the condition set forth by the Platting Board of the Fairbanks North Star Borough have been met.

If you have any questions regarding this matter, please contact the Fairbanks North Star Borough Division of Community Planning at 809 Pioneer Road or call 452-4761 for an appointment.

Sincerely,

Martin Gutoski  
Platting Officer

MG/ra4

cc: FNSB Drafting  
FNSB Assessing



Fidelity Title Agency Of Alaska, LLC

3150 C Street, Suite 220, Anchorage, AK 99503  
Phone: (907) 277-6601 • Fax: (907) 277-6613

*A Non-Affiliated  
Independent & Locally Owned Company  
Where Experience Counts*

COMMITMENT FOR TITLE INSURANCE

**ORDER NO:** F-49027  
**PROPERTY:** 1392 Gilmore Trail, Fairbanks, AK 99712-2109

GCI Communication Corp.  
2550 Denali Street, Suite 1000  
Anchorage AK 99503-2781  
Attn: Bryan Maracle  
Email: bmaracle@gci.com  
cc: ccoughlin@gci.com  
cc: dbaker@gci.com  
cc: owerdal@gci.com

Questions regarding this Commitment should be directed to:  
Jessica Carson at (907) 277-6631 or jessicac@fidelityak.com

# INVOICE



**Remit Payment To:**  
Fidelity Title of Alaska, LLC  
3150 "C" Street, Suite 220  
Anchorage, AK 99503  
Phone: 907-277-6601  
Fax: 907-277-6617

**Billed To:**  
GCI Communication Corp.  
2550 Denali Street, Suite 1000  
Anchorage, AK 99503-2781  
Attn: Bryan Maracle

**Invoice Date:** July 8, 2014  
**Please Pay Before:** 30 Days  
**Our File Number:** F-49027  
**Reference Buyer's Name:** GCI Communication Corporation  
**Reference Seller's Name:** Jaeke  
**Yukon Title Ref.:** Y83997

**Property:**  
1392 Gilmore Trail, Fairbanks, AK  
99712-2109

**Brief Legal:** Lot 1, Jaeke Property

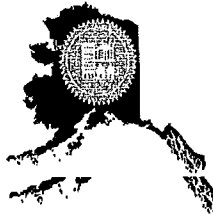
DESCRIPTION		AMOUNT
Standard Owner's Policy	\$28,000.00	\$250.00

Pursuant to the Director of Insurance Order No. R92-1, a non-refundable minimum deposit of \$250.00 is due within 30 days of the date of issuance of this report and will be applied to any premium charged at closing or toward the cancellation fee should said transaction fail to close.

Please write the order number on all payments to our office.

1<sup>st</sup> copy – Customer

2<sup>nd</sup> copy-Please return with remittance



Fidelity Title Agency  
of Alaska

3150 C Street, Suite 220  
Anchorage, Alaska 99503  
Phone: (907) 277-6601 Fax: (907) 277-6617

July 8, 2014

GCI Communication Corp.  
2550 Denali Street, Suite 1000  
Anchorage, AK 99503-2781

Attn: Bryan Maracle

Re: Title Order Number: F-49027  
Borrower: GCI Communication Corporation  
Property: 1392 Gilmore Trail, Fairbanks, AK 99712-2109

Dear Customer:

On your behalf we have acquired the enclosed Preliminary Commitment for Title Insurance for the parcel of property which is the subject of the above Fidelity Title Agency Of Alaska, LLC order. All correspondence and contact by telephone or email should continue to be through this office including any questions you might have regarding the status of title as reflected on the enclosed title commitment.

Enclosed also is our preliminary invoice for the Commitment. If you have any questions, please feel free to contact us.

Sincerely,

Fidelity Title Agency Of Alaska, LLC

  
Jessica Carson,  
Title Officer

**COMMITMENT FOR TITLE INSURANCE  
ISSUED BY**

**YUKON TITLE COMPANY INC.**

**Policy Issuing Agent for Stewart Title Guaranty**

714 Gaffney Road  
Fairbanks, AK 99701  
(907) 456-3474  
Fax (907) 456-3476

YOUR NO. F-49027  
ORDER NO. Y83997-CH  
RE: Jaeke\ GCI

**TO: Fidelity Title Agency of Alaska, LLC**  
**Via Email Only**  
**Attn: Kelly Harrington**

**AGREEMENT TO ISSUE POLICY**

We agree to issue a policy to you according to the terms of this Commitment. When we show the policy amount and your name as the proposed insured in Schedule A, this Commitment becomes effective as of the Commitment Date shown in Schedule A.

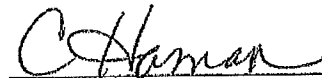
If the Requirements shown in this Commitment have not been met within six months after the Commitment Date, our obligation under this Commitment will end. Also, our obligation under this Commitment will end when the Policy is issued and then our obligation to you will be under the Policy.

Our obligation under this Commitment is limited by the following:

- The Provisions in Schedule A.
- The Requirements in Schedule B-1.
- The General Exceptions and Exceptions in Schedule B-2.
- The Conditions.

This Commitment is not valid without SCHEDULE A and Sections 1 and 2 of SCHEDULE B.

Yukon Title Company, Inc.



Crissy K Haman, Title Officer  
crissy@yukontitle.com

SCHEDULE A

- 1. Commitment Date: June 25, 2014 at 8:00 A.M.
- 2. Policy or Policies to be issued:

<u>TYPE OF POLICY</u>	<u>AMOUNT</u>	<u>PREMIUM</u>
2006 Owner's Standard Policy ALTA (6/17/2006) Proposed Insured: GCI Communication Corporation, an Alaska Corporation	\$28,000.00	\$ 250.00

- 3. The estate or interest in the land described or referred to in this Commitment and covered herein is a fee simple estate.
- 4. Title to the fee simple estate or interest in the land described in this Commitment is at the effective date hereof vested in:  
  
**Derrell Duane Jaekle and Sharon Lee Kaeke**
- 5. The land referred to in this Commitment is described as follows:

**That portion of the East 350 feet of the Southeast ¼ of the Southeast ¼ of Section 9, Township 1 North, Range 1 East, Fairbanks Meridian, Alaska lying south of the right-of-way of Gilmore Trail, Alaska Department of Transportation and Public Facilities project number A-80241; Records of the Fairbanks Recording District, Fourth Judicial District, State of Alaska.**

Schedule B – Section 2

EXCEPTIONS

Any policy we issue will have the following exceptions unless they are taken care of to our satisfaction.

PART ONE:

1. Rights or claims of parties in possession not shown by the Public Records.
2. Easements, or claims of easement, not shown by the Public Records.
3. Encroachments, overlaps, boundary line disputes, or other matters which would be disclosed by an accurate survey or inspection of the Land
4. Any lien, or right to a lien, for services, labor, or material heretofore or hereafter furnished, imposed by law and not shown by the Public Records.
5. Taxes or special assessments which are not shown as existing liens by the Public Records.
6. (a) Unpatented mining claims;  
(b) reservations or exceptions in patents or in Acts authorizing the issuance thereof;  
(c) water rights, claims or title to water, whether or not the matters excepted under (a), (b) or (c) are shown by the public records
7. Rights of the state or federal government and/or the public in and to any portion of the land for right of way as established by federal statute RS 2477 (whether or not such rights are shown by recordings of easements and/or maps in the public records by the State of Alaska showing the general location of these rights of way).

PART TWO:

1. Reservations and exceptions as contained in the U.S. Patent.
2. Taxes due the Fairbanks North Star Borough.
 

Parcel No.:	0594653
Taxes for 2014:	\$2,722.42
Due Date:	First ½ due September 2, 2014, delinquent September 3, 2014; Second ½ due November 3, 2014, delinquent November 4, 2014.
Land Valuation:	\$40,265
Improvements:	\$158,460
Mill Rate:	15.1220%
3. Right of public and governmental agencies in and to any portion of said land included within the boundaries of any trails, streets, roads or highways.
4. Reservation of section line easement as provided by AS 19.10.010, 19 SLA 1923, 14 STAT. 253, 43 USCA 932 and reenacted by 1721 CLA 1933.
5. Right of way easement, including terms and provisions thereof, granted to GOLDEN VALLEY ELECTRIC ASSOCIATION, INC., and their assigns and/or successors in interest, to construct, operate and maintain an electric transmission and/or telephone distribution line or system by instrument recorded May 7, 1960 in Book 112 at Page 351. (Blanket Easement)



6. Right-of-Way Agreement and the terms and conditions contained therein:

Dated: May 12, 1971  
 Between: JAMES LEE HARRISON  
 And: ARCO PIPE LINE COMPANY, AS TO 28.08%; SOMMO PIPE LINE COMPANY, AS TO 28.08%; HUMBLE PIPE LINE COMPANY, AS TO 25.52 %; AMERADA HESS CORPORATION, AS TO 3.00; MOBIL PIPE LINE COMPANY, AS TO 8.68%; PHILLIPS PETROLEUM COMPANY, AS TO 3.32%; UNION OIL COMPANY OF CALIFORNIA, AS TO 3.32

Recorded: May 13, 1971  
 Book: 257  
 Page: 64

7. Right of way easement, including terms and provisions thereof, granted to GOLDEN VALLEY ELECTRIC ASSOCIATION, INC., and their assigns and/or successors in interest, to construct, operate and maintain an electric transmission and/or telephone distribution line or system by instrument recorded August 29, 1975 in Book 18 at Page 839. (See instrument for area affected)

8. The right, title and interest of TIFFANIE FLORANCE JAEKE/WEIER as disclosed by the application for title insurance.

9. Pursuant to Alaska Statute 34.15.010, the right, title and interest of the spouse of the vestee herein, if married: In the event the vestee (or mortgagor/trustor) of subject property is married, and if said property is the family home, then the spouse must also join in any conveyance deed. If executing a deed of trust, the spouse must also join in the execution thereof. If the vestee is unmarried, such should be disclosed on any deed or deed of trust. If married, but subject property is not the family home, the same should be noted on any deed or deed of trust.

NOTE: Together with the right to take one-half of the water produced by an existing well situated approximately 380 feet West from the Southeast corner of said Section 9, and approximately 150 feet North of the South section line, Together with an easement 20 feet in width running easterly from said well to the West boundary line of the 350 foot tract above excepted, for the purpose of installing, using, repairing, maintaining and operating a water pipe-line.

The address of the property per the Fairbanks North Star Borough records:  
1392 Gilmore Trail, Fairbanks, AK 99712

TITLE TO VEST IN: GCI Communication Corporation and we find no unsatisfied judgments or tax liens against said party or parties in the Fairbanks Recording District.

Questions regarding this Commitment should be directed to, Crissy K Haman, Title Officer

CH/JA  
Typed: July 8, 2014

**SCHEDULE B – Section 1**

The following requirements must be met:

- (a) Pay the agreed amounts for the interest in the land and/or the mortgage to be insured.
- (b) Pay us the premiums, fees and charges for the policy.
- (c) Documents satisfactory to us creating the interest in the land and/or the mortgage to be insured must be signed, delivered and recorded.
- (d) You must tell us in writing the name of anyone not referred to in this Commitment who will get an interest in the land or who will make a loan on the land. We may then make additional requirements or exceptions.
- (e) Release(s) or Reconveyance(s) of appropriate items.
- (f)
  - 1. If any document in the completion of this transaction is to be executed by an attorney-in-fact, the contemplated Power of Attorney form should be submitted for review prior to closing.
  - 2. The State of Alaska, Division of Insurance has issued its Order R92-1. The order in part, requires the immediate billing and collection of the minimum charge for this commitment within 30 days of the first billing. In the event this transaction fails to close, the minimum billing will be the cancellation fee in accordance with our filed rate schedule.

**NOTICE**

In 1999, the Alaska Department of Natural Resources began recording maps of claimed rights of way which may have been created under a federal law known as "RS 2477", pursuant to Alaska Statute 19.30.400. Because the maps are imprecise, the exception from coverage shown on Schedule B, Part One, Paragraph 4 has been taken. Questions regarding the State's RS 2477 claims should be directed to the Department of Natural Resources, Public Information Center, 550 W. 7<sup>th</sup> Avenue, Suite 1260, Anchorage, AK 99501-3557, (907) 269-8400.

**CONDITIONS**

**1. DEFINITIONS**

(a) "Mortgage" means mortgage, deed of trust or other security instrument.

(b) "Public Records" means title records that give constructive notice of matters affecting the title according to the state law where the land is located.

**2. LATER DEFECTS**

The Exceptions in Schedule B-Section II may be amended to show any defects, liens or encumbrances that appear for the first time in the public records or are created or attached between the Commitment Date and the date on which all of the Requirements (a) and (c) of Schedule B-Section I are met. We shall have no liability to you because of this amendment.

**3. EXISTING DEFECTS**

If any defects, liens or encumbrances existing at Commitment Date are not shown in Schedule B, we may amend Schedule B to show them. If we do amend Schedule B to show these defects, liens or encumbrances, we shall be liable to you according to Paragraph 4 below unless you knew of this information and did not tell us about it in writing.

**4. LIMITATION OF OUR LIABILITY**

Our only obligation is to issue to you the Policy referred to in this Commitment, when you have met its Requirements. If we have any liability to you for any loss you incur because of an error in this Commitment, our liability will be limited to your actual loss caused by your relying on this Commitment when you acted in good faith to:

comply with the Requirements shown in Schedule B - Section I

eliminate with our written consent any Exceptions shown in Schedule B - Section II.

We shall not be liable for more than the Policy Amount shown in Schedule A of this Commitment and our liability is subject to the terms of the Policy form to be issued to you.

**5. CLAIMS MUST BE BASED ON THIS COMMITMENT**

Any claim, whether or not based on negligence, which you may have against us concerning the title to the land must be based on this commitment and is subject to its terms.

**YUKON TITLE COMPANY, INC  
and  
STEWART TITLE GUARANTEE COMPANY**

**PRIVACY POLICY NOTICE**

**PURPOSE OF THIS NOTICE**

Title V of the Gramm-Leach-Bliley Act (GLBA) generally prohibits any financial institution, directly or through its affiliates, from sharing nonpublic personal information about you with a nonaffiliated third party unless the institution provides you with a notice of its privacy policies and practices, such as the type of information that it collects about you and the categories of persons or entities to whom it may be disclosed. In compliance with the GLBA, we are providing you with this document, which notifies you of the privacy policies and practices of Stewart Title Guaranty Company, Stewart Title Insurance Company, Stewart Title Insurance Company of Oregon, National Land Title Insurance Company, Arkansas Title Insurance Company, Charter Land Title Insurance Company and Yukon Title Company, Inc.

We may collect nonpublic personal information about you from the following sources:

Information we received from you, such as on applications or other forms.

Information about your transactions we secure from our files, or from our affiliates or others.

Information we receive from a consumer reporting agency.

Information that we receive from others involved in your transaction, such as the real estate agent or lender

Unless it is specifically stated otherwise in an amended Privacy Policy Notice, no additional nonpublic personal information will be collected about you.

We may disclose any of the above information that we collect about our customers or former customers to our affiliates or to nonaffiliated third parties as permitted by law.

We also may disclose this information about our customers or former customers to the following types of nonaffiliated companies that perform marketing services on our behalf or with whom we have joint marketing agreements;

Financial service providers such as companies engaged in banking, consumer finance, securities and insurance.

Non-financial companies such as envelope stuffers and other fulfillment service providers.

**WE DO NOT DISCLOSE ANY NONPUBLIC PERSONAL INFORMATION ABOUT YOU WITH ANYONE FOR ANY PURPOSE THAT IS NOT SPECIFICALLY PERMITTED BY LAW.**

We restrict access to nonpublic personal information about you to those employees who need to know that information in order to provide products or services to you. We maintain physical, electronic and procedural safeguards that comply with federal regulations to guard your nonpublic personal information.

**Exhibit E**  
FCC License

ASR Application Search

# Application A0933951

### Application Detail

File Number	A0933951	Constructed	
Registration Number	1295269	Dismantled	
NEPA		EMI	No

### Application Information

Status	Granted	Received	03/18/2015
Purpose	Amendment	Entered	03/18/2015
Mode	Interactive		

### Antenna Structure

Structure Type POLE - Any type of Pole

#### Location (in NAD83 Coordinates)

Lat/Long	64-55-19.8 N 147-32-31.7 W	Address	1392 Gilmore Trail
City, State	Fairbanks , AK	County	FAIRBANKS NORTH STAR
Zip	99712	Position of Tower in Array	

#### Heights (meters)

Elevation of Site Above Mean Sea Level	473.4	Overall Height Above Ground (AGL)	37.8
Overall Height Above Mean Sea Level	511.2	Overall Height Above Ground w/o Appurtenances	36.6

#### Proposed Marking and/or Lighting

None

#### FAA Notification

FAA Study	2014-AAL-402-OE	FAA Issue Date	01/30/2015
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### Owner & Contact Information

FRN	0021818133	Owner Entity Type	Limited Liability Company
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#### Owner

The Alaska Wireless Network Attention To: Cindy L Hall 2550 Denali Street, Suite 1000 Anchorage , AK 99503	P: (800)770-8725 F: (907)868-9817 E: gcilicensemanager@gci.com
---	--

#### Contact

Hall , Cindy L Attention To: Network Operations Center 2550 Denali Street, Suite 1000 Anchorage , AK 99503	P: (800)770-8725 F: (907)868-9817 E: chall2@gci.com
---	---

### Environmental Compliance

Does the applicant request a Waiver of the Commission's rules for environmental notice?  
No

Is the applicant submitting an Environmental Assessment?  
No

Is another Federal Agency taking responsibility for environmental review?  
No

Does the applicant certify to No Significant Environmental Effect pursuant to Section  
Yes

Reason for another Federal Agency taking responsibility for environmental review

Basis for Certification

Environmental Notification is complete and an Environmental Assessment is not required.

Name of Federal Agency

Local Notice Date

02/02/2015

National Notice Date  
02/02/2015

Certification

Authorized Party Sipes, Jimmy  
Receipt Date 03/18/2015

Title VP, Network Services & Chief Engineer

Comments

**Comments**

None

History

Date	Event
03/18/2015	Amendment Received
03/18/2015	Application Granted
01/30/2015	New Application Received

Trans Log

Date	Description	Existing Value	Requested Value
03/18/2015	Environmental Compliance : Indicator for Certify Grant of Authorization		Y
03/18/2015	Structure : The date the FAA determination was issued		01/30/2015
03/18/2015	Structure : The FAA study number		2014-AAL-402-OE

All Trans Log (5)

Pleadings

Pleading Type	Description	Date Entered
None		

Automated Letters

Date	Description
None	

Attachments

3/31/2015

ASR Application A0933951

**Type**  
None

**Description**

**Date Entered**

CLOSE WINDOW



**Exhibit F**  
FAA Determination



Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 2601 Meacham Boulevard  
 Fort Worth, TX 76193

Aeronautical Study No.  
 2014-AAL-402-OE

Issued Date: 01/30/2015

Cynthia L Hall  
 Alaska Wireless Network  
 2550 Denali Street, Suite 1000  
 Anchorage, AK 99503

**\*\* 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 Gilmore Trail  
 Location: Fairbanks, AK  
 Latitude: 64-55-19.82N NAD 83  
 Longitude: 147-32-31.74W  
 Heights: 1553 feet site elevation (SE)  
 124 feet above ground level (AGL)  
 1677 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure would have no substantial adverse effect on the safe and efficient utilization of the navigable airspace by aircraft or on the operation of air navigation facilities. Therefore, pursuant to the authority delegated to me, it is hereby determined that the structure would not be a hazard to air navigation provided the following condition(s) is(are) met:

It is required that FAA Form 7460-2, Notice of Actual Construction or Alteration, be e-filed any time the project is abandoned or:

- At least 10 days prior to start of construction (7460-2, Part 1)
- Within 5 days after the construction reaches its greatest height (7460-2, Part 2)

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 and maintained in accordance with FAA Advisory circular 70/7460-1 K Change 2.

This determination expires on 07/30/2016 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 does not constitute authority to transmit on the frequency(ies) identified in this study. The proponent is required to obtain a formal frequency transmit license from the Federal Communications Commission (FCC) or National Telecommunications and Information Administration (NTIA), prior to on-air operations of these frequency(ies).

This determination is subject to review if an interested party files a petition that is received by the FAA on or before March 01, 2015. In the event a petition for review is filed, it must contain a full statement of the basis upon which it is made and be submitted to the Manager, Airspace Regulations & ATC Procedures Group, Federal Aviation Administration, 800 Independence Ave, SW, Room 423, Washington, DC 20591.

This determination becomes final on March 11, 2015 unless a petition is timely filed. In which case, this determination will not become final pending disposition of the petition. Interested parties will be notified of the grant of any review. For any questions regarding your petition, please contact Airspace Regulations & ATC Procedures Group via telephone -- 202-267-8783 - or facsimile 202-267-9328.

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 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 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.

Any failure or malfunction that lasts more than thirty (30) minutes and affects a top light or flashing obstruction light, regardless of its position, should be reported immediately to (800) 478-3576 so a Notice to Airmen (NOTAM) can be issued. As soon as the normal operation is restored, notify the same number.

This aeronautical study considered and analyzed the impact on existing and proposed arrival, departure, and en route procedures for aircraft operating under both visual flight rules and instrument flight rules; the impact on all existing and planned public-use airports, military airports and aeronautical facilities; and the cumulative impact resulting from the studied structure when combined with the impact of other existing or proposed

structures. The study disclosed that the described structure would have no substantial adverse effect on air navigation.

An account of the study findings, aeronautical objections received by the FAA during the study (if any), and the basis for the FAA's decision in this matter can be found on the following page(s).

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 van Haastert, at (907) 271-5863. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2014-AAL-402-OE.

**Signature Control No: 235763937-241911711**  
Sheri Edgett-Baron  
Manager, Obstruction Evaluation Group

( DNH )

Attachment(s)  
Additional Information  
Frequency Data  
Map(s)

cc: FCC

## Additional information for ASN 2014-AAL-402-OE

AERONAUTICAL STUDY NO. 2014-AAL-402-OE

### Abbreviations

AGL - above ground level

MSL - mean sea level

RWY - runway

IFR - instrument flight rules

VFR - visual flight rules

nm - nautical mile

Part 77 - Title 14 CFR Part 77, Safe, Efficient Use and Preservation of the Navigable Airspace

### 1. LOCATION OF PROPOSED CONSTRUCTION

The proposed 124 AGL / 1677 MSL antenna structure would be located approximately 31,633 feet north (5.21 nm) of the RWY 25R threshold at Ladd Army Air Field (FBK), Fairbanks, AK. FBK elevation: 460 MSL. It would be located at 1392 Gilmore Trail, Fairbanks, AK.

### 2. OBSTRUCTION STANDARDS EXCEEDED

The proposed structure is identified as an obstruction under this Part 77 standard:

Section 77.21(a)(3) -- The surface of a takeoff and landing area of an airport or any imaginary surface. It would exceed the VFR maneuvering areas for military aircraft (horizontal surface) at FBK by 717 feet.

### 3. EFFECT ON AERONAUTICAL OPERATIONS

a. The impact on arrival, departure, and en route procedures for aircraft operating under VFR follows: None

b. The impact on arrival, departure, and en route procedures for aircraft operating under IFR follows: None.

c. The impact on all planned public-use airports and aeronautical facilities follow: None.

d. The cumulative impact resulting from the proposed construction or alteration of a structure when combined with the impact of other existing or proposed structures follows: None.

### 4. CIRCULATION AND COMMENTS RECEIVED

The proposal was not circularized for public comment due to an internal FAA evaluation. This does not affect the public's right to petition for review determinations regarding structures, which exceed the subject obstruction standards.

### 5. DETERMINATION - NO HAZARD TO AIR NAVIGATION

It is determined that the proposed construction would not have a substantial adverse effect on the safe and efficient use of navigable airspace by aircraft.

### 6. BASIS FOR DECISION

The proposed structure would exceed the FBK military horizontal surface by 717 feet, however, the terrain also penetrates the military horizontal by 593 feet. There are no IFR impacts to any civil or military instrument procedures. There are no VFR Traffic Pattern penetrations and no VFR issues could be identified. The US Army did not object to the proposal. The incorporation of marking and lighting was considered but not deemed necessary.

### 7. CONDITIONS

Within five days after the structure reaches its greatest height, proponent is required to file a FAA form 7460-2, Actual Construction notification, at the OE/AAA website (<http://oeaaa.faa.gov>). This Actual Construction notification will be the source document detailing the site location, site elevation, structure height, and date

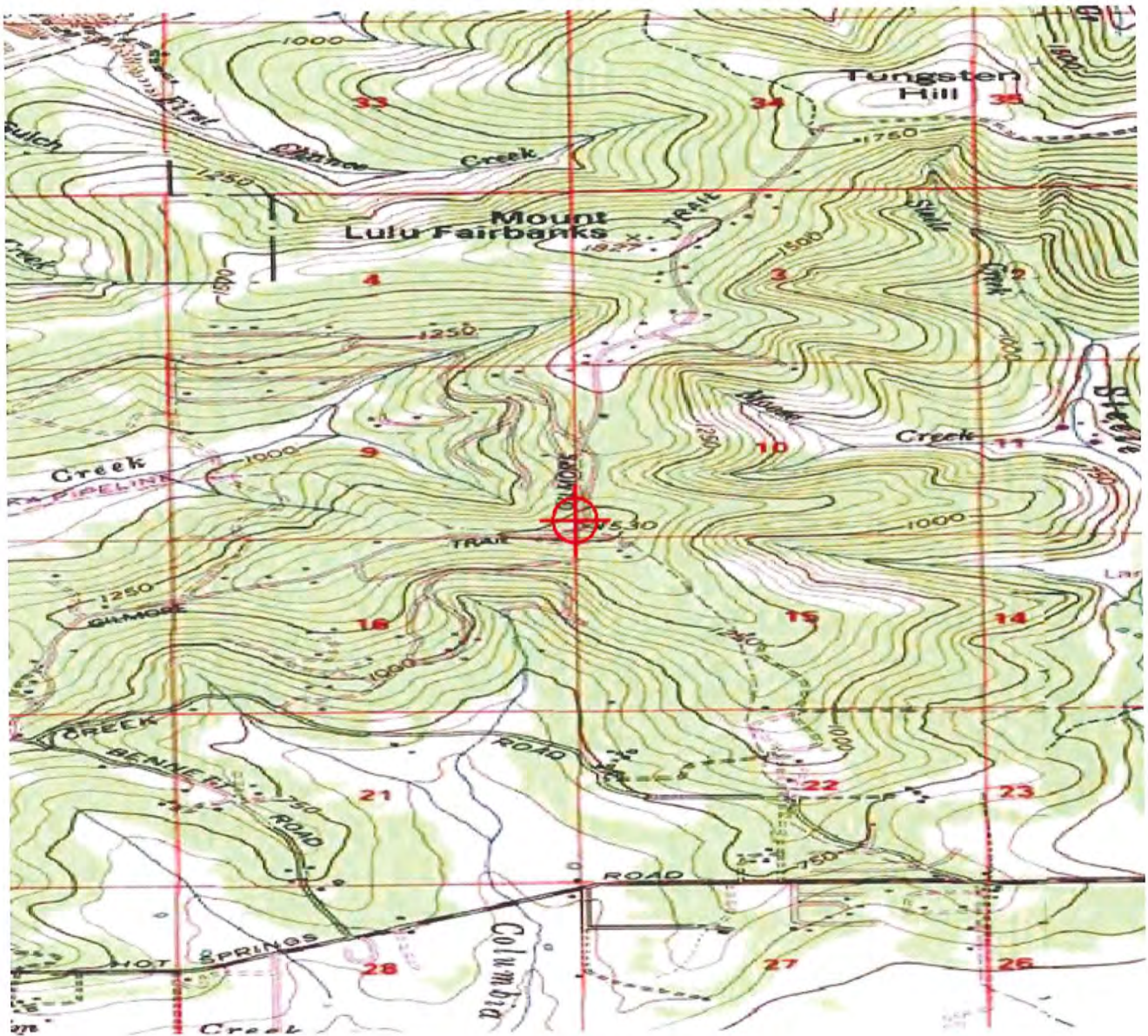
structure was built for the FAA to map the structure on aeronautical charts and update the national obstruction database.

-X-

**Frequency Data for ASN 2014-AAL-402-OE**

<b>LOW FREQUENCY</b>	<b>HIGH FREQUENCY</b>	<b>FREQUENCY UNIT</b>	<b>ERP</b>	<b>ERP UNIT</b>
698	806	MHz	1000	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
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
1850	1910	MHz	1640	W
1930	1990	MHz	1640	W
2120	2130	MHz	62	dBW
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W

TOPO Map for ASN 2014-AAL-402-OE





Sectional Map for ASN 2014-AAL-402-OE



**Exhibit G**  
Tower Removal Agreement

APR 03 2015

RECEIVED



FAIRBANKS NORTH STAR BOROUGH

809 Pioneer Road P.O. Box 71267 Fairbanks, Alaska 99707-1267

(907) 459-1260 FAX (907) 459-1255

Communications Tower Removal Agreement

Derrell Jaeke has requested conditional use approval to construct a communications tower at 1392 Gilmore Trail, Fairbanks, Alaska (address) within the Fairbanks North Star Borough. This application is identified by the FNSB Planning Department as CU 2015-007. The property description is as follows:

Lot 1, Jaeke Property, Waiver 001-84
07/19/1984 Previously assessed as 1N 1E 09 906

Pursuant to FNSBC 18.50.155(B)(1)(g), the owner of the above-described real property agrees to remove the tower and/or antenna placed upon the property pursuant to CU 2015-007 within 180 days after the tower or antenna is substantially unused for a period of 12 consecutive months. This agreement shall run with the land and shall be binding on any future owner of the property. If the conditional use is approved, this agreement shall be recorded at the owner's expense.

Dated at 4/3/2015, Alaska this 43rd day of March 2015
Signature: Derrell D. Jaeke
Printed name: DERRELL D. JAEKE
Title: Land OWNER

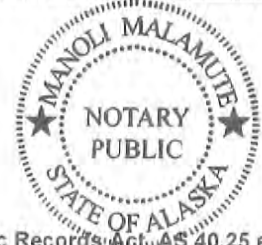
\*If you are not the owner, please attach a power of attorney or other notarized document from the owner giving you authority to act for and bind the owner of the underlying property.

State of Alaska )
: ss
Fourth Judicial District )

The foregoing instrument was acknowledged before me by Derrell Jaeke, this 3 day of April, 2015.

Manoli Malamute
Notary Public in and for Alaska
My Commission expires: 9-18-2018

Approved as to form:
Borough Attorney



The Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law.

APR 03 2015

RECEIVED



FAIRBANKS NORTH STAR BOROUGH

809 Pioneer Road P.O. Box 71267 Fairbanks, Alaska 99707-1267

(907) 459-1260 FAX (907) 459-1255

Communications Tower Removal Agreement

Derrell Jaekle has requested conditional use approval to construct a communications tower at 1392 Gilmore Trail, Fairbanks, Alaska (address) within the Fairbanks North Star Borough. This application is identified by the FNSB Planning Department as CU. The property description is as follows: Lot 1, Jaekle Property, Waiver 001-84 07/19/1984 Previously assessed as 1N 1E 09 906

Pursuant to FNSBC 18.50.155(B)(1)(g), the owner of the above-described real property agrees to remove the tower and/or antenna placed upon the property pursuant to CU within 180 days after the tower or antenna is substantially unused for a period of 12 consecutive months. This agreement shall run with the land and shall be binding on any future owner of the property. If the conditional use is approved, this agreement shall be recorded at the owner's expense.

Dated at 4/3/2015, Alaska this 43rd day of March 2015
Signature: Derrell D. Jaekle
Printed name: DERRELL D. JAEKLE
Title\*: Land OWNER

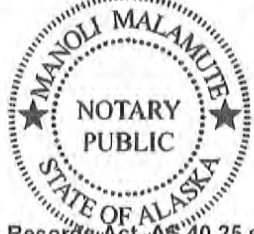
\*If you are not the owner, please attach a power of attorney or other notarized document from the owner giving you authority to act for and bind the owner of the underlying property.

State of Alaska )
:ss
Fourth Judicial District )

The foregoing instrument was acknowledged before me by Derrell Jaekle, this 3 day of April, 2015.

Manoli Malamute
Notary Public in and for Alaska
My Commission expires: 9-18-2018

Approved as to form:
Borough Attorney

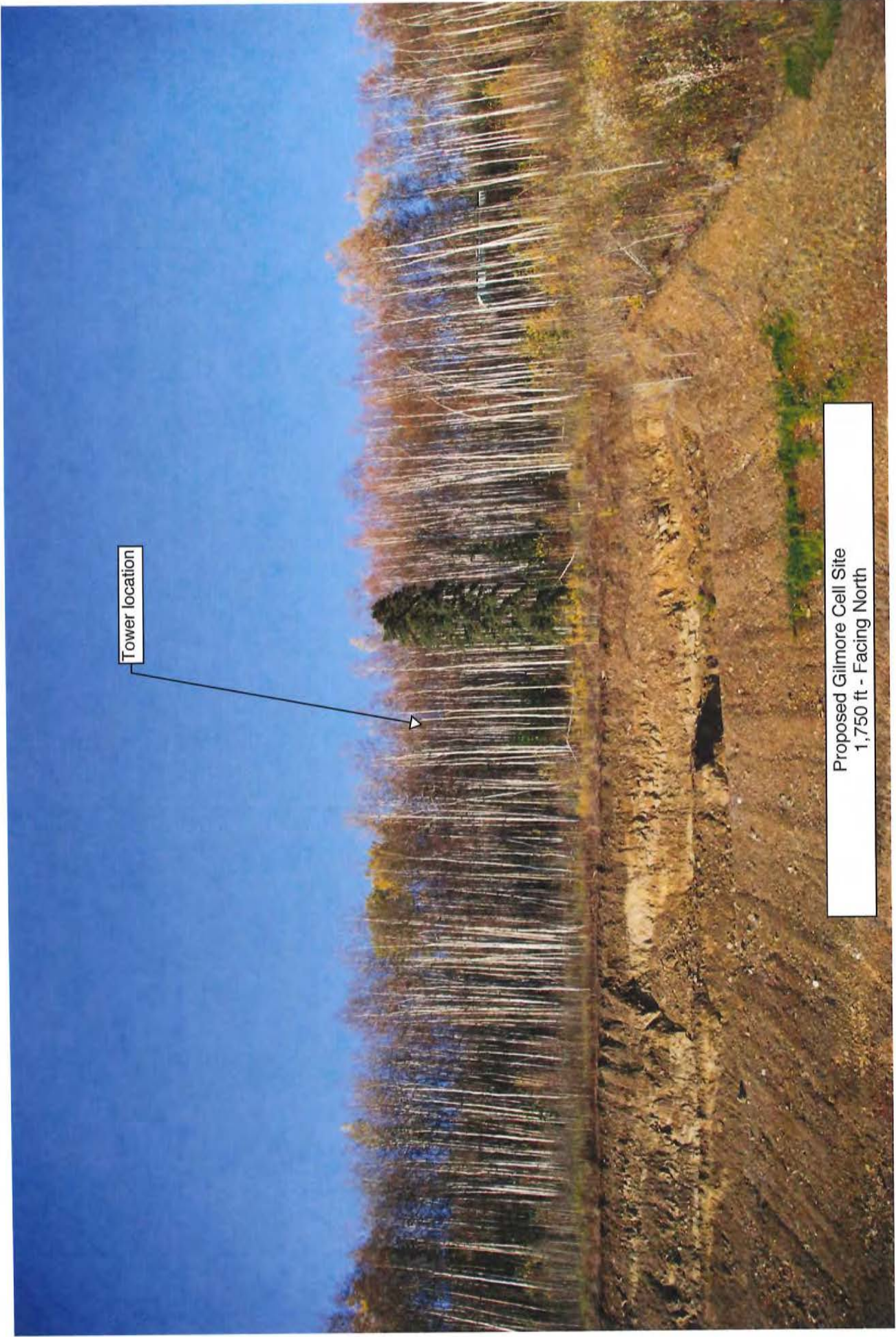


The Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law.

**Exhibit H**  
Photo Simulations and Balloon Test

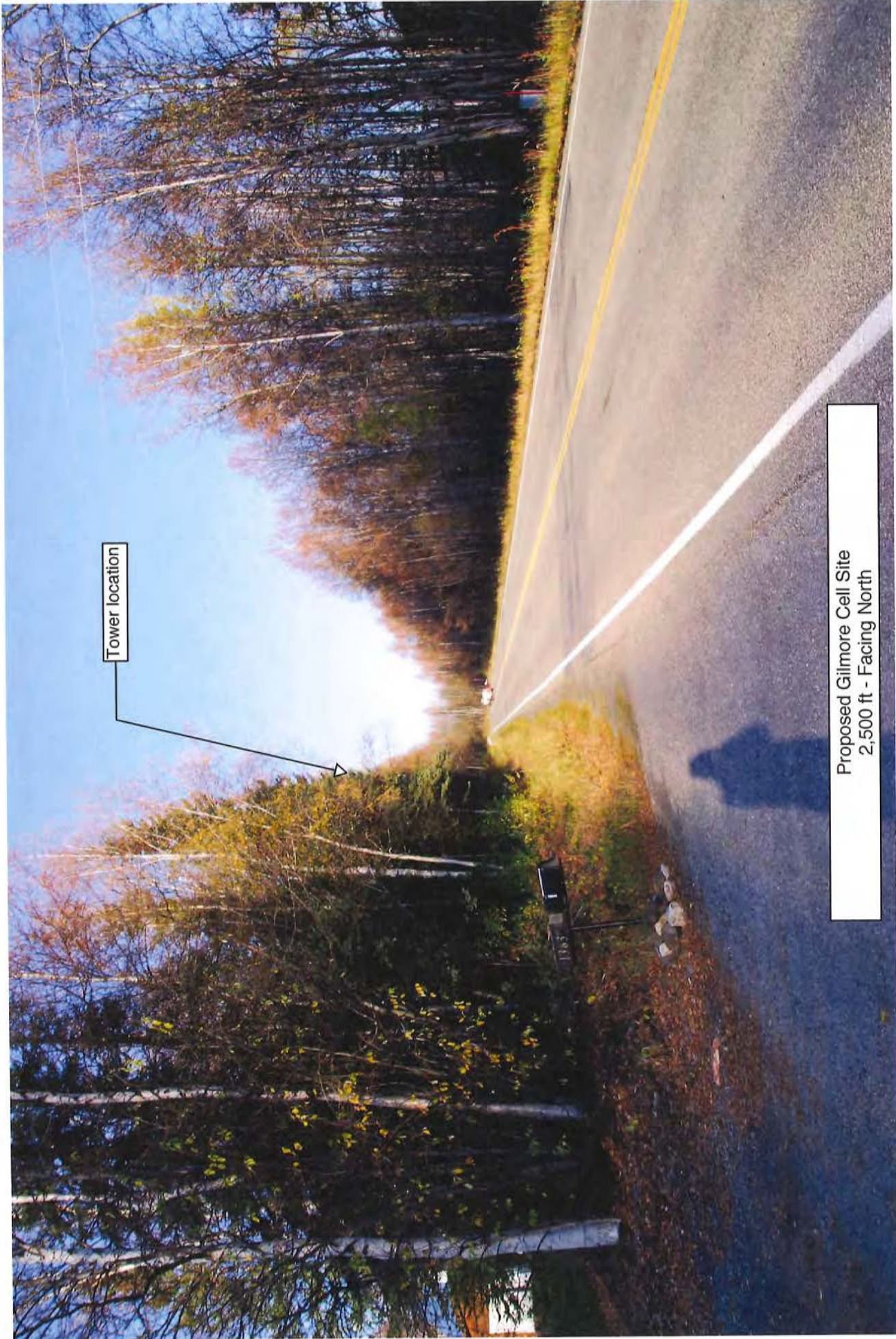


Proposed Gilmore Cell Site  
500 ft - Facing North



Tower location

Proposed Gilmore Cell Site  
1,750 ft - Facing North



Tower location

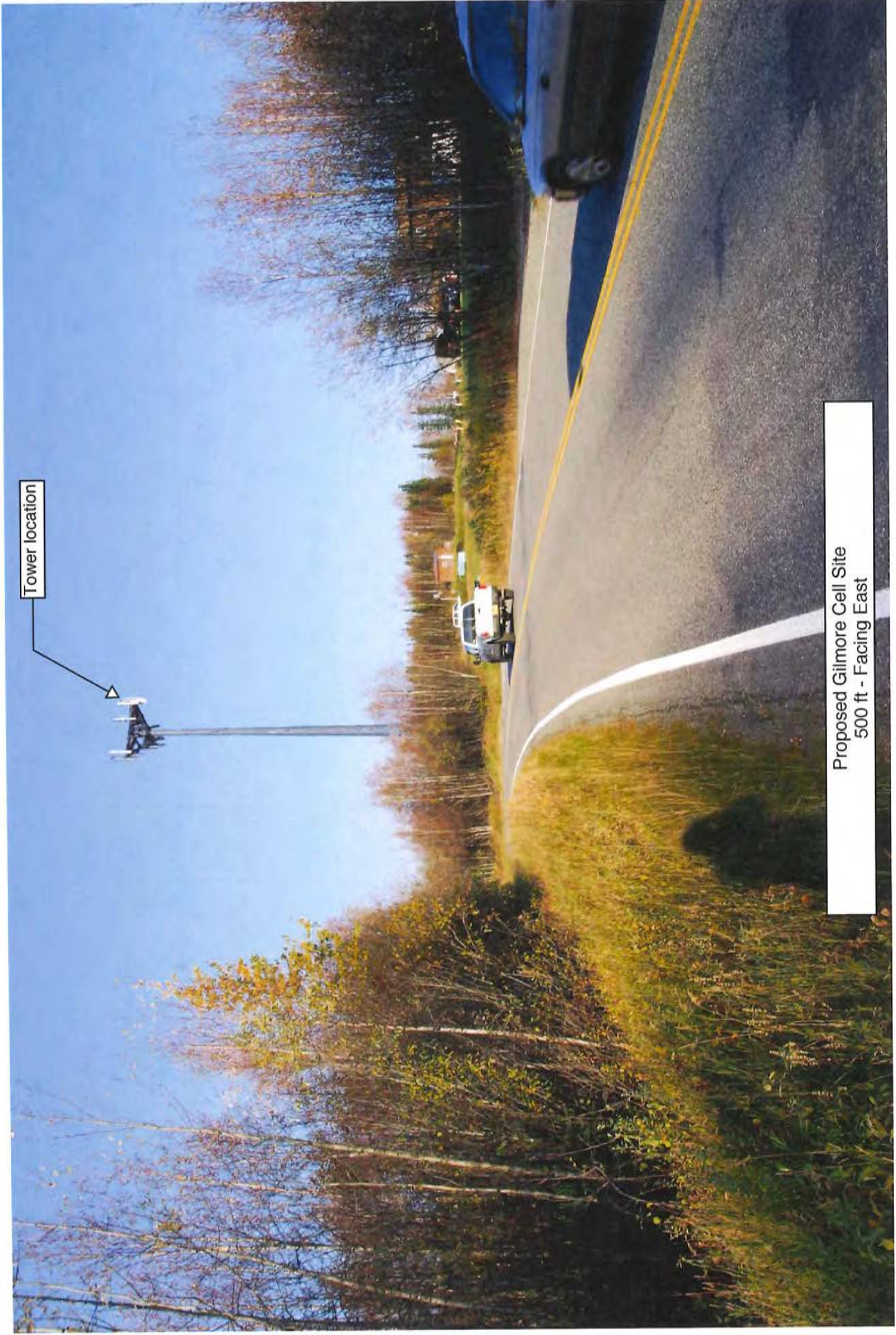
Proposed Gilmore Cell Site  
2,500 ft - Facing North





Tower location

Proposed Gilmore Cell Site  
2 Miles - Facing North



Tower location

Proposed Gilmore Cell Site  
500 ft - Facing East



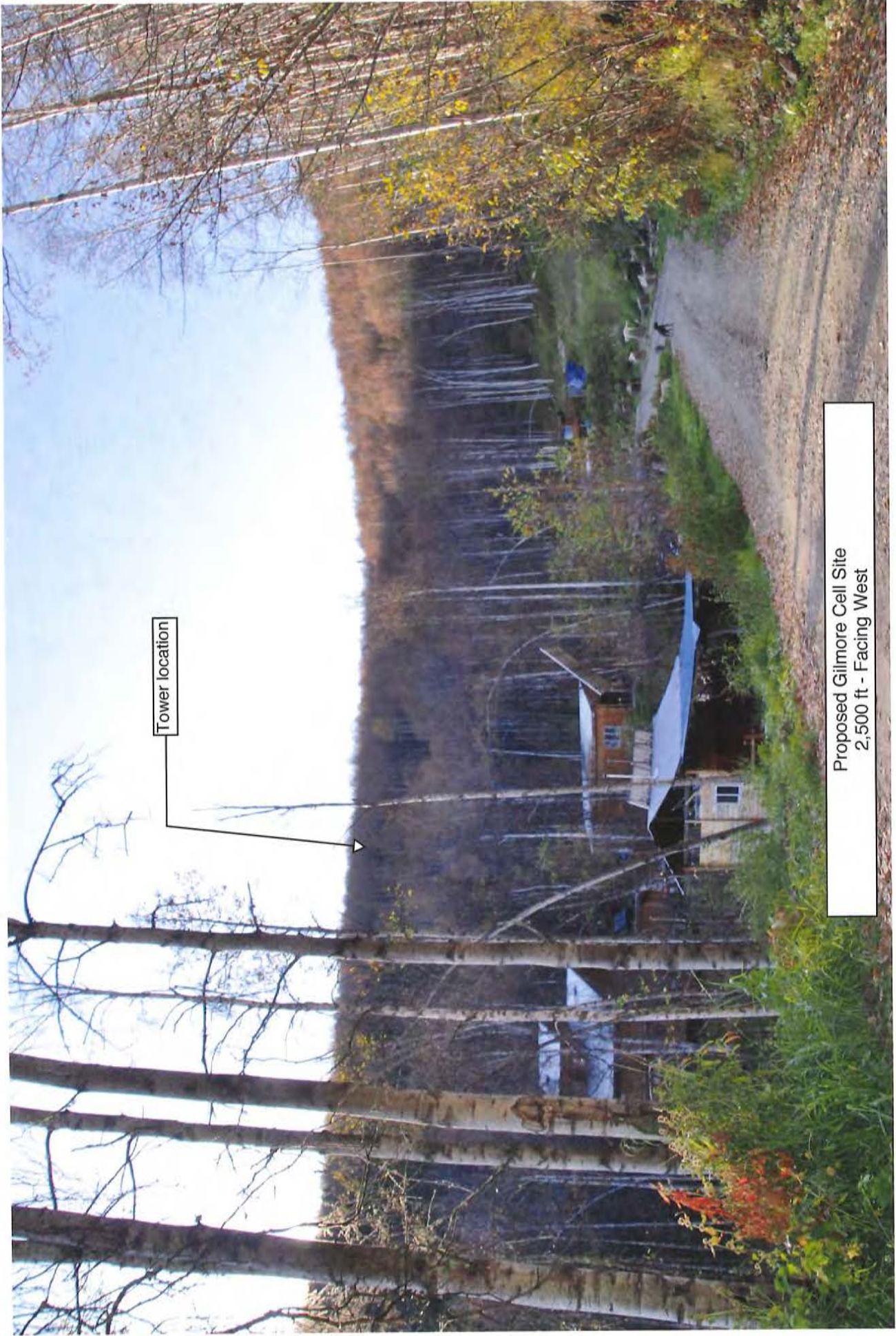
Tower location

Proposed Gilmore Cell Site  
2 Miles - Facing East



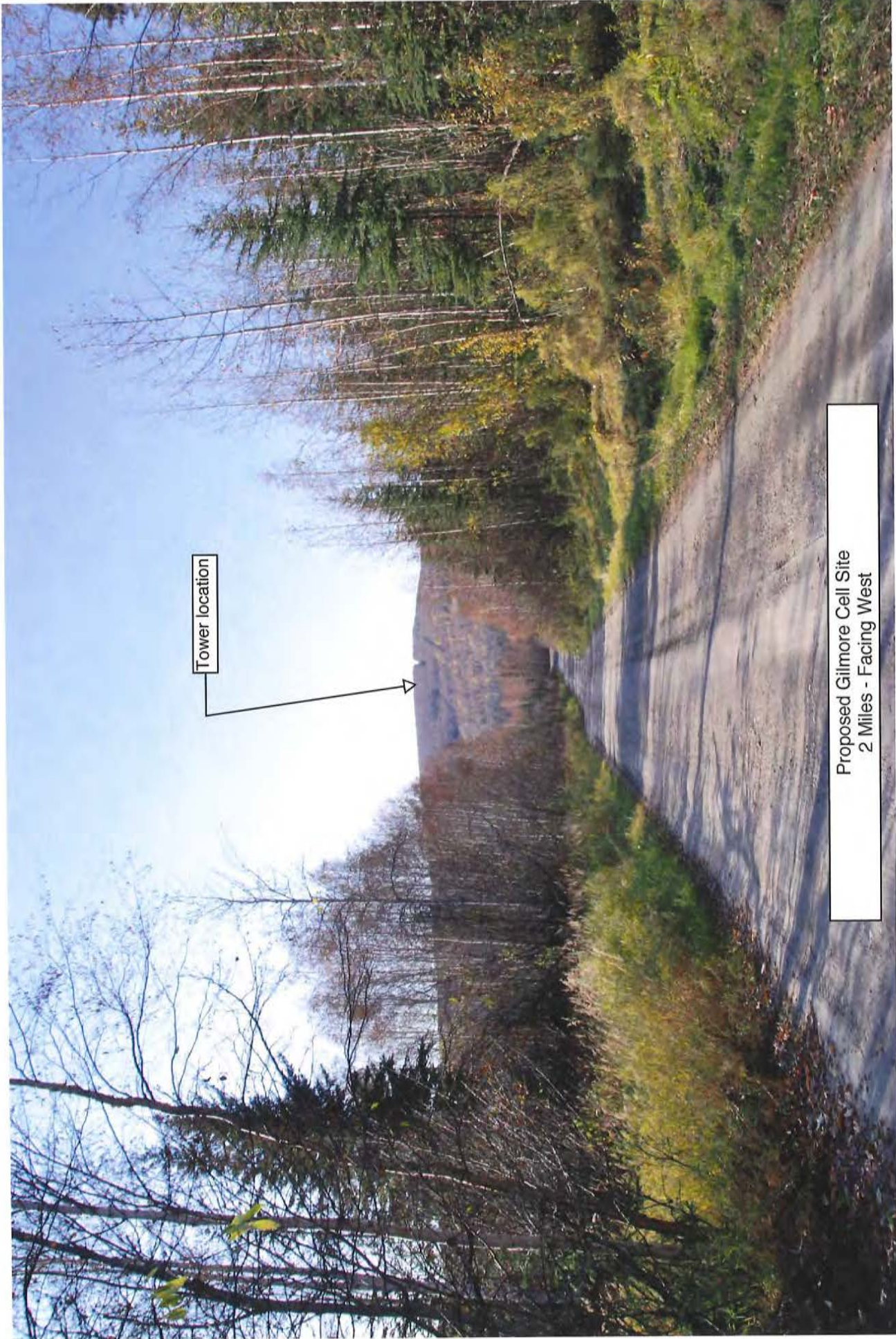
Tower location

Proposed Gilmore Cell Site  
500 ft - Facing West



Tower location

Proposed Gilmore Cell Site  
2,500 ft - Facing West

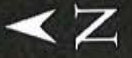
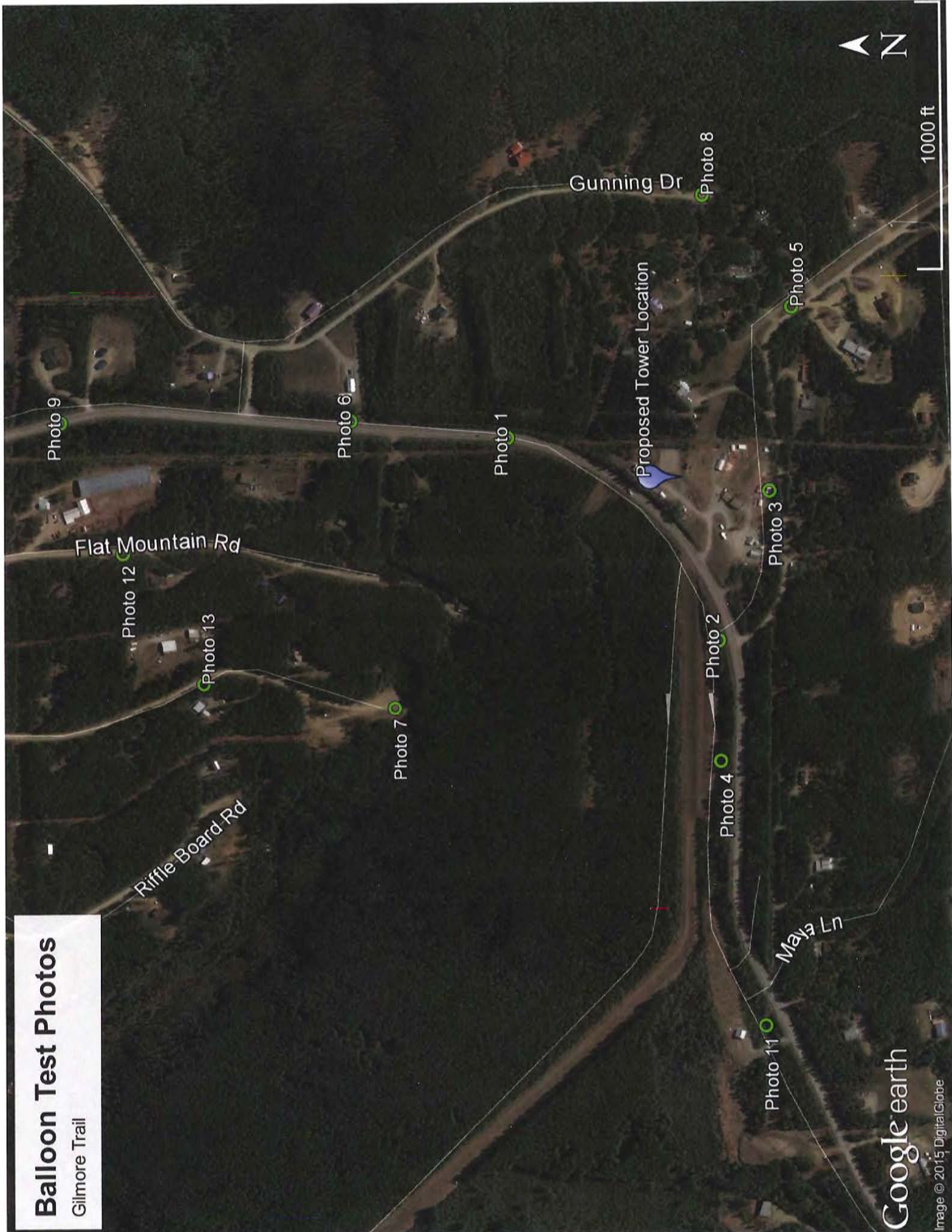


Tower location

Proposed Gilmore Cell Site  
2 Miles - Facing West

# Balloon Test Photos

Gilmore Trail



1000 ft

Proposed Tower Location

Gunning Dr

Photo 5

Photo 3

Photo 2

Photo 4

Maya Ln

Photo 11

Photo 1

Photo 7

Photo 12

Photo 13

Flat Mountain Rd

Rifle Board Rd

Photo 9

Photo 6

Photo 8

Google earth

Image © 2015 DigitalGlobe

Approximately 500' facing South down Gilmore Trail.  
Balloons visible.



Photo 1



Approximately 500' facing north east, taken on Gilmore Trail at Great View Lane. Balloons visible.



Photo 2

Approximately 500' facing north, on Great View Lane  
behind Jaeke property. Balloons visible through trees.



Photo 3

Approximately 1,000' facing east, down Gilmore Trail. Balloons not visible due to vegetative screening.



Photo 4



Approximately 1,000'  
north west, taken up  
Great View Lane.  
Balloon visible just  
above tree line, far off  
in distance.

Photo 5



Approximately 1,000' facing south,  
taken up Gilmore Trail. Balloons visible  
just above tree line.

Photo 6

Approximately 1,000' facing south east at the end of Fools Gold Road. Balloons not visible due to vegetative screening.



Photo 7

Approximately 1,000' facing west at the end of Gunning Drive. White balloon barely visible at top of tree line, red balloon not visible due to elevation and vegetative screening.



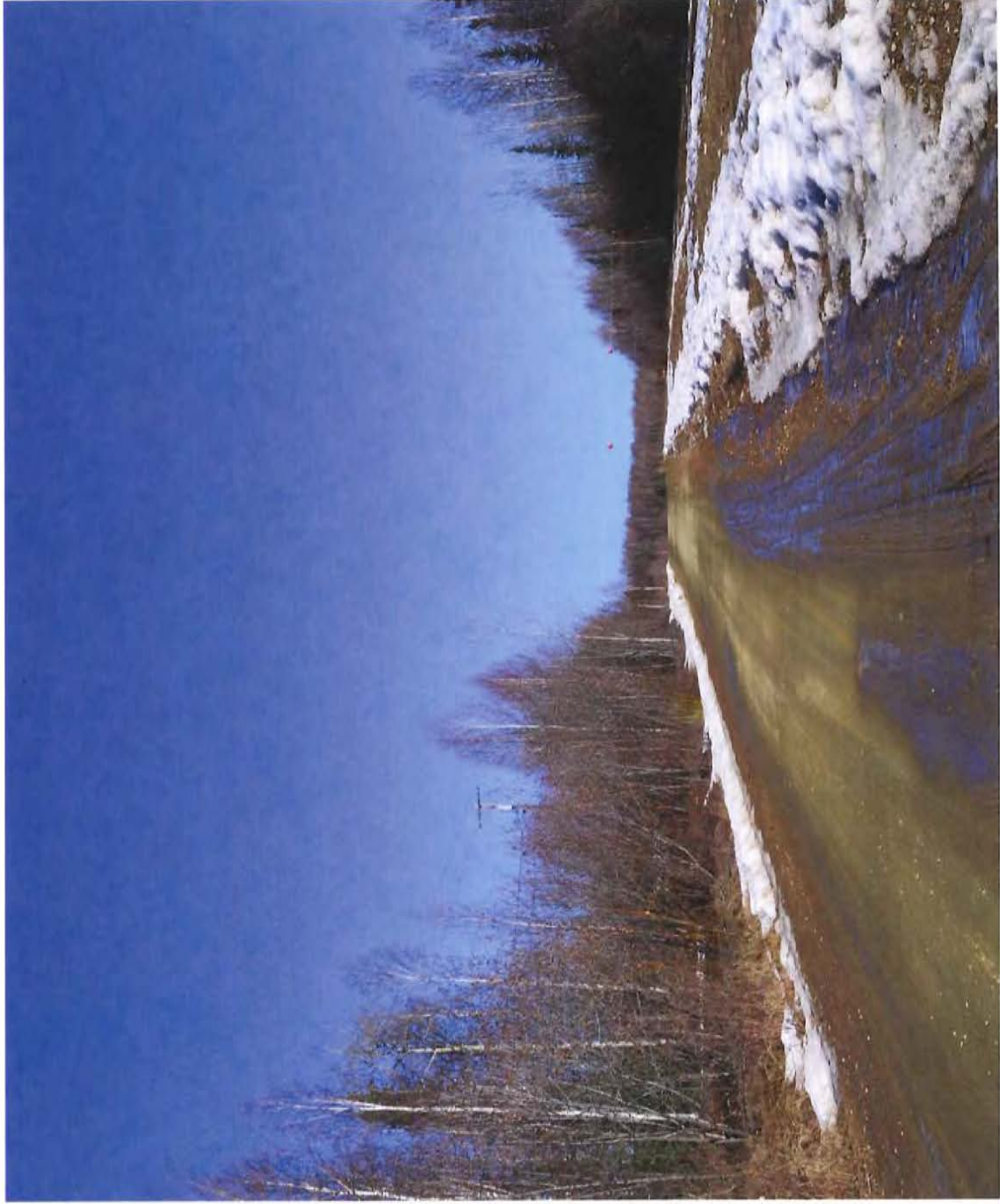
Photo 8

Approximately 2,000' facing south down Gilmore Trail.  
Balloons visible above tree line.



Photo 9





Approximately 2,000' facing north west, at end of public access on Great View Lane. Balloons not visible due to vegetative screening.

Photo 10

Approximately 2,000'  
facing east, at driveway  
to 1380 Gilmore Trail.  
Balloons not visible due  
to vegetative screening.



Photo 11

Approximately 2,000' south east, on  
Flat Mountain Road. Balloons  
visible above the tree line.



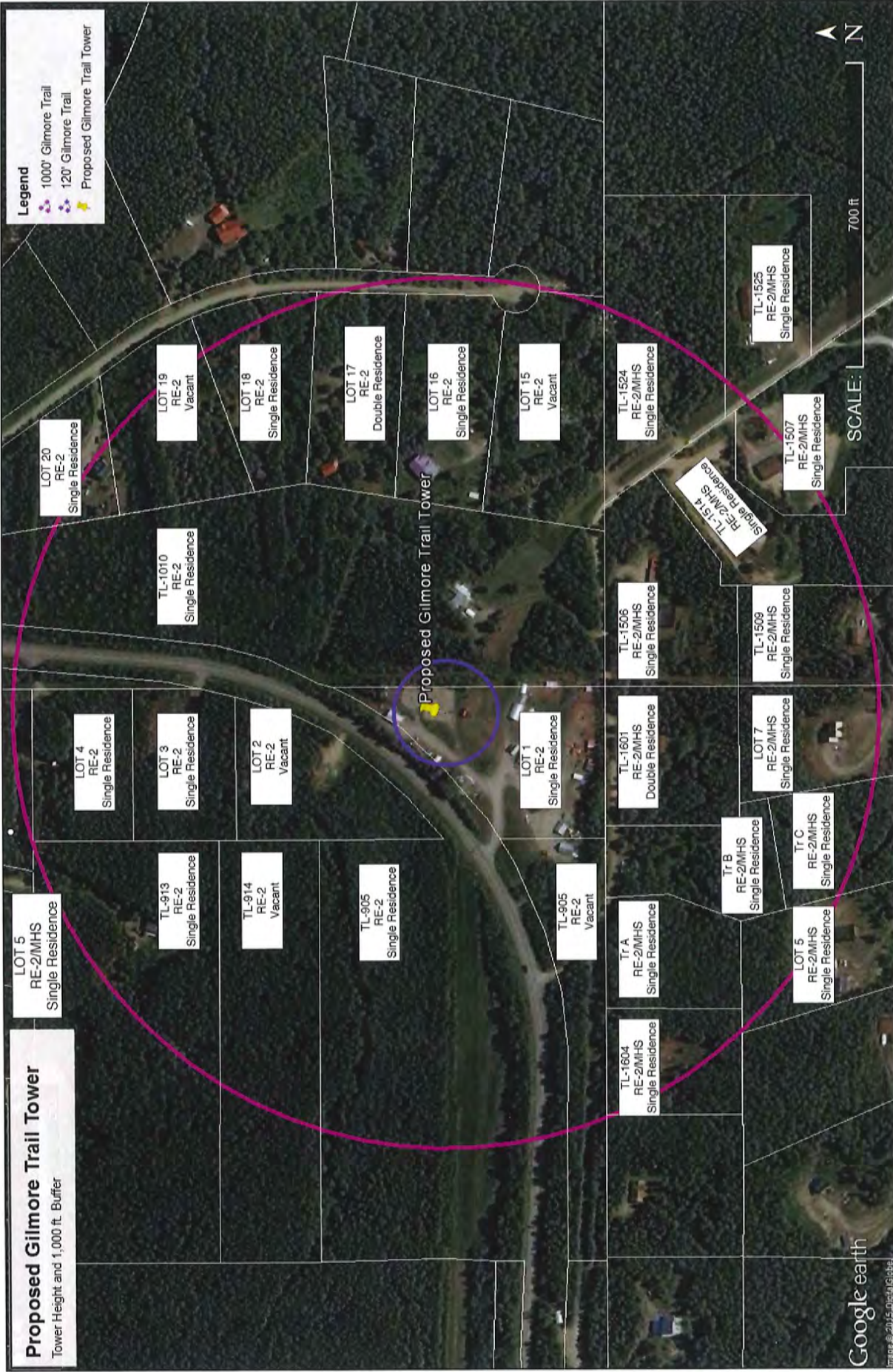
Photo 12

Approximately 1,800' facing south east, on Fools Gold Road. Balloons not visible due to elevation and vegetative screening.



Photo 13

**Exhibit I**  
Zoning Map





Gilmore Trail "Selected Site" and registered towers located within 2 mile radius

ASR Registration Search

**Registration Search Results**

Displayed Results

**PA** = Pending Application(s)**Specified Search**

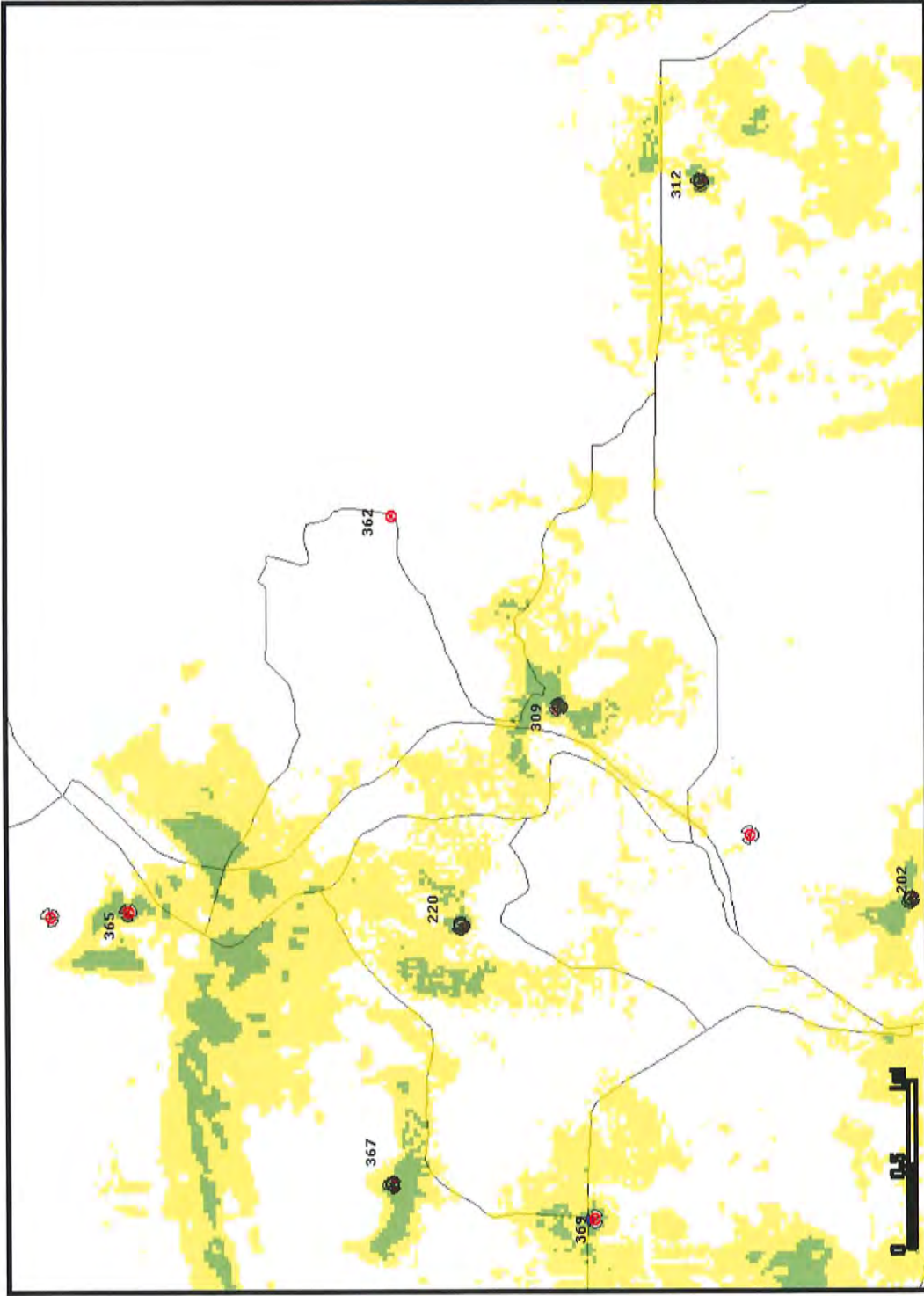
Latitude='64-55-19.8 N', Longitude='147-32-31.7 W', Radius=4.82 Kilometers

Registration Number	Status	File Number	Owner Name	Latitude/Longitude	Structure City/State	Overall Height Above Ground (AGL)
1 1006696	Constructed	A0007950	GCI COMMUNICATION CORP DBA = GCI	64-55-49.0N 147-29-58.0W	FAIRBANKS, AK	64.0
2 1202703	Constructed	A0146101	Steese Area Volunteer Fire Department	64-54-15.0N 147-35-18.0W	Fairbanks, AK	30.5
3 1265246	Constructed	A0925406	The Alaska Wireless Network	64-53-14.9N 147-27-12.4W	Fairbanks, AK	55.8
4 1284556	Constructed	A0919978	Global Tower, LLC. through American Towers, LLC	64-53-07.5N 147-37-51.8W	Fairbanks, AK	47.2
5 1285029	Cancelled	A0865257	Global Tower, LLC	64-54-33.3N 147-35-06.9W	Fairbanks, AK	38.1
6 1289499	Constructed	A0928071	American Towers, LLC	64-55-17.1N 147-35-33.3W	Fairbanks, AK	48.8
7 1293771	Constructed	A0927089	The Alaska Wireless Network, LLC	64-54-12.1N 147-35-34.5W	Fairbanks, AK	37.8
8 1295269	Granted	A0933951	The Alaska Wireless Network	64-55-19.8N 147-32-31.7W	Fairbanks, AK	37.8

**CLOSE WINDOW**



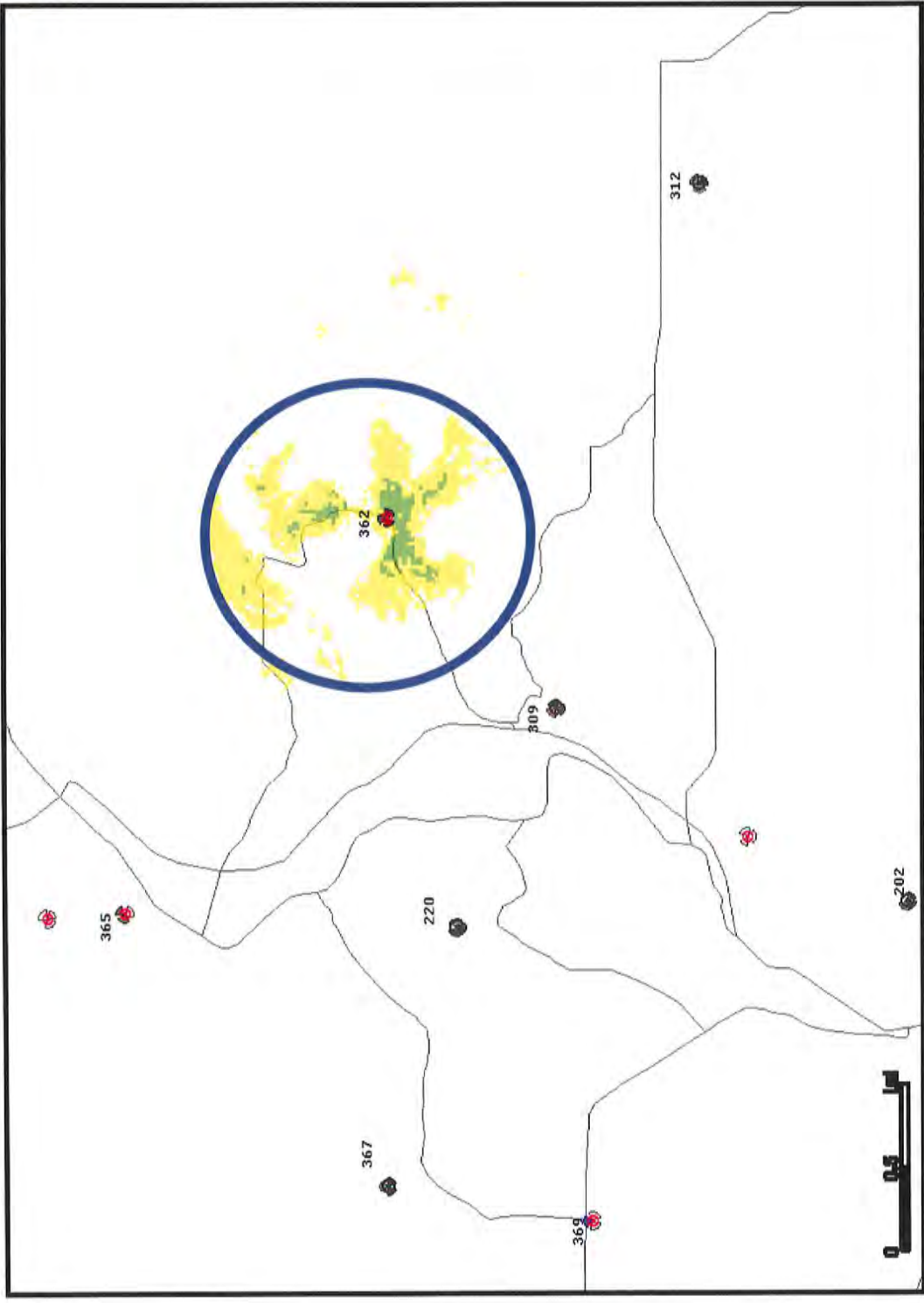
**Exhibit J**  
Propagation Maps



Coverage of sites around FB362 excluding FB362 @ 120'

	Areas with good to excellent coverage		Areas with marginal to good coverage		Areas with no coverage to marginal coverage		Proposed Site
							On Air Site

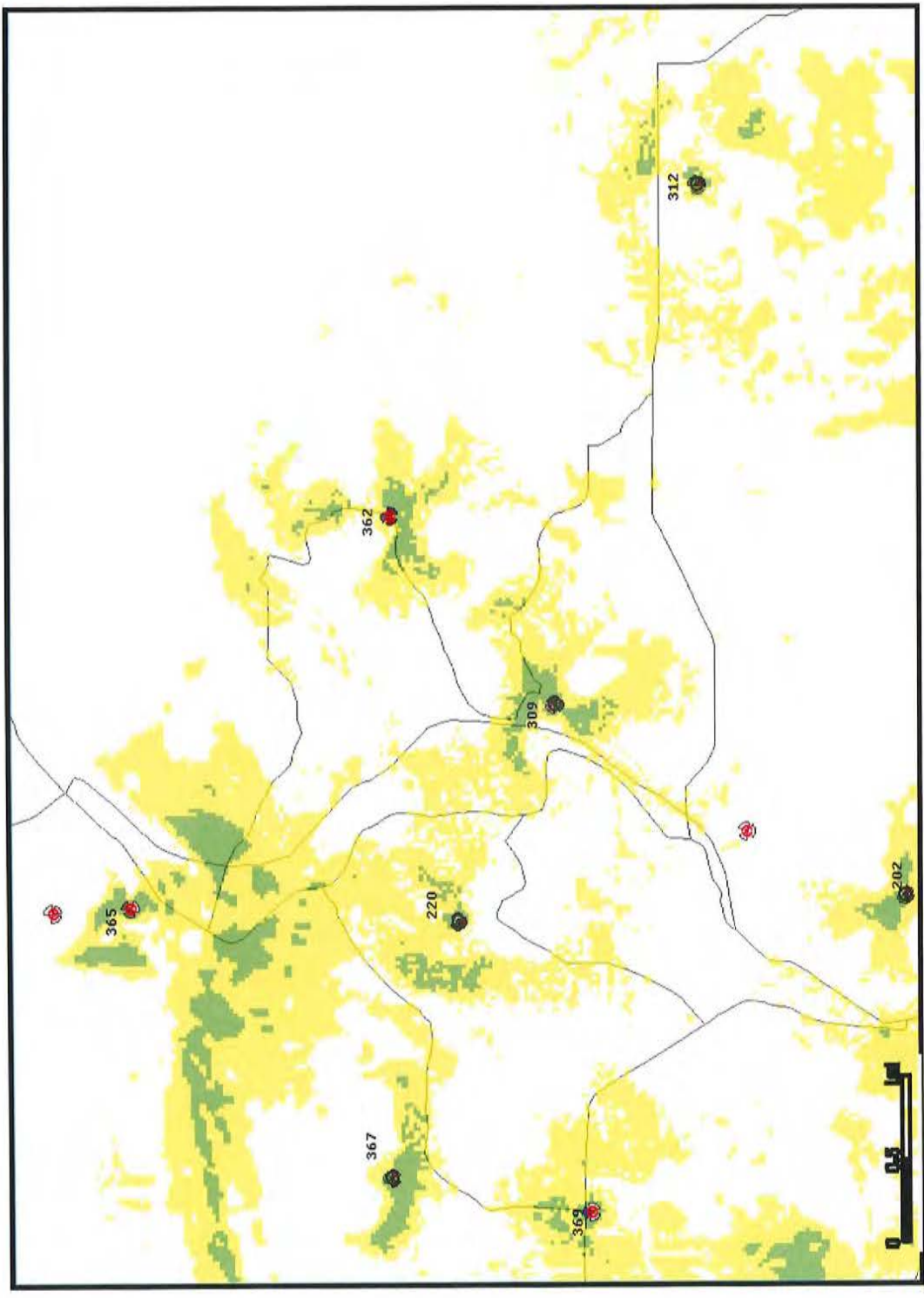
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



### Coverage provided by FB362 @ 120'

- Areas with good to excellent coverage
- Areas with marginal to good coverage
- Areas with no coverage to marginal coverage
- On Air Site
- Proposed Site

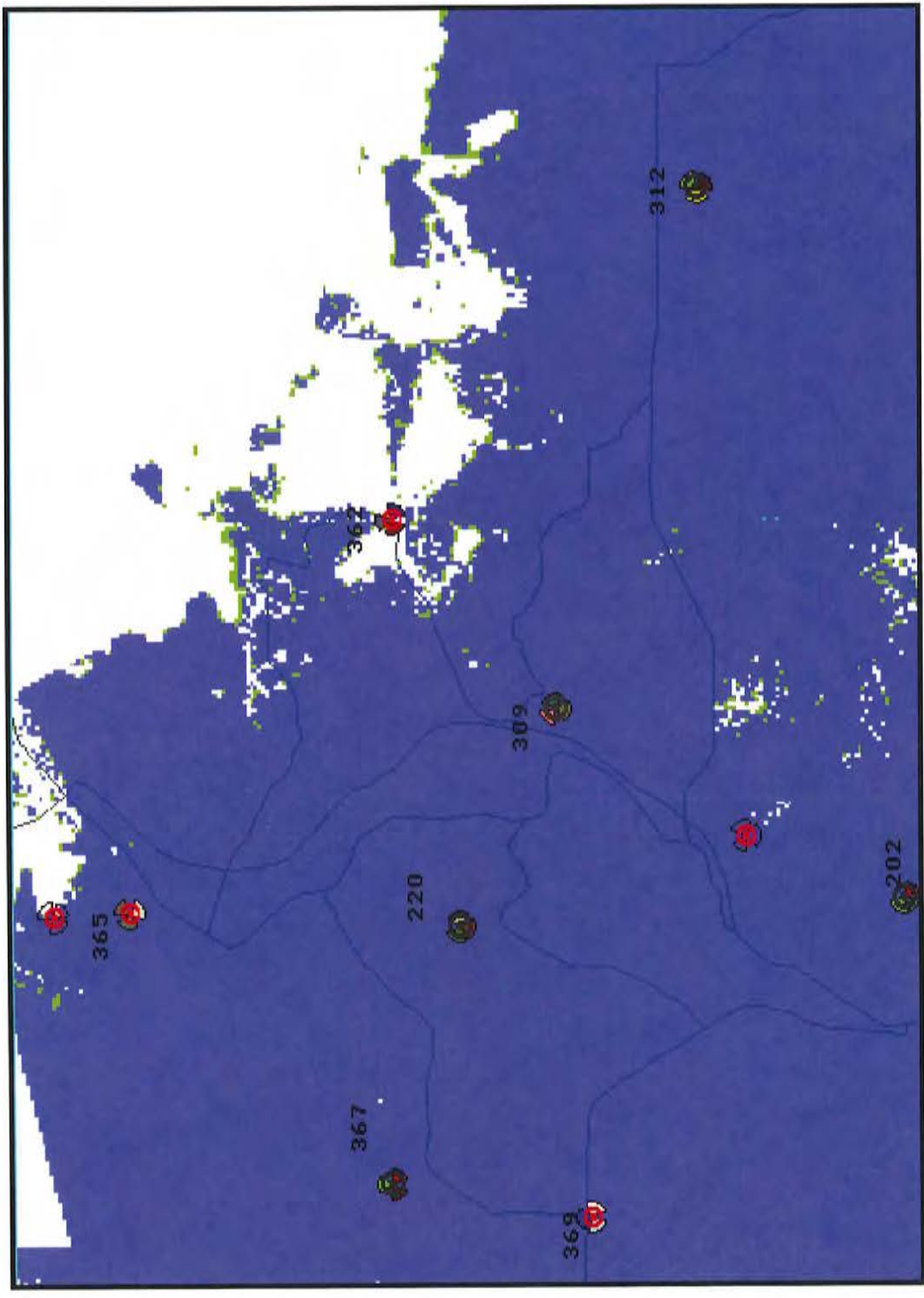
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



### Coverage of sites around FB362 including FB362 @ 120'

	Areas with good to excellent coverage
	Areas with marginal to good coverage
	Areas with no coverage to marginal coverage
	On Air Site
	Proposed Site

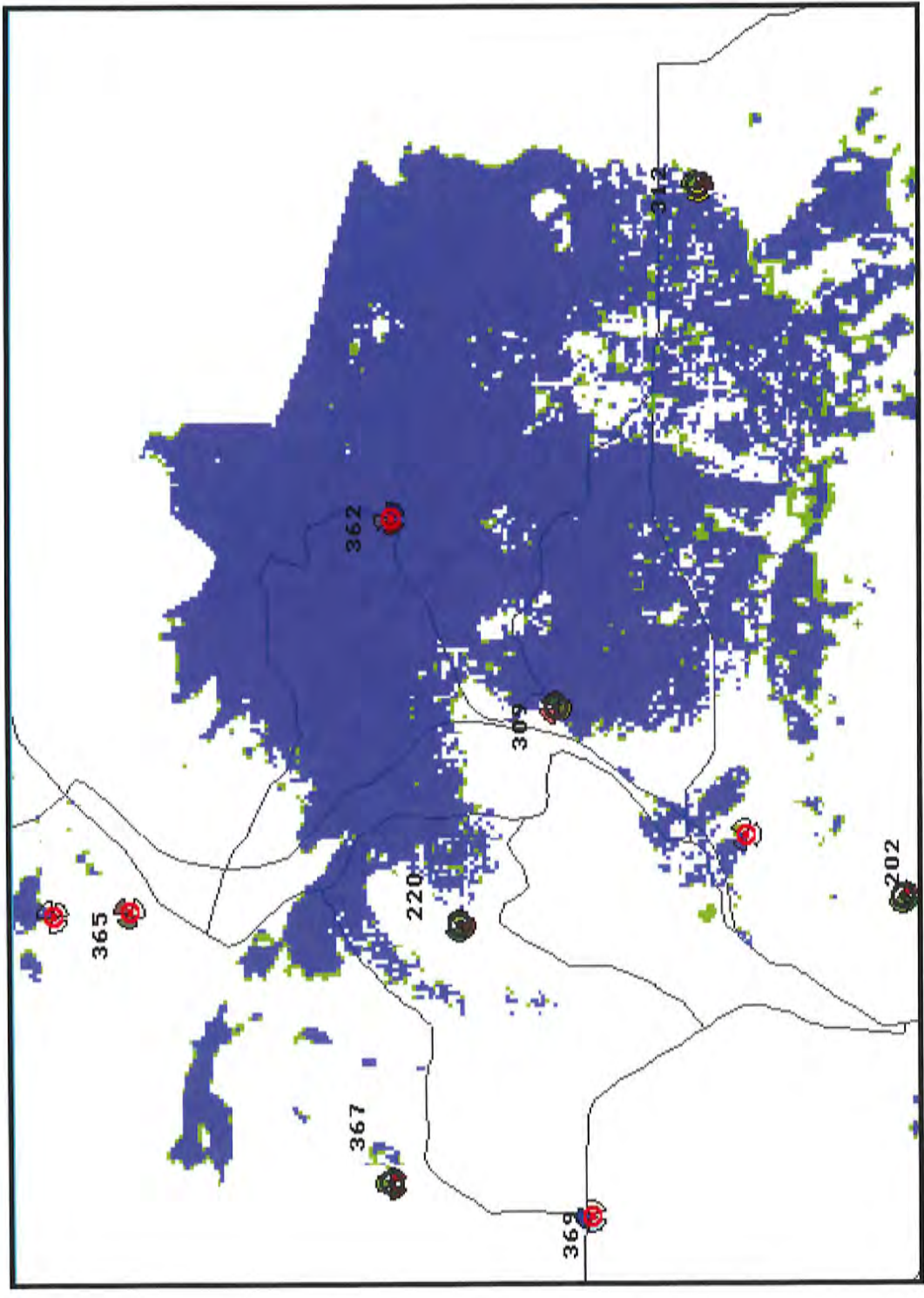
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



Throughput Map of sites around FB362 excluding FB362 @ 120'

	Areas with good to excellent throughput		Areas with marginal to good throughput		Areas with poor to marginal throughput		On Air Site		Proposed Site
--	---	--	--	--	--	--	-------------	--	---------------

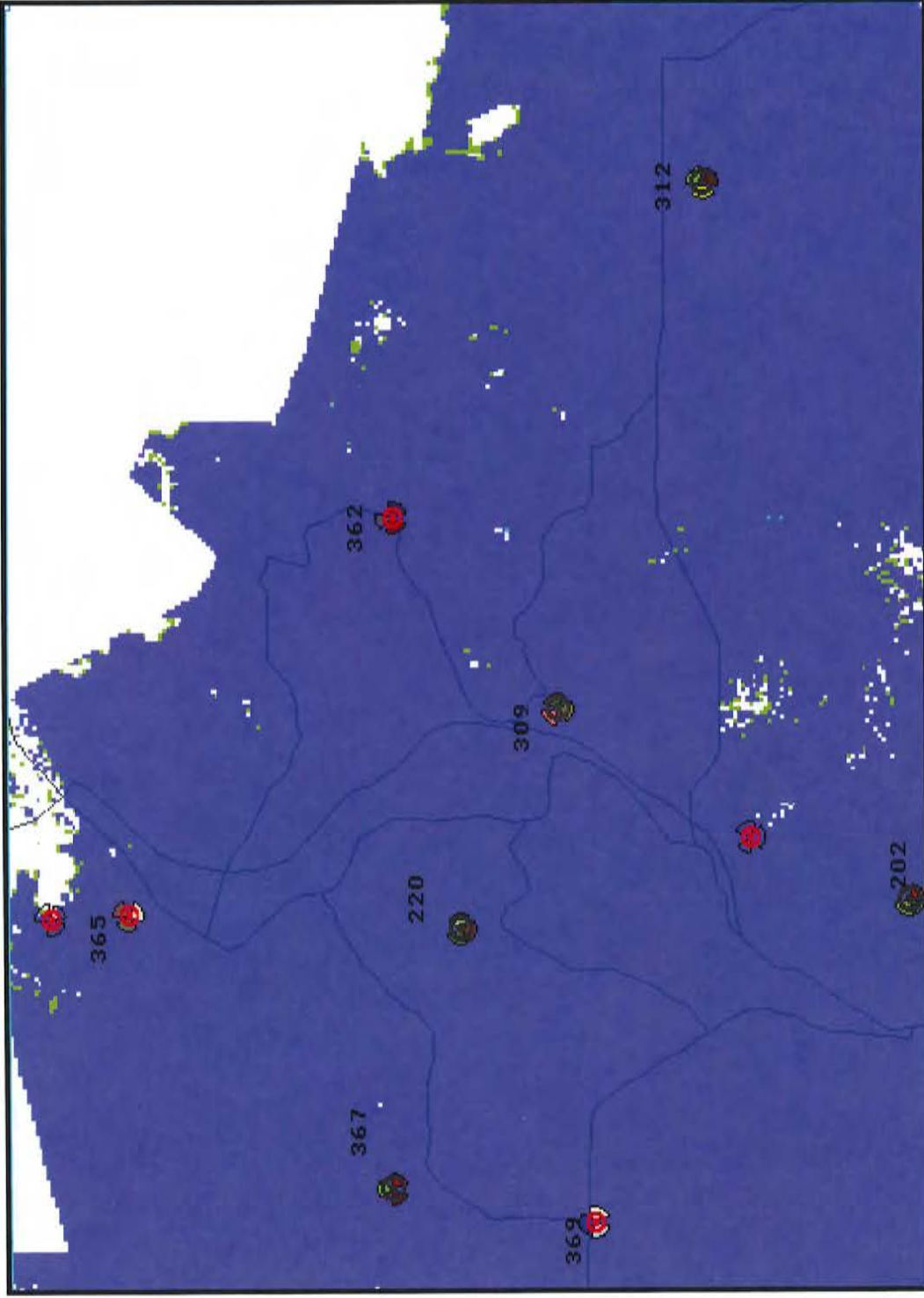
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



Throughput Map provided by FB362 @ 120'

	Areas with good to excellent throughput		Areas with marginal to good throughput		Areas with poor to marginal throughput		On Air Site		Proposed Site
---	---	---	--	---	--	---	-------------	---	---------------

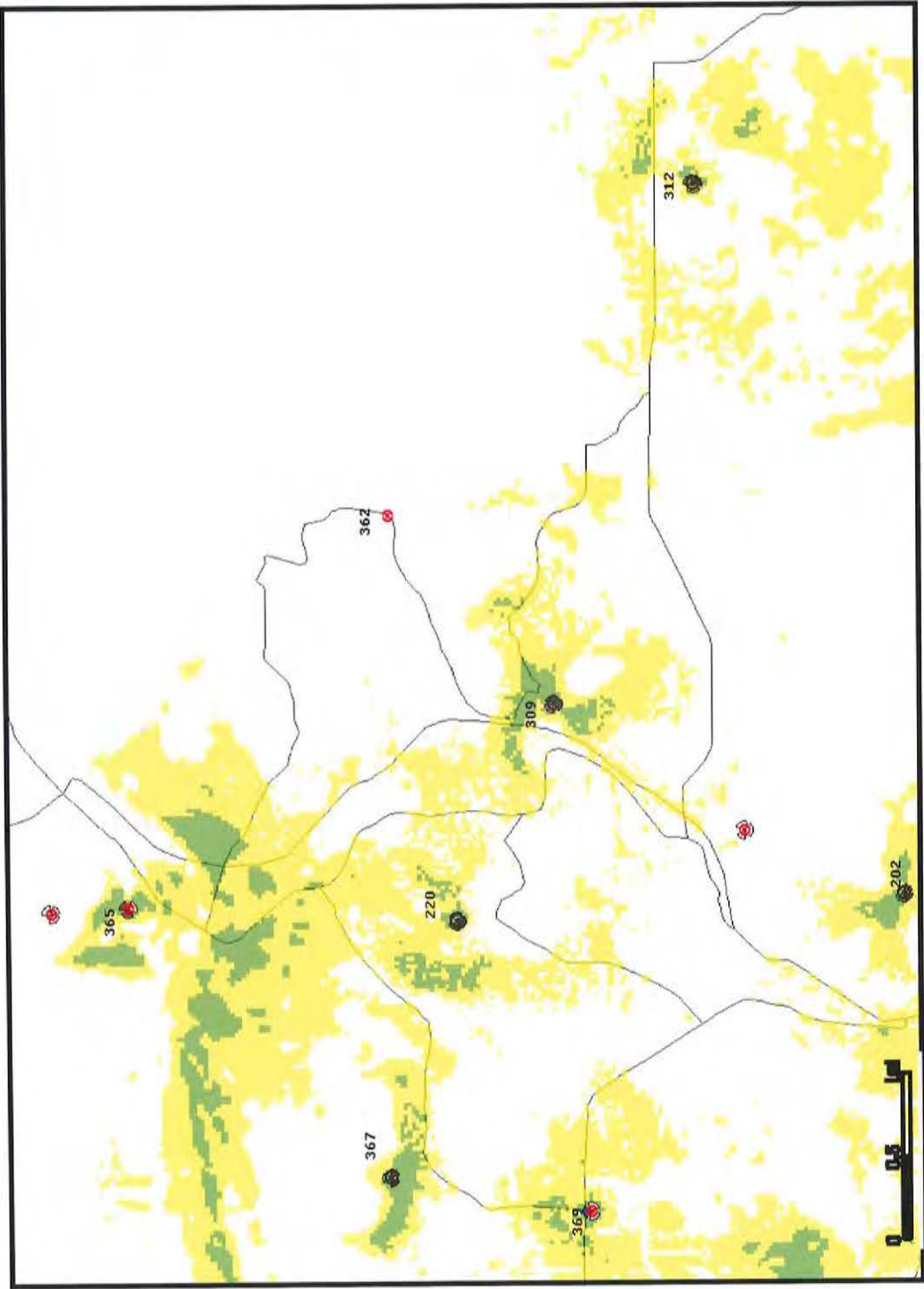
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



Throughput Map of sites around FB362 including FB362 @ 120'

	Areas with good to excellent throughput		Areas with marginal to good throughput		Areas with poor to marginal throughput		On Air Site		Proposed Site
--	---	--	--	--	--	--	-------------	--	---------------

RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.

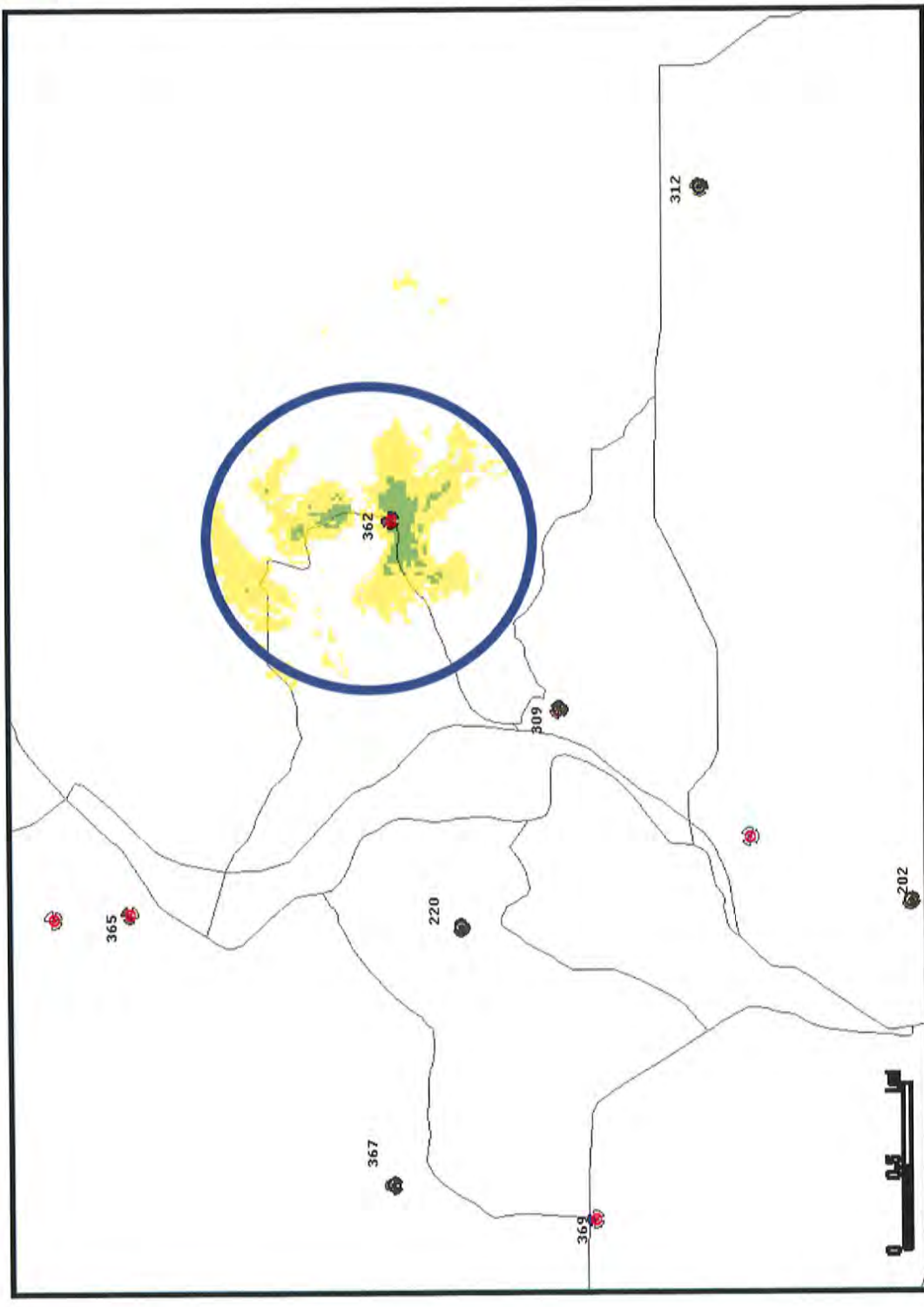


Coverage of sites around FB362 excluding FB362 @ 100'

- Areas with good to excellent coverage
- Areas with marginal to good coverage
- Areas with no coverage to marginal coverage
- On Air Site
- Proposed Site

RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.

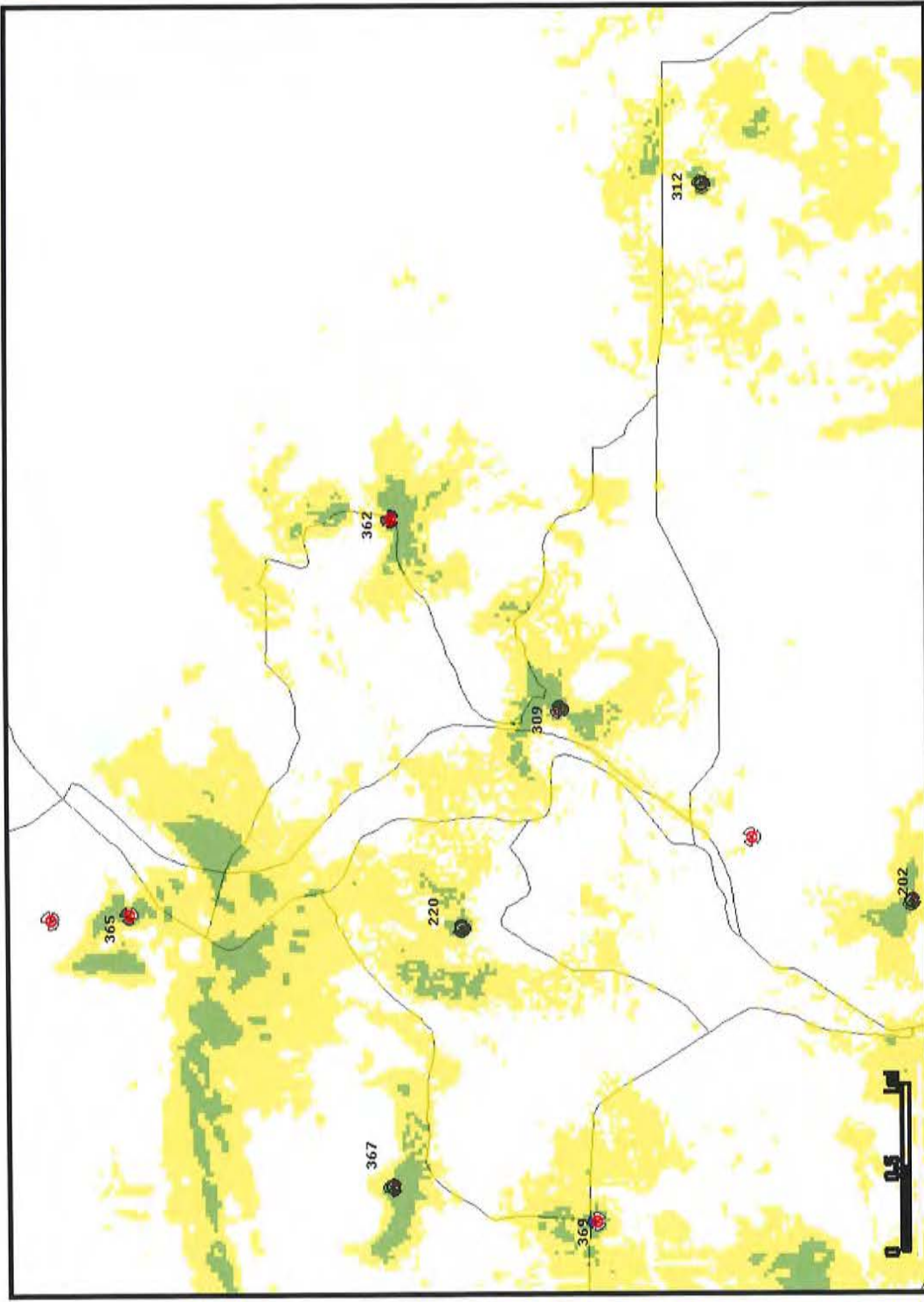




Coverage provided by FB362 @ 100'

- Areas with good to excellent coverage
- Areas with marginal to good coverage
- Areas with no coverage to marginal coverage
- Proposed Site
- On Air Site

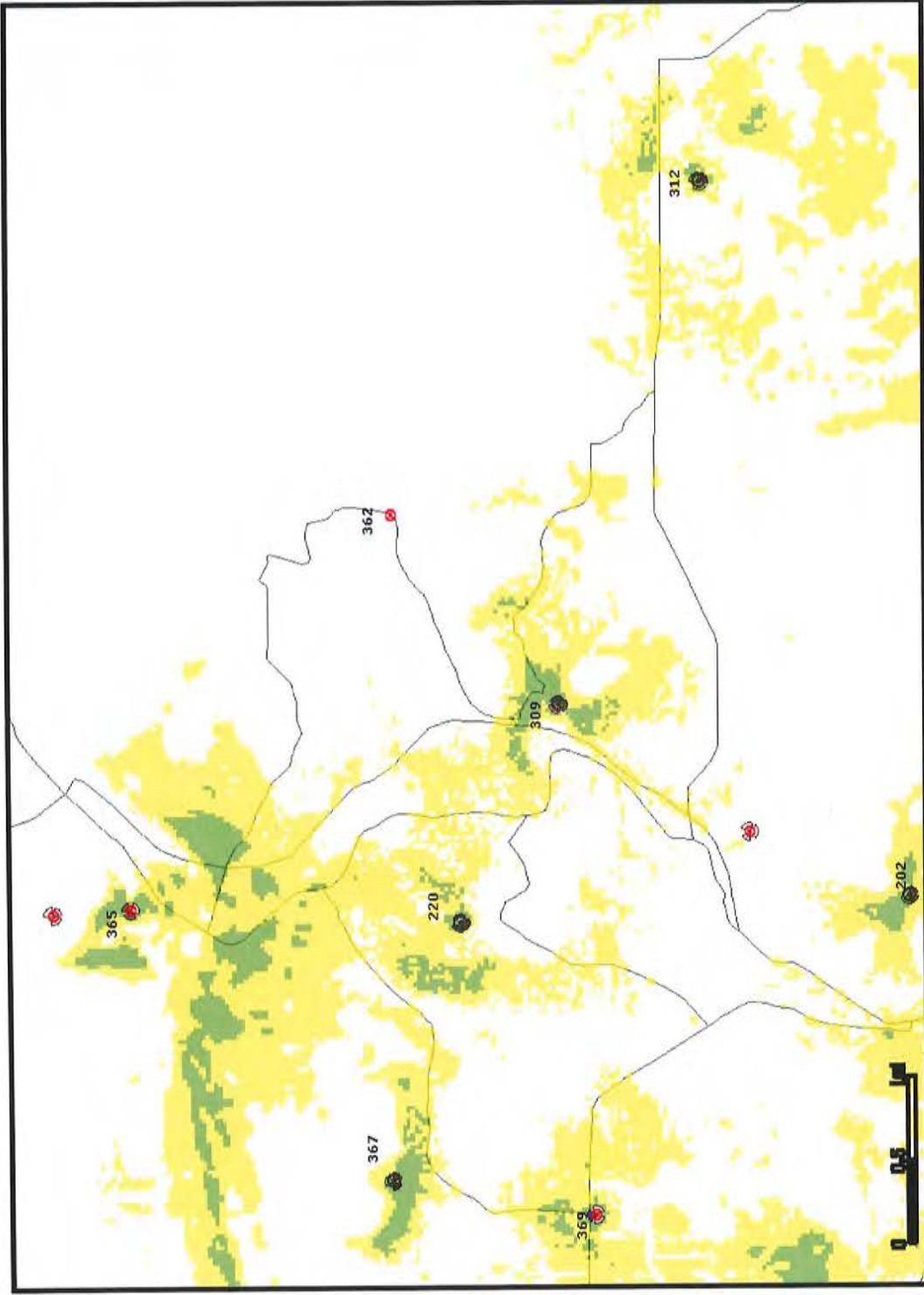
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



Coverage of sites around FB362 including FB362 @ 100'

	Areas with good to excellent coverage		Areas with marginal to good coverage		Areas with no coverage to marginal coverage		On Air Site		Proposed Site
--	---------------------------------------	--	--------------------------------------	--	---	--	-------------	--	---------------

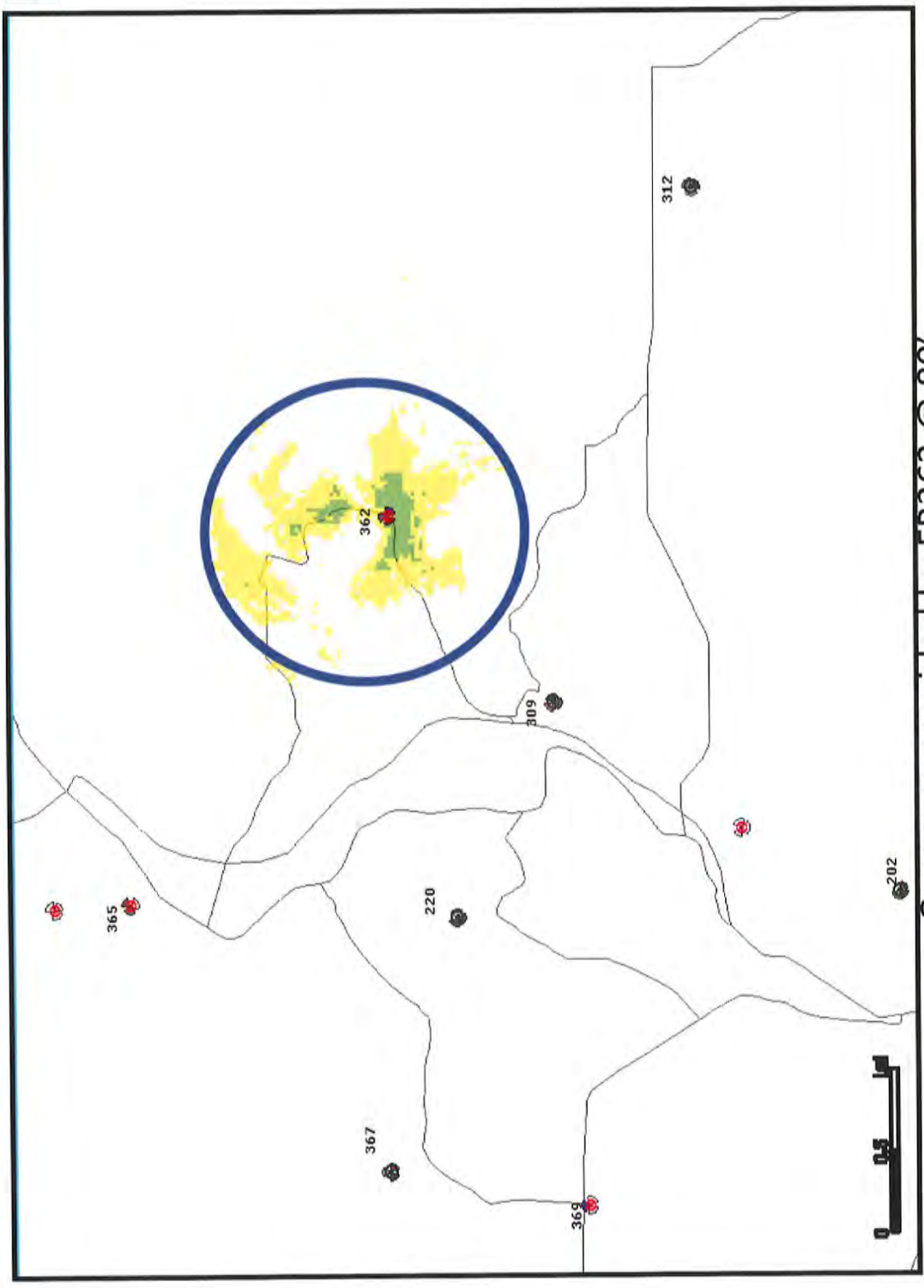
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.








Coverage of sites around FB362 excluding FB362 @ 80'

	Areas with good to excellent coverage		Areas with marginal to good coverage		Areas with no coverage to marginal coverage		On Air Site		Proposed Site
--	---------------------------------------	--	--------------------------------------	--	---	--	-------------	--	---------------

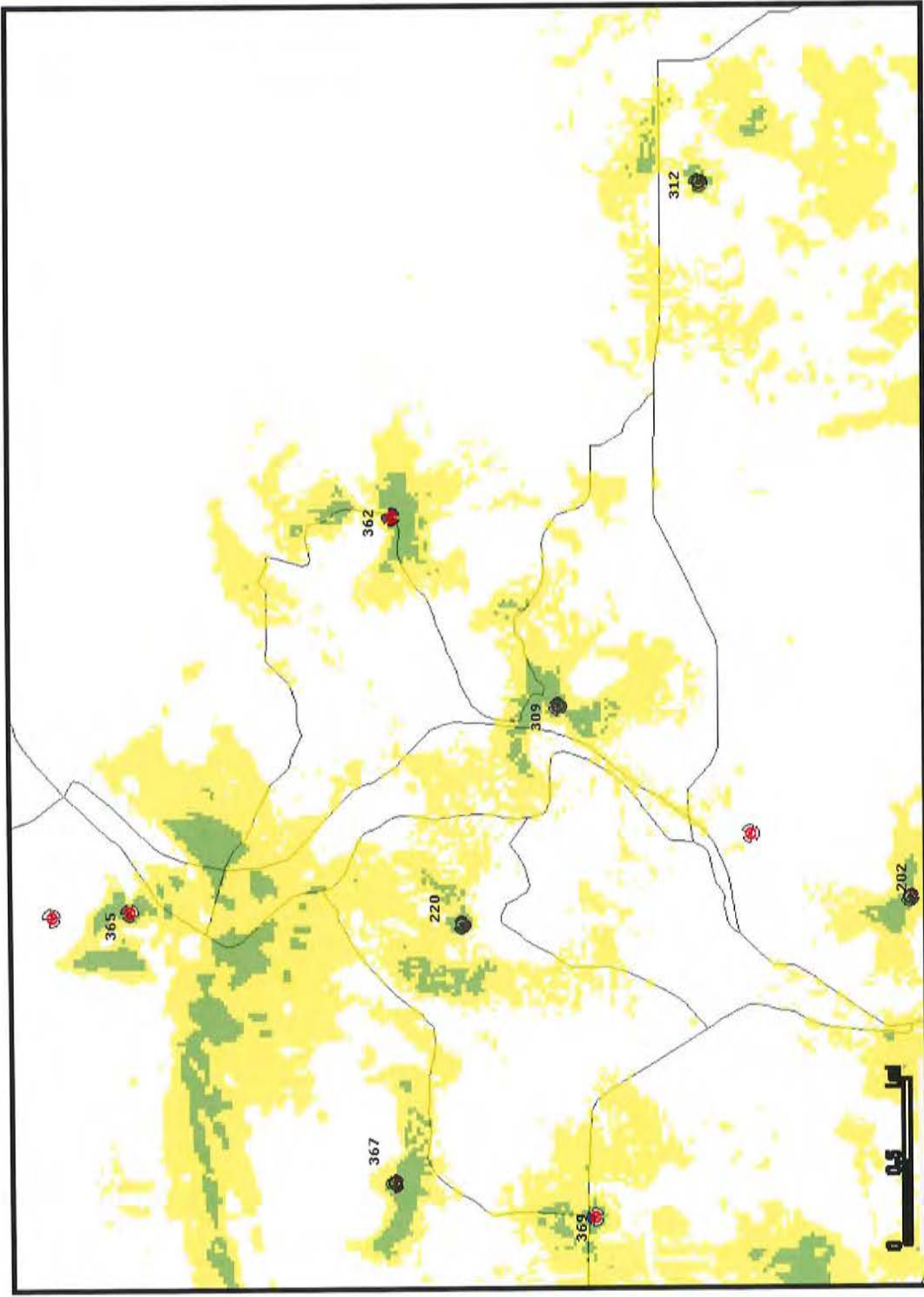
RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.



Coverage provided by FB362 @ 80°

-  Areas with good to excellent coverage
-  Areas with marginal to good coverage
-  Areas with no coverage to marginal coverage
-  On Air Site
-  Proposed Site

RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.

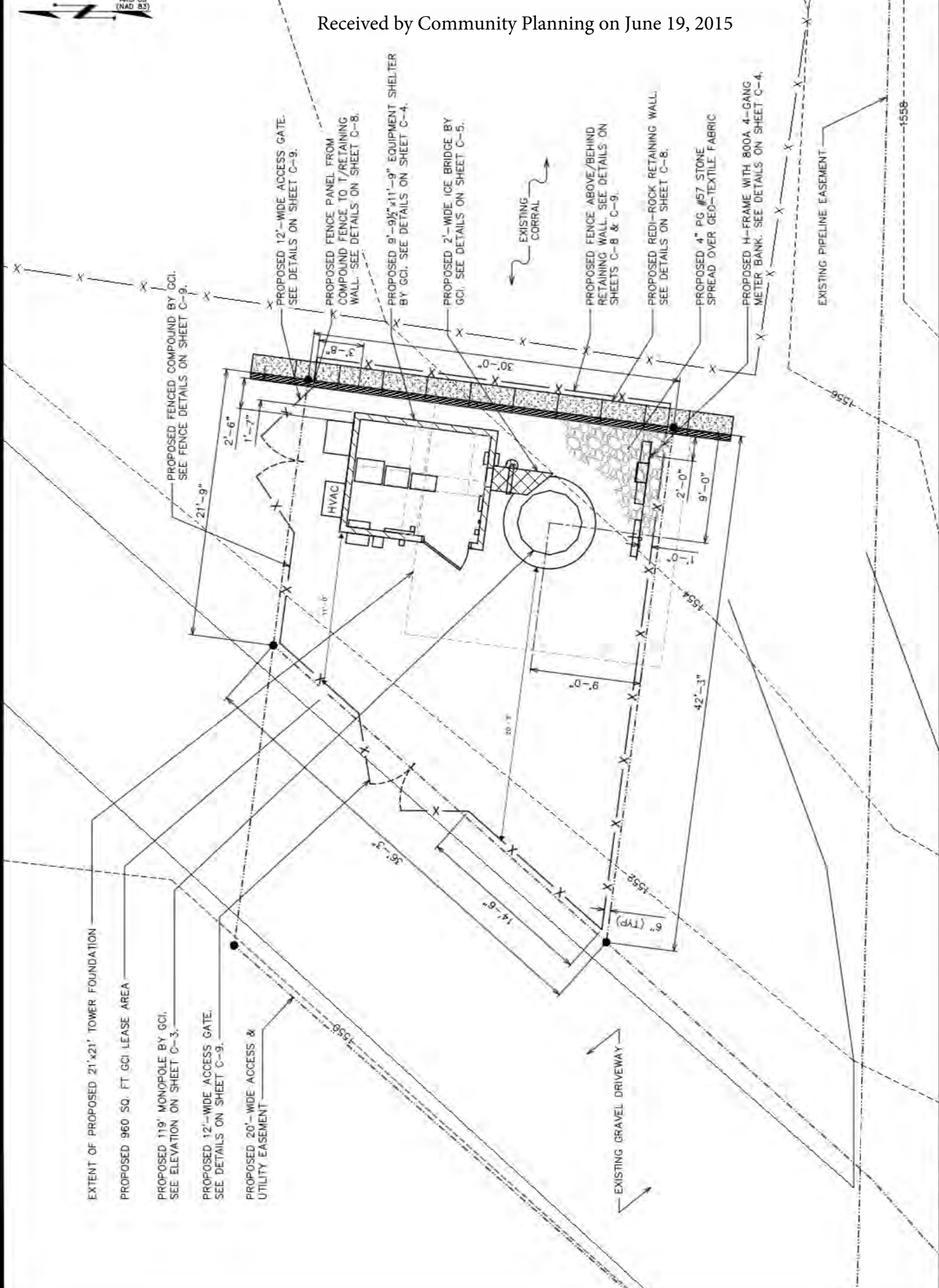


Coverage of sites around FB362 including FB362 @ 80'

	Areas with good to excellent coverage		Areas with marginal to good coverage		Areas with no coverage to marginal coverage		On Air Site		Proposed Site
--	---------------------------------------	--	--------------------------------------	--	---	--	-------------	--	---------------

RF Disclaimer: RF reserves the right to change or modify the build plan at any time without prior notification. Presented material is only an approximation of our best estimated data to date and is subject to change.

**Exhibit K**  
Yard Modification



EXTENT OF PROPOSED 21'x21' TOWER FOUNDATION

PROPOSED 960 SQ. FT GCI LEASE AREA

PROPOSED 119' MONOPOLE BY GCI. SEE ELEVATION ON SHEET C-3.

PROPOSED 12'-WIDE ACCESS GATE. SEE DETAILS ON SHEET C-9.

PROPOSED 20'-WIDE ACCESS & UTILITY EASEMENT

PROPOSED FENCED COMPOUND BY GCI. SEE FENCE DETAILS ON SHEET C-9.

PROPOSED 12'-WIDE ACCESS GATE. SEE DETAILS ON SHEET C-9.

PROPOSED FENCE PANEL FROM COMPOUND FENCE TO T/RETAINING WALL. SEE DETAILS ON SHEET C-8.

PROPOSED 8'-9 1/2"x11'-9" EQUIPMENT SHELTER BY GCI. SEE DETAILS ON SHEET C-4.

PROPOSED 2'-WIDE ICE BRIDGE BY GCI. SEE DETAILS ON SHEET C-5.

EXISTING CORRAL

PROPOSED FENCE ABOVE/BEHIND RETAINING WALL. SEE DETAILS ON SHEETS C-B & C-9.

PROPOSED REDI-ROCK RETAINING WALL. SEE DETAILS ON SHEET C-8.

PROPOSED 4" PG #57 STONE SPREAD OVER GEO-TEXTILE FABRIC

PROPOSED H-FRAME WITH 800A 4-GANG METER BANK. SEE DETAILS ON SHEET C-4.

EXISTING PIPELINE EASEMENT





**Exhibit L**  
Alyeska Letter of Non-Objection



P.O. Box 196660

ANCHORAGE, ALASKA 99519-6660

TELEPHONE (907) 787-8700

April 14, 2015

LETTER OF NON-OBJECTION

The Alaska Wireless Network, LLC  
6831 Arctic Boulevard  
Anchorage, Alaska 99518  
Bryan Maracle, PMP, Project Manager III

Phone: 907-868-1979      Email: [bmaracle@aci.com](mailto:bmaracle@aci.com)

RE:    Access to/across these Trans-Alaska Pipeline System ("TAPS") Facilities;  
        Buried Pipeline and Right-of-Way, Pipeline Milepost 452.92 (existing driveway crossing)

Dear Mr. Maracle:

This replaces the letter of non-objection dated March 27, 2015 in order to remove the requirement for tower lighting. By your email received January 28, 2015 and subsequently from Sherrie Greenshields of New Horizons Telecom, Inc., on behalf of The Alaska Wireless Network, LLC and persons represented by it, including any successors in interest, employees, agents and/or contractors ("Applicant"), you have requested non-objection from Alyeska Pipeline Service Company ("Alyeska") to cross those certain TAPS facilities described in the subject line above ("Subject Property") to gain access via construction equipment from Gilmore Trail to lands outside of the TAPS right-of-way for the purpose of constructing, maintaining and operating a 120-foot tall communication tower as shown on the preliminary plat by Acutec Geomatics dated February 2, 2015.

This Letter of Non-Objection does not in itself constitute authorization for entry or use of the land underlying Subject Property, and Applicant must secure any authorization(s) that may be required from the pertinent landowner(s). Alyeska does not warrant that the Subject Property is either suitable or safe to conduct applicant's activities.

To reflect Applicant's acceptance, please review the conditions stated in this letter and have the appropriate official sign and send it to me. The copy of this letter, fully-signed and returned to you, may be used to demonstrate Alyeska's non-objection in obtaining any additional authorization(s) that may be required.

As agent for the Grantees of the Trans Alaska Pipeline System rights-of-way, Alyeska provides its non-objection to the described use by Applicant of the Subject Property, insofar as Alyeska may do so under rights granted by the pertinent landowners, including the private property owners, for a period commencing May 1, 2015 or the date signed by Applicant, whichever is later, and terminating either on April 30, 2017 if construction not yet initiated or, if construction is initiated, at such time as Applicant no longer needs, uses or maintains the access to the tower site. This non-objection is subject to the following conditions:

1. **APPLICANT WILL CONTACT THE ALYESKA RESPONSE BASE SUPERVISOR (RBS) AT THE FAIRBANKS RESPONSE BASE, TELEPHONE (907) 450-5406**, to obtain clearance and to make any other necessary arrangements including scheduling a pre-construction meeting in advance of Applicant's requested access for tower construction and future major maintenance. Applicant will notify the RBS immediately upon installation of the tower structure itself regardless of the tower's operational status.
2. **Applicant will contact Alyeska Security, 615 Bidwill Avenue, Fairbanks, telephone (907)450-5707**, in advance of initial construction or subsequent major maintenance and immediately upon completion of the tower construction regardless of the tower's operational status.
3. Applicant understands that there may be times when the access will not be possible due to adverse surface conditions, pipeline-related construction activities or security conditions, and Applicant agrees to abide by Alyeska's decision in this regard.
4. Applicant will not install any devices or structures within the pipeline right-of-way. All crossings of the oil pipeline shall be made as close as practical to a right angle to the pipeline bearing and will avoid stopping or starting within ten feet of the oil pipeline. Furthermore, Applicant will take all precautions necessary to prevent injuries to persons and damage to property including, but not limited to, roads, pads, water bars, transverse levies, survey monuments, cathodic protection devices, monitoring rods or any other Alyeska facilities and will promptly reimburse Alyeska for any related losses or damages. Applicant will maintain the vehicle access way to adequately prevent ponding in or adjacent to the Subject Property.

Applicant will assure that the tower is designed and installed so as to protect the safety of personnel and the integrity of the nearby pipeline, including from corrosion and lightning strikes to the tower. Applicant will assure that the tower site is accurately and timely identified on the appropriate air navigation charts.

Applicant will notify the RBS as soon as possible after Applicant becomes aware of personal injuries or any disturbance or damage to property including, but not limited to, any Alyeska facility. Applicant shall be responsible for all repairs for damages caused by its activities within Subject Property that may be reasonably required by the RBS including, but not limited to any rehabilitation, restoration, revegetation, re-scarification, or seeding.

If at any time Alyeska determines that an Applicant act or omission in connection with the construction, operation, or maintenance of its communication tower and/or related facilities poses a hazard to TAPS integrity, Applicant shall immediately cease the activity until such situation is corrected or resolved to the satisfaction of Alyeska.

5. Applicant will not park its vehicles or stage equipment within the pipeline right-of-way without specific approval of the RBS.

Applicant will not conduct any fueling or equipment/vehicle maintenance activities in Subject Property and will keep Applicant's vehicle and/or equipment in sound working order.

6. Applicant will comply with all applicable local, state and federal laws, regulations and ordinances.

Applicant will take all precautions necessary to prevent spills or leaks of any hazardous substance as defined by Alaska Statute 46.03.826(5) including, but not limited to, crude oil, fuels, lubricants, hydraulic fluids or antifreeze. If such a spill or leak of any amount does occur, Applicant shall immediately report it to the Alyeska RBS and to any appropriate public agencies. Applicant is responsible for the containment and cleanup of any such spill to the satisfaction of the responsible public agencies and Alyeska.

7. Applicant releases and agrees to defend, indemnify, and save Alyeska and its Owner Companies and their officers, employees, servants, and agents harmless from any and all claims, suits, liabilities, damages, and expenses in connection with loss of life, bodily injury or property damage sustained by any person, including contract and lien claims of any nature, and all claims asserted by any entity for injury to public lands or the violation of any state or federal law, which may be claimed to have arisen from or out of any occurrence in, upon, or in direct proximity to Subject Property, or from the occupancy or use by Applicant of Subject Property or any part thereof under the terms of this Letter of Non-objection, and which is claimed to have been occasioned wholly or in part by any act or omission of Applicant. This indemnity specifically includes any liability as described herein that might otherwise be imposed upon Alyeska and/or its Owner Companies by any state or federal law, rule or regulation in connection with oil spill or otherwise, and it further includes indemnification against any claim for clean up, restoration, and rehabilitation.

In addition, you, on behalf of yourself and collective Applicant, agree to reimburse and indemnify Alyeska for all costs incurred by Alyeska for the repair or remedy of any damage or injury to persons or property (including Alyeska or Owner Company property) to the extent attributable to the acts or omissions of Applicant or other party acting for the Applicant. Payment will be made by you to Alyeska within 45 days after presentation to you of a supported statement invoicing those costs for which Alyeska asserts the Applicant is responsible.

Should Applicant's access to its tower be interfered with or blocked by Alyeska operations during the course of operating and maintaining TAPS, Alyeska/Owner liability is limited in this event to restoring access to the tower to an acceptable service level only. Alyeska/Owners are not responsible to Applicant or third parties for other consequential, direct, or indirect damages such as loss of use or lost profits, and Applicant agrees to defend, indemnify, and save Alyeska/Owners and their officers, employees, servants, and agents harmless from any and all such claims, suits, liabilities, damages, and expenses.

8. Applicant will not subcontract or assign any of its rights or delegate any of its obligations under this Letter of Non-Objection without Alyeska's prior written approval, which approval shall not be unreasonably withheld.

Failure to fully comply with the conditions set out in this letter of non-objection may result in revocation by Alyeska of its non-objection and may also result in Alyeska's declining to provide its non-objection to Applicant in the future for access across the TAPS right(s)-of-way.

The undersigned accepts and agrees to all provisions described in this letter of non-objection agreement and represents that s/he has full authority to accept and agree on behalf of Applicant, and to bind Applicant to the terms of this letter of non-objection.

Please call me at (907) 787-8170 if there are any questions.

Very truly yours,

ALYESKA PIPELINE SERVICE COMPANY  
Agent for Owners of the  
Trans Alaska Pipeline System

BP PIPELINES (ALASKA), INC  
EXXONMOBIL PIPELINE COMPANY  
CONOCOPHILLIPS TRANSPORTATION ALASKA, INC.  
UNOCAL PIPELINE COMPANY

By:   
PETER C. NAGEL  
Lands Manager

ACCEPTED AND AGREED to this  
15<sup>th</sup> day of April, 2015.

By:   
Signature

Name: Benjamin Binst

Title: VP Wireless Operations

cc: Jacob Barowsky, Platting Officer, Fairbanks North Star Borough

Duplicate Page left in for legibility

The undersigned accepts and agrees to all provisions described in this letter of non-objection agreement and represents that s/he has full authority to accept and agree on behalf of Applicant, and to bind Applicant to the terms of this letter of non-objection.

Please call me at (907) 787-8170 if there are any questions.

Very truly yours,

ALYESKA PIPELINE SERVICE COMPANY  
Agent for Owners of the  
Trans Alaska Pipeline System

BP PIPELINES (ALASKA), INC.  
EXXONMOBIL PIPELINE COMPANY  
CONOCOPHILLIPS TRANSPORTATION ALASKA, INC.  
UNOCAL PIPELINE COMPANY

ACCEPTED AND AGREED to this  
\_\_\_\_ day of \_\_\_\_\_, 2015.

By \_\_\_\_\_  
Signature

Name: \_\_\_\_\_

Title: \_\_\_\_\_

By: \_\_\_\_\_  
PETER C. NAGEL  
Lands Manager

cc: Jacob Barowsky, Platting Officer, Fairbanks North Star Borough

**Exhibit M**  
Appraisal Report

# APPRAISAL REPORT

OF THE PERCEIVED IMPACT OF INSTALLATION OF  
120± FOOT TALL TELECOMMUNICATIONS MONOPOLES  
ON NEIGHBORING PROPERTY VALUES

THE PROPOSED LEASE SITES CONSIDERED IN THIS REPORT ARE  
LOCATED AT 1622 WOLVERINE LANE AND 1392 GILMORE TRAIL  
IN FAIRBANKS, ALASKA

PREPARED FOR

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Ms. Becky Windt Pearson  
GCI - Corporate and Land Use Counsel  
2550 Denali Street, Suite 1000  
Anchorage, AK 99503

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MY FILE NO. B-2687

BY

E. CHILTON HINES, MAI

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## E. CHILTON HINES, MAI

*HINES APPRAISAL SERVICES*  
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*BUSINESS TELEPHONE: 907-328-3267*

June 2, 2015

Ms. Becky Windt Pearson  
GCI - Corporate and Land Use Counsel  
2550 Denali Street, Suite 1000  
Anchorage, AK 99503  
907.868.5629  
[rwindtpearson@gci.com](mailto:rwindtpearson@gci.com)

Re: Appraisal of Perceived Impact of Installation of 120' Tall Telecommunications Monopole on Neighboring Properties, Based Upon Interviews with Knowledgeable Market Observers, Fairbanks, Alaska.

Dear Ms. Windt:

GCI is proposing to lease two (2) cell phone tower sites in Fairbanks, one located at 1622 Wolverine Lane (Copus) and one located at 1392 Gilmore Trail (Jaeko). When necessary permitting is obtained, 120± foot high monopole towers with multiple antennas, associated ground equipment, and fencing will be installed on the above sites. GCI will enter into long-term ground lease agreements with the subject property owners. The purpose of this Appraisal Report is to estimate the impact of the proposed facilities on surrounding neighborhood property values. Knowledgeable real estate people (Realtors, appraisers, property owners, and market observers and participants) were interviewed to assess market perception about the presence of cell phone towers in Fairbanks neighborhoods.

This appraisal report is subject to the enclosed assumptions and limiting conditions and has been made in conformance with, and is subject to, the Code of Professional Ethics and Standards of Professional Conduct of the Appraisal Institute. This is an Appraisal Report as set forth in the Uniform Standards of Professional Appraisal Practices (USPAP) 2014-2015 edition. It is the equivalent of the former "Summary Appraisal" format set forth in the 2012-2013 and prior USPAP editions.

The appraisal process in this instance involved inspection of the proposed tower sites, property owner interviews, and reviewing and discussing the proposed site plans with Bryan Maracle, GCI Project Manager. The proposed towers will be higher than indigenous trees in these locations. However, in order to mitigate impact, GCI has made an agreement with the owners to construct the towers in hidden or otherwise suitable locations on the sites. The proposed towers would be similar to other monopole installations in other Fairbanks locations. Based upon multiple interviews with knowledgeable people and my own experience, the proposed tower installations would not cause serious view impairment or other negative influences or interferences and they would generally be harmonious with

their respective neighborhoods. It does not appear any measurable value diminution would result from the installation of these towers.

Collection of anecdotal market evidence is clearly the best way to substantiate my findings. When adequate quality and quantities of market data are available, appraisers may consider "paired sales" analyses. Paired Sales Analysis is defined as, "a quantitative technique used to identify and measure adjustments to the sale prices or rents of comparable properties; to apply this technique, sales or rental data on nearly identical properties are analyzed to isolate a single characteristic's effect on value or rent". (*Dictionary of Real Estate Appraisal*, 4<sup>th</sup> Edition, Appraisal Institute). Similar residential properties in areas with and without cell towers could potentially be compared to each other to determine whether there are value/price differences. However, the sales utilized for such analysis must be identical in every characteristic except, in this instance, for the presence of cell tower(s). Variances in location, view, size, topography, utilities, soils, etc. are frequently at play and may impact decisions made by market sellers and purchasers. Therefore, this methodology always requires significant judgment (and even speculation). In my judgement, the results of this methodology would not differ from interviews with knowledgeable market participants and observers in this market who have (combined) hundreds of years of real estate experience. Most of the knowledgeable people I interviewed stated there is no measurable negative value impact on property values. Some interviewees stated the availability of reliable cell phone service would outweigh any potential negative impact and one Realtor interviewee stated, even if differences in value could not be determined from market data, he would oppose cell tower installation in his neighborhood.

In addition to the above, extreme examples of negative influences are discussed along with other information relative to my conclusions. Various documents are presented in the Addendum including my Certification, All Data Reports (Fairbanks North Star Borough), GCI supplied engineering (excerpts) for each subject location, Wolverine CUP excerpts, site photos taken by myself on June 2, 2015 (date of subject field inspections), web-based American Cancer Society articles, Assumptions and Limiting Conditions, excerpts from the latest Fairbanks North Star Borough *Community Quarterly*, and Appraiser Qualifications.

Thank you for the opportunity to be of service.

Sincerely,



E. Chilton Hines, MAI  
B-2687  
Signed: June 12, 2015

## Proposed Project Sites

GCI is negotiating (or may have signed) leases as of this writing on two (2) properties located in rural Fairbanks neighborhoods. 120'± high monopole cell towers with multiple antennas will be installed. The reader is referred to various documents and information presented in the Addendum.

### 1622 Wolverine Lane

The first proposed tower site is located at 1622 Wolverine Lane which lies north of Farmers Loop via Auburn Drive and then east on Wolverine. The undeveloped site is located within the SE ¼ SW ¼ Section 20, T1N R1W FM. The proposed GCI “area of construction” will be 30' x 30' or 900 SF. A 12' x 10' equipment shelter along with an 800 amp H-frame Gang Meter Bank will be installed. The ground within the fenced compound will be covered with 4 inches of #57 stone over geotextile fabric.

This site is legally described as Lot 6 Block 10 Musk Ox, 1<sup>st</sup> Addition (owner: Amanda J. Copus) and it contains 5.18± acres. Public electricity is available but private water and septic systems are required. The Borough PAN is 253014 and the 2014 assessed value was \$64,646 (2015 assessed values are not yet certified by the Borough). Topography is described as gentle westerly sloping and the site is fairly heavily treed. By observation only, soils appear to be adequate for future building construction, if desired.

The Borough All Data Report states zoning is RE-4 which is a low density residential zone requiring a minimum 160,000 SF lot size. Required front yard setbacks are 35 feet and rear and side yard setbacks are 25 feet. Building height permitted in this zone is “unlimited”.

In anticipation of development with the 120' high monopole cell tower, GCI has cleared an L-shaped driveway into the proposed construction site. The tower itself reportedly will not be visible from the street upon completion of the project. Another temporary driveway space was cleared but, per Mr. Maracle, it will be abandoned and re-vegetated as part of the completed project. The exact height of trees on this lot is not known (roughly estimated at 50 to 80 feet). Thus while the proposed cell tower is expected to not be visible to the street, its elevation will be apparent above the trees for those who choose to look up and visually see it. The owners of the developed site to the east (directly across Wolverine Lane) may be able to see the new tower above the tree line. While I did not enter this nearby site, by observation it appears visibility of the tower would be very minimal primarily due to the thick cover of trees in this subdivision. Additionally, by observation it appears many of the sites in Musk Ox have a limited, if any, view of the Alaska Range and Tanana Valley because they are thickly forested.

The Musk Ox subdivision is located fairly near the University of Alaska – Fairbanks campus and has been a popular residential area for many years, particularly for UAF staff, et.al. The campus lies to the southwest (5±

minutes) and downtown Fairbanks is an estimated 15± minutes to the southeast.

### 1392 Gilmore Trail

The second proposed tower site is located at 1392 Gilmore Trail which lies north of Fairbanks via the Steese Expressway, then northeasterly along Gilmore Trail about 1.5± miles. The developed site is located within Section 9, T1N R1E FM. The proposed GCI "area of construction" will be 960 SF (irregular shape). A 21' x 21' foundation will support the new 119'± tower. A 10' x 12'± equipment shelter (HVAC) along with an 800 amp H-frame Gang Meter Bank will be installed. The ground within the fenced compound will be covered with 4 inches of #57 stone over geotextile fabric.

This site is legally described as Lot 1 Jaeke Property (owners: Derrell D. and Sharon L. Jaeke) and it contains 3.227± acres. Mr. Jaeke commented they own surrounding land comprising about 15± acres. Public electricity is available but private water and septic systems are required. The Borough PAN is 594653 and the 2014 assessed value was \$40,265 (land) plus \$158,460 (improvements). The 2015 assessed values are not yet certified by the Borough. Topography is described as hilltop, gentle westerly and southerly sloping, and the site is mostly cleared of trees. The site is developed with a residence and M/M Jaeke also operate a Quarter Horse business on this and adjoining sites. By observation only, soils appear to be adequate for building construction.

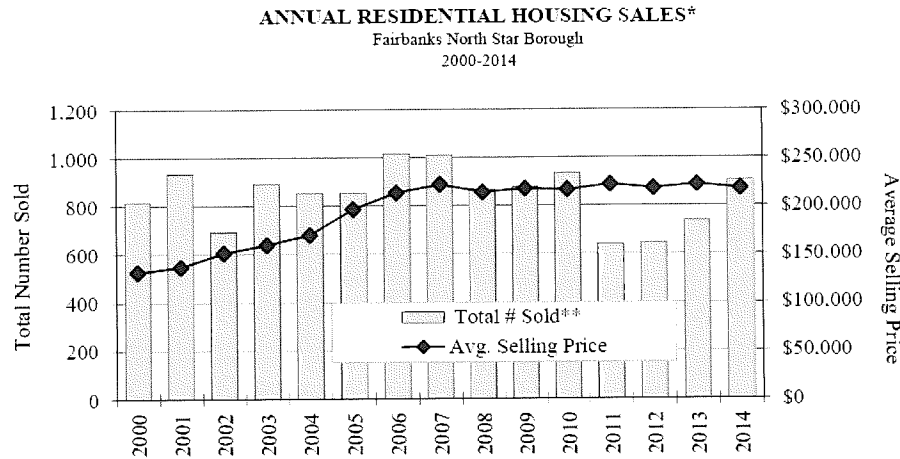
The Borough All Data Report states zoning is RE-2 which is a lower density residential zone requiring a minimum 80,000 SF lot size. Required front yard setbacks are 35 feet and rear and side yard setbacks are 25 feet. Building height permitted in this zone is "unlimited".

A gravel driveway leads from Gilmore Trail into the proposed tower site. The Trans-Alaska Pipeline (TAPS) right of way is located directly west and across Gilmore Trail. Mr. Maracle stated at the time of the field inspection, a letter of non-objection was obtained by GCI from Alyeska Pipeline Service Company (owner of TAPS) for the proposed tower project. Mr. Jaeke stated there have been no objections from neighbors. He further stated cell service in this area has been inferior and obtaining good service will be welcomed by he and his family. Mr. Jaeke stated one neighbor called and inquired about the new tower project, but expressed no objections. There are several outbuildings on this site. The proposed cell tower will be partially visible from Gilmore Trail, particularly for north-bound traffic.

The subject and surrounding properties appeal to those who desire larger sites in a rural area but within 15± minutes of major shopping and retail stores in Fairbanks.

## Fairbanks North Star Borough Real Estate Market

The Borough (Community Quarterly) publishes housing sales numbers and average unit prices. A graph showing residential unit sales and average prices for years 2000 through 2014 is presented below.



Residential brokers report the overall market is fairly strong with multiple offers being common. As illustrated by the above graph, average home prices have remained somewhat “stable” since 2006 with total unit sales varying somewhat from year to year. Years 2000 through 2007 showed increases in price but starting in 2007 there was a cooling of the economy and overall market.

A limited number of commercial sales continue to occur; the industrial market appears strong. Walgreens and Auto Zone each recently opened two (2) new stores in Fairbanks, on the Old Steese and west Airport Way. The new Verizon store opened for business in late September 2014; G2 Construction erected the Verizon building in front of Lowe’s. AT&T relocated from a strip center on the Old Steese about two years ago to a new strip center near Barnes and Noble, et.al.

It was said recently by a major developer no new big box retailers are seriously considering Fairbanks at the present time because of high energy costs here. When cheap natural gas arrives (?), new developments will most likely occur although the Borough population reportedly declined by about 1,500 people (from 100,000 total) in the past 12 months. Northeast Fairbanks has boomed since 2002 when Home Depot opened with many new projects summarized above. Discussions occurred in the past indicating Target and Costco may build new stores in Fairbanks, but those deals never materialized.

Large retailers have continued to build (and expand) outside of the downtown area. Walmart added 60,000 SF to their existing 150,000 SF for groceries. Safeway reportedly spent some \$25 million to build a new superstore and mall on their current West Fairbanks site. The Alaska DOTPF completed the

Illinois Street project in downtown along with a new bridge across the Chena River. Acquisitions by ADOTPF for the Third Street Widening project are underway although that project reportedly may not be built for a few years.

As of this writing, interest rates remain very low by traditional levels (there are some recent increases and credit tightening nationally) and oil prices declined from a high in Spring 2014 of \$100+ per barrel to about \$60± per barrel as of this writing. The Alaska Railroad completed construction on the first phase of 80± miles of new rail to connect Eielson Air Force Base to Ft. Greely in Delta Junction (100± miles southeast of Fairbanks). Ft. Greely was developed with multiple missile silos and more will reportedly be added in the next few years. The Pogo Mine (50 miles northwest of Delta Junction) and Fort Knox (28 miles north of Fairbanks) are major producers of gold.

Although not final, *Eielson is expected to get 48 each new F-35's by 2019* and the F-16's, which were in jeopardy, are reportedly staying at Eielson AFB. If the F-35's are brought to Eielson by 2019, the Borough population could increase by 10,000 or 12,000 (military, dependents, and civilian employees), or more. The F-35's would be a boon to the Borough and especially to North Pole. It was announced very recently Fort Wainwright will get a new unmanned drone detachment.

Economic impacts from the University of Alaska, the military bases, federal, state, and local government entities, mining, and oil and gas are significant. Economic long-term prospects are dependent upon a multitude of factors that are largely controlled from outside of Alaska (government and oil and gas). Alaska has a \$3 billion budget shortfall that, as of this writing, has created major problems for the legislature and the issues are not yet resolved.

Several natural gas projects are being promoted. The fate of the proposed projects is unknown as of this writing. Many believe gas development will occur within a few years and, if so, Fairbanks will benefit significantly from its construction and hopefully lower energy costs.

Demand for cell phone usage has continued to climb with GCI, AT&T, and Verizon being the major players in the Fairbanks market. Apparently the market is sufficiently strong to attract national tower companies who lease ground, construct new towers, and offer spaces for lease to service providers like GCI. GCI reportedly has approximately 30 cell towers in the Fairbanks area including a new tower location at Harding Lake (see aerial in the Addendum).

The purpose of the proposed subject towers is to provide reliable service and fill "gaps" in coverages. Mr. Jaeke stated coverage is inferior currently at their location with low reception and dropped calls being common. The proposed towers are expected to significantly improve cell service in the respective areas.

## Measurable Value Impact to Properties Due to Cell Tower Presence

GCI has asked me to estimate/determine whether there is any negative impact to property values in neighborhoods where cell towers are located. In my judgment, several factors are worthy of discussion. In today's society, most people have cell phones. News coverages have indicated in recent years that land lines are often cancelled in favor of cell phones for mobility and convenience reasons. As discussed above, Verizon has recently entered the Fairbanks market and AT&T opened a new store within the last two years. Both of these locations are in northeast Fairbanks near Lowe's, Barnes and Noble, et.al. Additionally, GCI owns and occupies a first class office/retail facility facing the Johansen Expressway and near Walmart in northeast Fairbanks. The cell phone business is obviously booming not only in Fairbanks but throughout the U. S. and the World.

Given the above, it is reasonable to believe that when there is strong demand for cell phones, strategically located cell phone towers are essential for service.

In the course of this assignment, I interviewed approximately 20± knowledgeable people with an estimated 500 years or more of combined real estate experience, having been involved in sales and/or appraisals of many thousands of transactions. Several interviewees were residential property owners. My own experience in the real estate business covers more than four decades. As mentioned, "paired sales" analysis may be an option to determine differences in value between sites that may be influenced by cell tower presence and those with no influence. Judgment is always required in the application of such analyses and finding sales of sites that are identical in every respect to the base parcel except for the one variable (cell tower presence) is very difficult. This is because other factors, possibly many other factors, are at play in real estate deals. A more practical way to complete this analysis is with a market survey, interviews, and anecdotal responses from knowledgeable people.

If decreases in value are present they must be "measurable" via quantitative analysis or from discernible market evidence; methodology that clearly illustrates the "market" is reacting or trending negatively to the undesirable condition. GCI is attempting to mitigate the impact of the cell towers in the subject locations by making them less visible, re-vegetating, etc. Some conditions are more subtle in the market and may not be "measurable" in a quantitative sense.

Some extreme examples of undesirable or negative conditions that may affect property values are as follows:

- 1) An orange and white colored 200' high radio tower in a prime lake front location – this would not be acceptable in most communities;
- 2) Near proximity to a major sewer plant where winds frequently blow toward residences;

- 3) Residences located beneath or very near airplane takeoff and landing zones at a major airport;
- 4) Subdivisions with mixed use developments that permit mobile homes adjacent to or near high valued residences;
- 5) Residence in front or other residences that blocks a view of a major mountain range or scenic amenity, especially in high value residential communities;
- 6) Unusual or extensive easements that could include aviation rights/easements, roads, streets, overhead and/or underground utility lines;
- 7) Adjacency or near a community landfill (obnoxious odors, visually undesirable, etc.);
- 8) Adjacency to major traffic arterials with high traffic counts (noise, ingress/egress and safety issues);
- 9) Unusual topographical conditions such as erosion, steepness, elevation, etc.

The above extreme situations clearly illustrate examples of functional and/or external obsolescence. Ultimately real estate is local and preferences in Fairbanks would be different than those in Anchorage or Seattle. Price and value for similar amenities and/or conditions are different in every market. Market Value is defined below.

**Market Value** is defined by the federal financial institutions regulatory agencies as, *"the most probable price which a property should bring in a competitive and open market under all conditions requisite to a fair sale, the buyer and seller, each acting prudently, knowledgeably and assuming the price is not affected by undue stimulus."*

Implicit in this definition is the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

- a. buyer and seller are typically motivated;
- b. both parties are well informed or well advised, and each acting in what he considers his own best interest;
- c. a reasonable time is allowed for exposure in the open market;
- d. payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
- e. the price represents the normal consideration for the property sold unaffected by special or creative financing or sales concessions granted by anyone associated with the sale.



(Sources Office of the Comptroller of the Currency under 12 CFR, Part 34, Subpart C - Appraisals, 34.42 Definitions (f).)

Realtors, appraisers, and knowledgeable people (with many years of experience) who have been involved in thousands of real estate transactions dealing with sellers and purchasers would be qualified to answer pertinent questions on cell tower presence in residential neighborhoods in Fairbanks. These knowledgeable professionals deal with sellers and purchasers regularly and have a good understanding of market behavior.

### Conclusion

In my judgment, survey of knowledgeable real estate people and collection of anecdotal data is a reasonable and proper methodology for this appraisal assignment. A few comments from interviewees are presented next.

I talked to a long-time real estate broker (and business leader) who has first-hand knowledge of the recent GCI tower installation at Harding Lake. He said the initial proposal was to place the tower nearer the lake and residents objected so a second-tier lot was selected. He further stated he was impressed with GCI in the way the development was handled, was explained, and how well GCI tried to work with property owners to, in effect, achieve a positive and generally popular outcome (turned out to be a good deal for everybody, he said). Harding Lake is a favorite weekend get-away and in recent years many new homes reportedly costing \$400,000 (some less) upwards to near \$1,000,000 have been constructed on the lake. Cell service at Harding Lake was reported to be poor to non-existent prior to the recent GCI installation. Thus residents were very happy to have service and the final tower location reportedly met with easy approval.

Per Mr. Maracle, typical cell tower lease payments are \$500 to \$1,200 per month. Thus, there is some financial incentive for property owners to enter into long-term tower leases.

Several interviewees stated cell towers on their lots or in their neighborhoods (including urban locations in the City of Fairbanks) would have no effect on property values unless there was a significant view obstruction or some other major impairment.

I talked to a long-time Realtor and Fairbanks resident who was born and raised in Fairbanks and lives in a high value residential subdivision facing Farmers Loop. The development has a good (open) view (fewer trees than Musk Ox) looking toward the Tanana Valley and Alaska Range. A new cell tower was recently installed near the Dog Musher's Hall (more or less in front of this subdivision) and, even though the tower is not viewable during the summer months (apparently can be more readily seen during the winter months), the interviewee stated "no difference in value". He further stated there was a recent home sale in this subdivision in the range of \$500,000 to \$550,000 and, when I asked whether he thought the property would have

sold for more (if the tower were not there), he said "no", i.e., he stated the cell tower had/has no effect on value.

People that I talked to generally stated no effect on value and, moreover, they are happy having good cell phone service. As discussed earlier, it seems that the entire world has gone to cell phones and, clearly, strategically placed towers are crucial to GCI and other service providers.

Additional comments from interviewees are interesting. One long-time resident who lives in a popular urban subdivision in east Fairbanks stated cell service at his home is not good (regularly dropped calls) and that, even on an 8,000 SF to 10,000 SF (typical urban lot size in this area), he and his wife would be willing to lease a portion of their site to a provider or would quickly approve the location of a tower in their area.

I interviewed several real estate appraisers whom I have known for a long time, are reputable, and have been full-time residential and/or commercial appraisers for at least 30 years each. Generally opinions were that, in order for a cell tower and/or other uses or installations to affect value, the impact must be severe (blight, restrictions, major view obstruction, high traffic counts on a narrow, confined street, etc.). Among appraisers that I talked to who have performed thousands of appraisals over many years, the general response was "no diminution in value" or words to that effect.

I interviewed another long-time Realtor whose family/relatives have owned and been involved in real estate deals around Fairbanks for decades. She said lot size does matter, and larger lots in rural locations would certainly be less impacted by the presence of a cell tower. However, she did bring up one interesting point – lump sum (paid in advance) payments for cell tower leases can be a problem when the original owner decides to sell. She did not go into detail, but she inferred she has had this occur at some time in the past. In that case(s), she stated the purchasers wanted (or tried to negotiate) a discounted sale price for the home. No further details were available and the final outcome (same or lower price, for example) was not disclosed to me. When I mentioned this to Bryan Maracle, he stated lump sum contracts may have been done in the past, but they are very rare.

Another very long-time (and very successful) broker stated impairment of view on adjoining lots could be detrimental (qualitative not quantitative). And he continued to say "proving" a (measurable) difference in value would be very difficult; mostly no effect on value, he said. Another Realtor stated, "no effect on value – no negative effect).

I also interviewed a long-time (estimate 10 to 15 years in the business) Realtor who sells residential real estate mostly in Fairbanks and North Pole. She also sells rural, suburban, and urban land. She stated the cell towers, "do not matter" and she had just shown a potential purchaser a residential property north of Farmers Loop on Skyline Drive. The broker asked the buyer whether she had noticed the cell tower near the property and the buyer said "no". Further, the broker stated, "everybody has a cell phone these days

and people are more tolerant.....of the towers.....because they want and need (reliable) cell phone service”.

One long-time (and very successful) commercial broker stated the cell towers have “no effect on value – emotion, perception at first, then later it dies down”.

There is a 190’ high cell tower located behind and north of the Bentley Mall in northeast Fairbanks. I asked several participants and long-time brokers whether they had noticed the tower – all said “no”. This tower is in an open area and is clearly visible, but it is necessary to look for it.

Another long-time (and very successful) broker I interviewed stated (paraphrase), “if a cell tower were being installed on a site next to my house, I would fight it, would not want it, 10% to 15% loss in value – but I do not know how to prove the drop in value.....”.

Comments from one final interview are worthy of mention. I talked at some length (twice) to a long-time residential (some commercial work) appraiser who has been a full time appraiser for approximately 33± years in Fairbanks. This person likely has completed an estimated 5,000± (my best guess) or more residential appraisals in Interior and Northern Alaska during his career. I explained the general locations, etc. of the proposed cell towers and asked whether he had ever made an “adjustment” in any appraisal report for a cell tower; he said “no”. He also stated that, unless there is substantial view blockage or something significantly detrimental to the neighborhood and surrounding area, there is no measurable/negative impact on value. I would give substantial credence to this appraiser’s opinions and thoughts because of his reputation and long-time, successful career appraising residences (in Fairbanks and outlying areas).

Comments from all knowledgeable real estate people I interviewed are not set forth here; however, the above comments represent a wide spectrum and good overview of comments I encountered. My goal here is to report opinions of interviewees, pro or con, to reflect realities in the marketplace. The above comments represent a viable cross-section of interviewees who are an integral part of the real estate community in Fairbanks. I also talked to two (2) appraisers who reside in other areas of Alaska. Both are long-time appraisers with good reputations.

One last comment is worthy of mention. Mr. Maracle and I met Amanda Copus (owner of 1622 Wolverine Lane site) and her husband, Owen Guthrie, at a coffee shop near UAF to discuss the project (after we completed the subject field inspection). Near the end of the conversation, Ms. Copus stated (paraphrase), “we would not want to do anything detrimental to our property or our neighbors. I don’t think we are doing that (negatively impacting anyone - with the installation of the proposed cell tower)”.

Based upon interviews with knowledgeable real estate people and collection of anecdotal data, the placement of the proposed cell phone towers would not

produce a negative influence on market values and further "paired sales" analyses would not be necessary in my judgment. Further study could be undertaken if desired by the client. However, in the final analysis, it is my judgment the conclusions and opinions offered by interviewees, most of whom have many years of sales and appraisal experience, would not yield a different conclusion.

**ADDENDUM**

BY

**E. CHILTON HINES, MAI**

*HINES APPRAISAL SERVICES*

*BOX 73254*

*FAIRBANKS, ALASKA 99707*

*BUSINESS TELEPHONE: 907-328-3267*

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## CERTIFICATION

I certify that, to the best of my knowledge and belief:

- The statements of fact contained in this report are true and correct.
- The reported analyses, opinions, and conclusions are limited only by the reported assumptions and limiting conditions and are my personal, impartial, and unbiased professional analyses, opinions, and conclusions.
- I have no present or prospective interest in the property that is the subject of this report and no personal interest with respect to the parties involved.
- I have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- My engagement in this assignment was not contingent upon developing or reporting predetermined results.
- My compensation for completing this assignment is not contingent upon the development or reporting of a predetermined value or direction in value that favors the cause of the client, the amount of the value opinion, the attainment of a stipulated result, or the occurrence of a subsequent event directly related to the intended use of this appraisal.
- The reported analyses, opinions, and conclusions were developed, and this report has been prepared, in conformity with the requirements of the Code of Professional Ethics & Standards of Professional Appraisal Practice of the Appraisal Institute, which include the *Uniform Standards of Professional Appraisal Practice*.
- The use of this report is subject to the requirements of the Appraisal Institute relating to review by its duly authorized representatives.
- I have made a personal inspection of the property that is the subject of this report.
- No one provided significant real property appraisal assistance to the person signing this certification.
- I have not completed an appraisal on the property which is the subject of this assignment within the past three (3) years.
- As of the date of this report, I have completed the continuing education program of the Appraisal Institute.



E. Chilton Hines, MAI

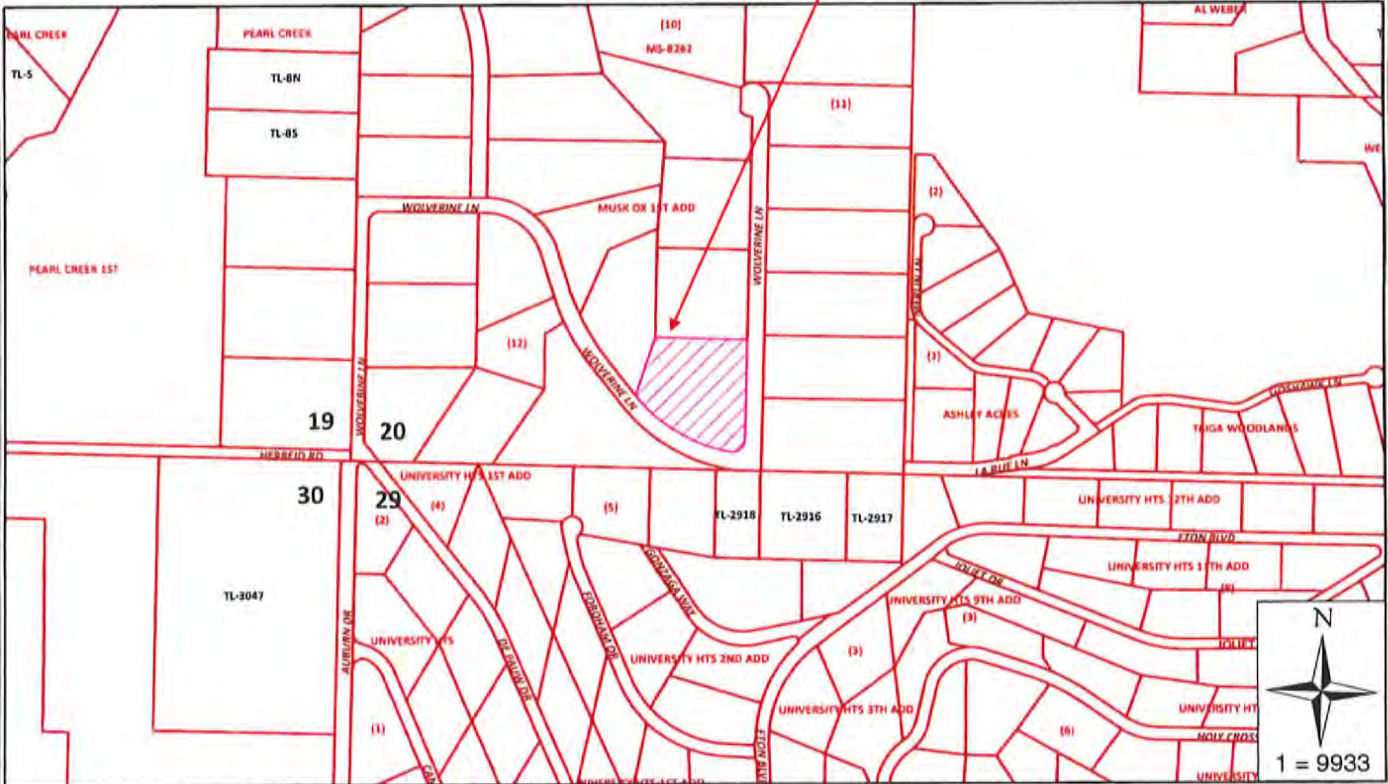


# Fairbanks North Star Borough

## All Data Report

COPUS/GUTHRIE SITE

PAN# 0253014  
Printed on: 06/04/2015



### Property Information for PAN#: 0253014

PROPERTY DESCRIPTION: MUSK OX 1, BLOCK: 10, LOT: 06  
 OWNER: Copus Amanda J [ownership]  
 BILLING ADDRESS: 1470 Ithaca Rd Fairbanks, AK 99709 6769  
 SITUS ADDRESS: 1622 Wolverine Ln  
 PARCEL SIZE: 5.18 AC  
 NEIGHBORHOOD: Farmers Loop (0902)  
 LAND CLASS: General Residential Hillside  
 PRIMARY USE: Vacant Land  
 FLOOD ZONE: X (100%)  
 SPECIAL REG. AREAS: None  
 ZONING: RE-4 (100%)  
 COMP PLAN: Perimeter Area (100%), Preferred Residential Land (100%), Perimeter Boundary (100%)  
 PLANNING DISTRICT: North Fairbanks (100%)  
 ROAD DISTRICT: N/A  
 URBAN BOUNDARY (2003): YES  
 ROAD SERVICE AREA: Musk Ox (100%)  
 EMS RESPONSE AGENCY: University Alaska Fairbanks Fire Department (100%)  
 FIRE SERVICE AREA: University (100%)  
 FIRE RESPONSE AGENCY: University Alaska Fairbanks Fire Department (100%)  
 FIRE SERVICE (Property DB): University Fire S A  
 STRUCTURES: N/A  
 BUSINESS ON SITE: N/A  
 MILL GROUP: Musk Ox Service Area (0943) (Est. Mill Rate: 16.291)  
 PLAT NUMBER: Musk Ox 1st (FRD1964\_7557\_001)  
 DESCRIPTION (VAULT): LOT 6 BLOCK 10 MUSK OX 1ST ADDN PLAT 64-7557 10/20/64  
 COMMUNITY PLANNING PERMITS:  
 Conditional Use: 20150003

### Assessment History

Year	Land	Improvements	Total
2015	\$64,646	\$0	\$64,646
2014	\$64,646	\$0	\$64,646
2013	\$64,646	\$0	\$64,646
2012	\$64,646	\$0	\$64,646
2011	\$64,646	\$0	\$64,646

The Fairbanks North Star Borough does not warrant the accuracy of maps or data provided, nor their suitability for any particular application. There may be errors in the data.



**AWN**  
Alaska Wireless Network

CONDITIONAL USE PERMIT - EXCERPTS  
PROVIDED BY BRYAN MARACLE  
6-10-2015

February 13, 2015

Fairbanks North Star Borough  
Department of Community Planning  
P.O. Box 71267  
Fairbanks, Alaska 99707-1267

RE: Public Hearing Application for Cellular Site at 1622 Wolverine Lane

Alaska Wireless Network, LLC (AWN) is proposing construction of a telecommunications facility at 1622 Wolverine Lane in Fairbanks, per the attached Public Hearing Application. This parcel is located in a RE-4 (Rural Estate) zoning district where minor and major communications towers are considered a conditional use.

The 120' monopole tower will be constructed at the center of a 30' x 30' fenced lease area within a 120' x 120' utility lot (see attached site plan). Construction of this tower will provide improved cellular communications to the surrounding area.

An associated Conditional Use Permit application has been submitted in accordance with FNSB Code 18.50.155, Standards for Communications Towers. The required documentation is included and an exhibit list is below. A written narrative describing the project and compliance with approval criteria has also been provided.

Should the Planning Commission have any questions regarding this project, please contact me at (907) 868-1979.

Thank you for your time,

Bryan Maracle, PMP  
Program Manager III





**Fairbanks North Star Borough  
Department of Community Planning**

P.O. Box 71267  
Fairbanks, Alaska 99707-1267  
(907) 459-1260 Fax: (907) 459-1255  
planning@co.fairbanks.ak.us

**PUBLIC HEARING APPLICATION**

File No. \_\_\_\_\_

Application is for  Rezone (\$400)  Variance (\$300)  Conditional Use Approval (\$300)

Property Owner:	Owner's Representative (if any):
Name: Owen Guthrie	Name: Bryan Maracle
Mailing Address: 1470 Ithaca Road	Mailing Address: 2550 Denali Street, Suite 1000
Fairbanks, AK 99709	
Phone: (907) 322-3462	Phone: 907-868-1979
Fax:	Fax:
E-mail: oguthrie@gmail.com	E-mail: bmaracle@gci.com

Property Information:	
Legal Description: Lot 6, Block 10, Musk Ox 1st Addn Plat 64-7557	
Street Address: 1622 Wolverine Lane, Fairbanks	Size: 5.181 <input checked="" type="checkbox"/> acres <input type="checkbox"/> square feet
Parcel Account Numbers (PAN): 0253014	
Existing Zone: RE4 (Rural Estate)	Existing Use: Vacant
Existing Water/Wastewater Providers: <input type="checkbox"/> Private <input type="checkbox"/> Public: N/A _____ (name of provider)	
<u>For Rezones:</u> Proposed Zone:	<u>For Variances:</u> <input type="checkbox"/> Lot Size <input type="checkbox"/> Setback <input type="checkbox"/> Parking <input type="checkbox"/> Other: _____
<u>For Conditional Uses:</u> Requested Use: 30' x 30' leased telecommunications site	Description:

I hereby certify that  (I am)  (I am authorized to act for) the owner of the property. I understand that payment of the application fee helps to cover the costs associated with processing this application, and that payment of the fee does not assure approval of the application.

APPLICANT SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

OWNER SIGNATURE (if different): \_\_\_\_\_ DATE: \_\_\_\_\_

Received By:	Fee:	Receipt No.	Proposed Meeting Date:	Sign Issued?
Date:				<input type="checkbox"/> Yes Sign #: _____

File No. \_\_\_\_\_

Fairbanks North Star Borough is subject to the Alaska Public Records Act, AS 40.25 et seq. and this document may be subject to public disclosure under state law. Revised 7/2014



211 W. Washington St.  
Suite 2000  
South Bend, IN 46601

Phone: 574-288-3632  
Fax: 574-288-5860  
www.nelloinc.com

December 3, 2014

Todd Harvey  
GCI

Re: NTP 120' - Wolverine Lane, Fairbanks North Star Borough, AK  
Nello Tower Sales Order # 21705

Mr. Harbey:

This is regarding your inquiry about the expected performance of your NTP 120' tapered pole by Nello Corporation for a site in Wolverine Lane, Fairbanks North Star Borough, Alaska..

Our towers are designed to meet or exceed industry standards defined by TIA/EIA-222-G, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures" (EIA Standard). It is our opinion that the possibility of a tower collapse is very unlikely. The tower is designed using extreme wind and ice conditions. In fact, wind speeds specified by the EIA Standard are 50-year wind speeds. That is, they have only a 2% statistical chance of occurring in any given year. Furthermore, the tower is designed with extra factors of safety so that it would not be near a failure point even if the wind conditions were at their maximum design level.

This tower has been designed using the following wind conditions: 1) a 90-mph 3-second-gust wind speed with no ice, and 2) a 60-mph 3-second-gust wind speed with 0.5" radial ice. The EIA Standard specifies 90 mph as the wind speed required for Fairbanks North Star Borough, Alaska. The "3-second-gust wind speed" refers to a wind measured at 33 feet above the ground. Equations in the EIA Standard take into account that the wind speed escalates with the increasing height of the tower.

Although we cannot guarantee exactly how a tower would fall if it were to fail, the most likely mode of failure will be a buckling failure of one of the tower section due to excessive compression loading. The tower section with the highest compressive stress ratio is located at the 48.3' - 98' level. The stress ratio in that section is calculated to be 99.4% of the code-permitted compression loading. Given that the tower section with the highest stress ratio will most likely fail first, the proposed tower would fail at the 48.3' level with the top 71.7' of the tower collapsing. Depending on the conditions at the time of failure and the stress levels in structural members below the 48.3' level, the top 71.7' of the tower would likely fall within a 60' fall radius.

If you have any other questions or concerns regarding our designs, please contact me by phone at 574-288-3632.

Sincerely,

William H. Martin, P.E., S.E.





# STUTZMANN ENGINEERING ASSOCIATES, INC.

9 Adak Avenue • P.O. Box 71429 • Fairbanks, Alaska 99707-1429

907-452-4094 • FAX 452-1034

Email: [jstark@stutzmannengineering.com](mailto:jstark@stutzmannengineering.com)

## FAA 2-C SURVEY CERTIFICATION

Applicant: Alaska Wireless Network  
6831 Arctic Blvd.  
Anchorage, Alaska 99518

Project and Location: **Communications Tower**  
**Lot 6, Block 10, Musk Ox Subdivision**  
**Wolverine Drive**  
**Fairbanks, Alaska**

Horizontal Source and Datum:  
Static GPS Survey / NAD 83

Vertical Source and Datum:  
Ground Survey – Record Benchmark / NAVD 88

<b>Latitude:</b>	<b>64° 53' 37.98" N</b>	<b>NAD83</b>
<b>Longitude:</b>	<b>147° 48' 04.13" W</b>	<b>NAD83</b>
<b>Ground Elevation:</b>	<b>1025 Feet</b>	<b>NAVD88</b>

I hereby certify that the above latitude and longitude for the center of the proposed communications tower are accurate within  $\pm 50$  feet horizontally and that the existing ground elevation is accurate within  $\pm 20$  feet vertically. The horizontal coordinates are based on the North American Datum of 1983 (NAD83). The elevation is based on the North American Vertical Datum of 1988 (NAVD88).

Sincerely,



Jeremy Stark, PLS

STUTZMANN ENGINEERING ASSOCIATES, INC.



## LAND LEASE AGREEMENT

This Lease Agreement ("Lease") is made effective as of September 1, 2014 ("Effective Date"), between Owen Guthrie & Amanda Copus, sole proprietors ("Landlord") organized and existing under the laws of Alaska with its head office located at 1470 Ithaca Road Fairbanks, AK 99709-6769 and The Alaska Wireless Network, LLC, 2550 Denali Street, Suite 1000, Anchorage, AK 99503-2751, a Delaware limited liability company, on its own behalf and on behalf of its telecommunications affiliates (collectively, "Tenant") (each a "Party" and collectively, the "Parties").

NOW, THEREFORE, it is hereby agreed as follows:

1. **Property.** Landlord leases to Tenant the following property ("**Property**"): a 30' x 30' portion of LOT 6 BLOCK 10 MUSK OX 1ST ADDN PLAT 64-7557 as further shown in Exhibit B.

2. **Authorized Uses.** This Lease is issued for the following authorized uses: Tenant may construct, maintain, and operate a technical facility and related communications equipment at the Property in conjunction with Tenant's operation as a communications provider.

3. **Term.** The initial term of this Lease is 5 years ("**Term**"), commencing as of September 1, 2014 ("**Commencement Date**") with 3, 5 year extensions (individually, an "Extension" and collectively, the "Extensions") at the sole option of Tenant, so long as Tenant is not in violation of any terms or conditions as set forth in this Lease. The Extensions shall be automatic unless: (a) Tenant notifies Landlord at least 30 days prior to the expiration of the then-current term of its intent not to renew this Lease, or (b) Landlord notifies Tenant in writing of a default, and Tenant fails to timely cure that default. At the conclusion, of the original Term or final Extension, if any, this Lease shall continue year to year unless either Party has given notice of termination. Notice of termination during the year to year period shall be given no later than 30 days before the expiration of the then-current Lease term.

4. **Rent.** The initial rent for the Property will be per month, payable on the 1<sup>st</sup> day of each month. Payment shall be made by check, bank draft, or money order made payable to Landlord. If this Lease commences on a date other than the 1st day of a month, Rent shall be prorated as of and paid on, the Commencement Date. If this Lease is terminated at any time other than the last day of a month, rent shall be prorated as of the date of termination. In the event of termination for any reason other than nonpayment of rent, all prepaid rent shall be refunded to Tenant. All unpaid rents and fees will accrue interest at 10% percent per annum beginning 30 days after payment is due. On the annual anniversary of the commencement date the lease amount will be subject to a cost percentage increase.

5. **Improvements.** At no additional charge, Tenant and Tenant's sub-lessees may operate, maintain, add and replace equipment at the Property so long as the size of Tenant's Property is not increased thereby. Any construction on the Property must be neat, presentable, and compatible with its use and surroundings.

6. **Maintenance.** Tenant shall keep the Property and all its improvements thereon neat and presentable. Tenant shall not strip, waste, or remove any material from the Property without the prior written permission of Landlord, which permission shall not be unreasonably withheld, conditioned or delayed.

7. **Utilities.** Tenant shall be solely responsible for and promptly pay all charges for gas, electricity, telephone service, or any other utility used or consumed by Tenant on the Property. Tenant shall have an electrical current meter installed at the Property for Tenant's electrical usage, and Tenant shall pay for the cost installation, maintenance, and repair of same. Such meter will be billed by and paid directly to the power company. Tenant shall have the right, at its expense to improve the present utilities on the Property and to permanently place new utilities on (or to bring utilities across) Landlord's property in order to service the Property. Tenant shall also have the right to install emergency power generators on the Property.

**8. Disposition of Improvements.**

- (a) Within 180 days after the end of this Lease, improvements and personal property must be:
1. removed by Tenant if required by Landlord; or
  2. with Landlord's consent, be sold to the succeeding Tenant; or
  3. abandoned on the Property.
- (b) Landlord may grant additional time for the removal of improvements if hardship is established by Tenant.
- (c) At the end of this Lease, Tenant must peaceably and quietly vacate the Property and return possession to Landlord. The Property must be left in a clean, neat and presentable condition, at least as good as existed at the commencement of the Lease, normal wear and tear excepted. If Tenant causes any abnormal wear and tear or abuse of or to the Property, Tenant shall, at its expense and upon demand by Landlord, immediately eliminate such abnormal wear and tear or abuse or waste and pay for the restoration of the affected area(s) to a commercially reasonable equivalent condition to the Property' condition at the commencement of this Lease.

**9. Title.** Title to any improvements or other property owned by Tenant which is not disposed of as set out above shall automatically vest in Landlord.

**10. Hazardous Materials.** If fuel, lead acid batteries, coolants, fire suppressants, lubricants or any other hazardous materials are placed on the Property, Tenant agrees to have properly trained personnel, equipment and procedures in place for safely handling the materials in accordance with the National Fire Protection Code and all applicable federal, state and local laws. In the event of a material spill of fuel or other hazardous materials on the Property, Tenant shall promptly notify Landlord and act promptly to contain the spill, repair any damage, absorb and clean up the spill area, and restore the Property to a condition reasonably satisfactory to Landlord.

**11. Warranties.** Landlord shall indemnify and defend Tenant for any breach of the following warranties: The execution of this Lease has been duly authorized by Landlord and all necessary consents have been received. To the actual knowledge of Landlord, no hazardous substances have been placed, released, or disposed on the Property. Landlord has all right, title, and interest in the Property, and to execute and to perform its obligations under this Lease. Other than the express warranties above, Landlord makes no express or implied warranties concerning the title or condition of the Property, including survey, access, or suitability for any use, including those uses authorized by this Lease. Tenant takes the Property as-is, subject to all other provisions to this Lease.

**12. Liability.** Tenant shall indemnify and defend Landlord from any liability, action, claim, suit, loss, property damage, or personal injury of whatever kind resulting from or arising out of any act of commission or wrongful omission by Tenant, to the extent arising from or connected with Tenant's use and occupation of the Property or its exercise of the rights and privileges granted by this Lease, except that it shall have no duty to indemnify Landlord to the extent of its own negligence, wrongful omission, or misconduct, fraud, or breach of the terms of this Lease.

**13. Insurance.**

- (a) Tenant shall secure and keep in force during the term of this Lease adequate insurance to protect both Landlord and Tenant against comprehensive public liability and property damage:
1. Property damage arising from one occurrence in the amount of not less than \$1,000,000.00, and
  2. Personal injury or death in an amount of not less than \$1,000,000.00 per person and \$1,000,000.00 per occurrence.
- (b) All insurance required by this covenant must:
1. name Landlord as an additional assured;
  2. provide that Landlord be notified prior to any termination or cancellation

- in the insurance coverage; and
3. include a waiver of subrogation by which the insurer waives all rights of subrogation against Landlord for payments made under the policy.
- (c) The requirement of insurance coverage does not relieve Tenant of any other obligations under this Lease. Tenant may self-insure against the risks undertaken herein.

**14. Holding Over.** Subject to the Extensions available to Tenant in Section 3 above, if Tenant holds over after the expiration of this Lease, the holding over will not operate as a renewal or extension of this Lease, but only creates a tenancy from month to month, regardless of any rent payments accepted by Landlord. Tenant's obligations for performance under this Lease will continue until the month-to-month tenancy is terminated by Landlord. Landlord may terminate the hold-over, month-to-month tenancy at any time by giving Tenant at least 30 days' prior written notice.

**15. Sale, Assignment or Sublease.** The Parties may not sell or assign this Lease without the written consent of the other Party, which consent shall not be unreasonably withheld, conditioned or delayed, except Tenant may assign this Lease to a Tenant's parent, subsidiary, or affiliate under common control without Landlord's consent. Tenant may execute space and power and collocation agreements anywhere within the Property, including Tenant's tower if one is built. Tenant's sublessee(s) will be entitled to the same rights and privileges as Tenant. Landlord retains exclusive right to lease ground space adjacent to the Property to other carriers and tenants. Landlord may not sell or assign this Lease to a party that is not the legal owner of the Property without the written consent of Tenant, which consent may be withheld at Tenant's sole discretion.

**16. Condemnation.** If the Property are condemned by any proper authority, the term of this Lease will end on the date Tenant is required to surrender possession of the Property. Landlord is entitled to all the condemnation proceeds except Tenant will be paid the portion of the proceeds attributable to the fair market value of any improvements placed on the Property by Tenant. Rent will also be adjusted to reflect the prorata value of the remaining Property.

**17. Cancellation.** Landlord may cancel this Lease and recover possession of the Property by giving Tenant 30 days' prior written notice, upon the happening of any of the events listed below, that are not cured within the 30 day notice period:

- (a) Tenant's failure to pay when due the rents or fees specified in this Lease, including any increases made pursuant to this Lease.
- (b) The return for insufficient funds of checks for payment of rents or fees.
- (c) The use of the Property by Tenant for any purpose not authorized by this Lease.
- (d) The appointment of a trustee or receiver for the Tenant's assets in a proceeding brought by or against the Tenant.
- (e) The failure of Tenant to perform any provision or covenant in this Lease. If such provision or covenant is not possible to perform within such 30 day cure period, Tenant shall not be in default under this Lease if it has promptly commenced and is diligently pursuing the cure thereof.

Tenant may cancel this Lease with 30 days' written notice if (a) for any reason the Property become unsuitable for its communications purposes, (b) the appointment of a trustee or receiver for the Landlord's assets in a proceeding brought by or against Landlord, or (c) the failure of Landlord to perform any provision or covenant in this Lease. If such provision or covenant is not possible to perform within such 30 day cure period, Landlord shall not be in default under this Lease if it has promptly commenced and is diligently pursuing the cure thereof.

**18. Easements.** Landlord covenants and agrees that Tenant and Tenant's sub-lessees shall have access to the Property for parking vehicles, pedestrian traffic, and ingress and egress to the Property for all uses authorized or required by this Lease, including, but not limited to, Tenant's right to place underground conduits or aerial feeds, fiber as needed for power and telephone or other purposes

from the Property to all utility easements and rights-of-way which are owned by Landlord. Landlord agrees to provide utility easements to the Property in recordable form, as may be required by utility service providers. Landlord reserves the right to grant to third parties or reserve to itself easements or right-of-way through, on, or above the Property. No easement or right-of-way on the Property may unreasonably interfere with Tenant's use of the Property. All of Tenant's rights in this section shall be granted to Tenant without any further compensation due to Landlord.

19. **Laws and Taxes.** Tenant will conduct all activities authorized by this Lease in compliance with all applicable federal, state, and local laws, including but not limited to matters of health, safety, sanitation, pollution and communications. Landlord shall pay all property taxes, except that Tenant shall pay for taxes based on its improvements to the Property.

20. **Disputes.** In any disputes between the Parties, the laws of the State of Alaska will govern. Any lawsuit must be brought in the courts of the State of Alaska. Either Party may request a mediation of any unresolved dispute. Tenant agrees to notify Landlord of any claim, demand, or lawsuit arising out of Tenant's occupation or use of the Property. Upon Landlord's request, Tenant will reasonably cooperate and assist in the investigation and litigation of any claim, demand, or lawsuit affecting the Property.

21. **Liens.** Tenant shall keep the Property free of all liens, pay all costs for labor and materials arising out of any construction or improvements by Tenant on the Property, and hold Landlord harmless from liability for any liens, including costs and reasonable attorney fees related to Tenant's activities. By this provision, Landlord does not recognize that it is in any way liable for any liens on the Property.

22. **No Waiver; Consents.** The failure of a Party to insist upon the strict performance of any provision in this Lease may not be considered as a waiver or relinquishment of that provision for the future. The waiver of any provision or covenant in this Lease cannot be enforced or relied upon unless the waiver is in writing and executed by the Party waiving such provision. Whenever consent by one Party is required in this Agreement, the granting of such consent in any one instance will not constitute continuing consent to subsequent instances where such consent is required.

23. **Validity of Parts.** If any provision of this Lease is declared to be invalid by a court of competent jurisdiction, the remaining covenants and provisions will continue in full force.

24. **Natural Disasters.** If any cause which occurs without the fault or negligence of either Party renders the Property permanently unusable, this Lease may be terminated by either Party upon 30 days' written notice to the other, in accordance with Section 26 below. Causes include but are not restricted to acts of God or the public enemy, acts of the United States, fires, floods, epidemics, quarantine restrictions, or strikes. No Party shall be liable for any delay or failure in performance due to such events outside of the defaulting Party's reasonable control. The obligations and rights of the excused Party shall be extended on a day-to-day basis for the time period equal to the period of the excusable delay.

25. **Notices.** Any notices to be given under this Lease by either Party to the other may be effected either by personal delivery in writing or by mail, registered or certified, postage prepaid with return receipt requested, to the recipient at the address indicated below:

**Landlord:**  
Owen Guthrie & Amanda Copus  
Attn: Owen Guthrie, Land Owner  
1470 Ithaca Rd.  
Fairbanks AK 99709  
Telephone: 907-479-3030  
Email: oguthrie@gmail.com

**Tenant:**  
The Alaska Wireless Network, LLC  
Attn.: Rachelle A. Alger, Contracts Administrator  
2550 Denali St., Suite 1000  
Anchorage, AK 99503  
Telephone: 907.868.5771  
Email: raalger@gci.com

**With a copy of legal notices to:**  
The Alaska Wireless Network, LLC  
Attn: VP & Senior Legal Counsel  
6831 Arctic Blvd.



Anchorage, AK 99518

or such other address or to the attention of such other person as the recipient Party shall have specified by prior written notice to the sending Party. Such notice shall be effective as of the date of its receipt. Unless specified otherwise in writing, the primary contacts for Landlord and Tenant shall be:

**Landlord Contact:**

Owen Guthrie & Amanda Copus  
1470 Ithaca Rd.  
Fairbanks AK 99709  
Telephone: 907-479-3030  
Mobile: N/A  
Email: oguthrie@gmail.com

**Tenant Contact:**

David Baker  
6831 Arctic Boulevard  
Anchorage, AK 99518  
Telephone: 907.868.2526  
Mobile: 907.227.5609  
Email: dbaker@gci.com

26. **Inspection.** Landlord reserves the right to enter any part of the Property, including buildings, for the purpose of inspection at any reasonable time. Except in the case of an emergency, all inspections will be coordinated with Tenant in advance, in order to minimize interference with Tenant's activities.

27. **Quiet Enjoyment; Access.** So long as Tenant is not in breach of this Lease, it shall have the right of quiet enjoyment of the Property for the Term and all Extensions thereof, regardless of any sale, transfer, assignment or foreclosure of the Property. This Lease shall be binding on each Party's successors and assigns. Under no circumstances shall Tenant and Tenant's sub-lessees be prevented or delayed from accessing its equipment during the Term and all Extensions, twenty-four hours a day, seven days a week.


28. **Binding Agreement; Amendments; Counterparts.** This Lease shall be binding upon each Party's heirs, representatives, executors, successors and assigns. This Lease may only be amended in writing, and such amendment shall be signed by authorized representatives of both Parties. The Parties may execute this Lease in counterparts, each of which shall be deemed an original, and both of which, collectively, taken together shall constitute one and the same Lease. Delivery of an executed counterpart by electronic transmission email or fax shall be as effective as physical delivery of an executed counterpart.

29. **Non-Disclosure Agreement.** Neither Party shall disclose the terms and conditions of this Lease, including the rent due hereunder, outside its organization, except Tenant may disclose this Lease with potential sublessees who have submitted a collocation application; prior to disclosure Tenant will redact financial information and any other sensitive materials that will not pertain to a sublessee.

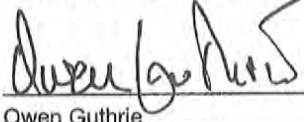
**[END OF SECTIONS AND TEXT]**

IN WITNESS WHEREOF, the Parties have caused their duly authorized representatives to execute this Agreement as of the Effective Date

Tenant: **The Alaska Wireless Network, LLC**

By:   
Name: Jimmy R. Sipes  
Title: VP Network Services & Chief Engineer  
Date: 8.18.14

Landlord: **Owen Guthrie & Amanda Copus**

By:   
Name: Owen Guthrie  
Title: Land Owner  
Date: 8/14/14

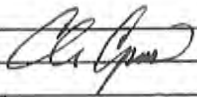
By:   
Name: Amanda Copus  
Title: Land Owner  
Date: 8/14/14

Exhibit A

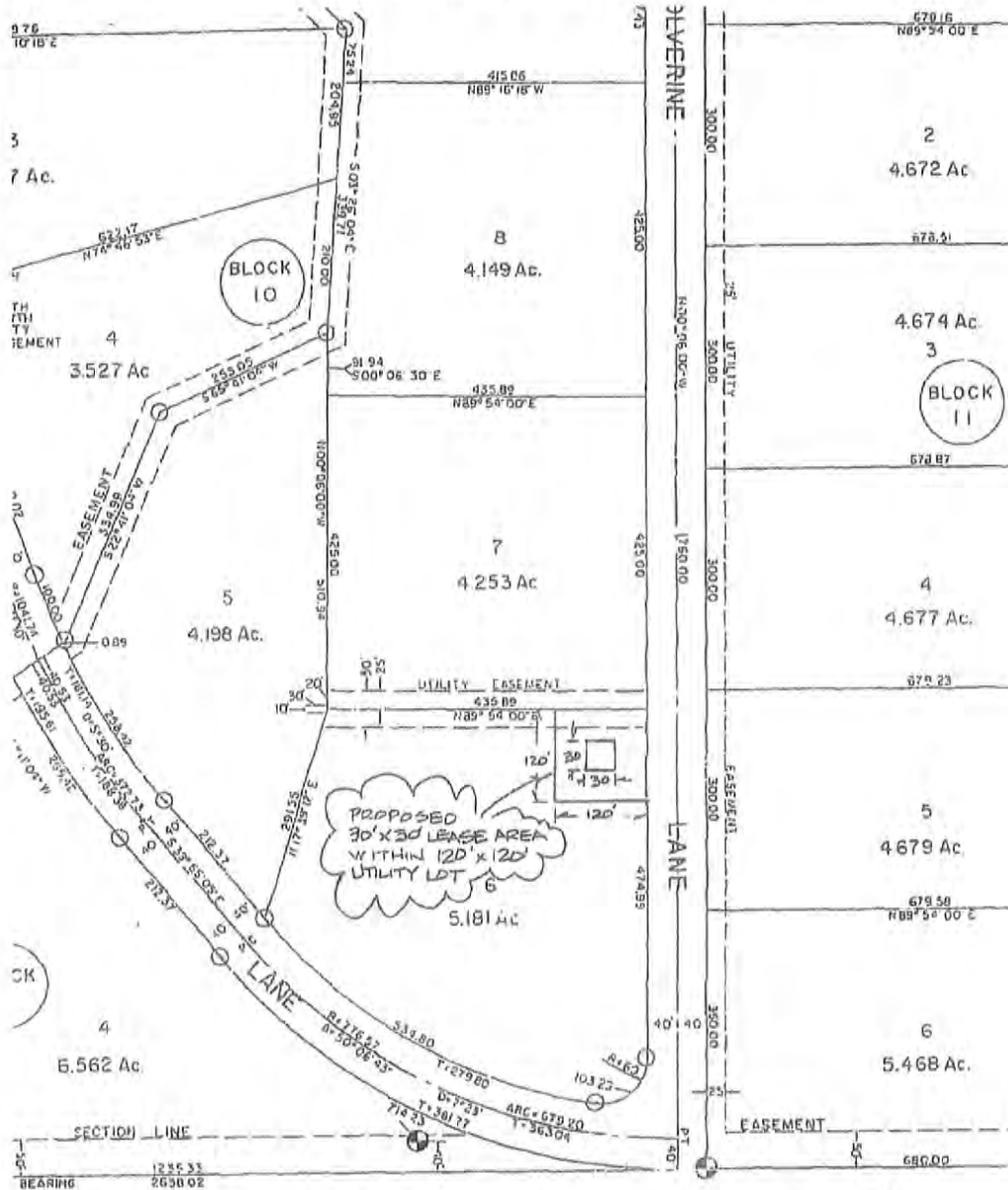
**Legal Description:** LOT 6 BLOCK 10 MUSK OX 1ST ADDN PLAT 64-7557

**Property Address:** Property address has not been assigned by the borough

**Borough Parcel Number:** 253014

Tenant RAA Landlord [Signature]  
AWN Contract #6862  
August 14, 2014

**Exhibit B**  
Site Drawing and Plat Map



**ST ADDITION**  
AT A C U A C I T Y W I T H I N

Tenant PAA Landlord [Signature]  
AWN Contract #6862  
August 14, 2014

Additional Visual Analysis from residences near the proposed Wolverine Tower site. Properties are identified by corresponding identification number. Photo simulations of tower view from each property location follow.



**PROJECT INFORMATION:**

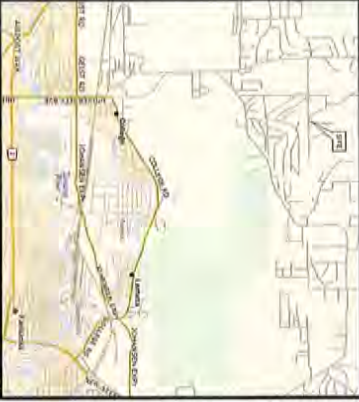
**SITE NAME:** WOLVERINE LANE  
**PROJECT DESCRIPTION:** NEW SITE BUILD  
**TOWER TYPE:** 120' MONOPILE  
**SITE ADDRESS:** 1616 WOLVERINE LANE  
 (911 ADDRESS TBD) FAIRBANKS, AK  
 (STAR BOROUGH) STAR BOROUGH  
**JURISDICTION:** FAIRBANKS NORTH  
 STAR BOROUGH  
**AREA OF CONSTRUCTION:** 900 SQ. FEET  
**LEGAL DESCRIPTION:** SE 1/4, SW 1/4, S20 T1N, R1W  
 FAIRBANKS MERIDIAN  
**PARCEL ID#:** 253014

**PROJECT INFORMATION**

**LATITUDE:** N 64° 53' 37.98" (NAD 83)  
**LONGITUDE:** W 147° 48' 4.13" (NAD 83)

\* INFORMATION OBTAINED FROM 20 SURVEY.

**TOWER COORDINATES**



**LOCATION MAP**

FROM FAIRBANKS, AK: TRAVEL WEST ON AIRPORT WAY, TURN RIGHT ONTO UNIVERSITY AVENUE, CONTINUE STRAIGHT ONTO FAIRBANKS LOOP ROAD, TURN LEFT ONTO AUBURN DRIVE, CONTINUE STRAIGHT ONTO WOLVERINE LANE. IN 0.5MILE THE SIGHT WILL BE ON THE LEFT.

**DRIVING DIRECTIONS**



**MARSHCREEK**

**SITE NAME: WOLVERINE LANE**

**1616 WOLVERINE LANE  
 FAIRBANKS, AK  
 (FAIRBANKS NORTH STAR BOROUGH)**

**TOWER OWNER:**

ALASKA WIRELESS NETWORK  
 2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503  
 PHONE: (800) 770-7886

**SITE PROJECT MANAGER:**

MORSE CREEK, LLC  
 NAME: MORSE CREEK, LLC  
 ADDRESS: 1000 UNIVERSITY AVENUE  
 CITY: FAIRBANKS, AK 99707  
 CONTACT: TODD SCHMALLE  
 PHONE: (907) 342-0300

**CIVIL ENGINEER:**

TOWER ENGINEERING PROFESSIONALS  
 NAME: TOWER ENGINEERING PROFESSIONALS  
 ADDRESS: 325 TRON ROAD  
 CITY: FAIRBANKS, AK 99703  
 CONTACT: PAUL RICH, P.E.  
 PHONE: (907) 851-8351

**ELECTRICAL ENGINEER:**

Q ENGINEERS, INC.  
 NAME: Q ENGINEERS, INC.  
 ADDRESS: 1000 UNIVERSITY AVENUE  
 CITY: FAIRBANKS, AK 99703  
 CONTACT: AMANDA COUS  
 PHONE: (907) 268-4159

**ORIGINAL SURVEYOR:**

STUTZMANN ENGINEERING ASSOCIATES, INC.  
 NAME: STUTZMANN ENGINEERING ASSOCIATES, INC.  
 ADDRESS: P.O. BOX 71429  
 CITY: FAIRBANKS, AK 99707  
 CONTACT: AMANDA COUS  
 PHONE: (907) 452-4994

**LAND OWNER:**

OWEN OUTRIGGER  
 NAME: OWEN OUTRIGGER  
 ADDRESS: 1000 UNIVERSITY AVENUE  
 CITY: FAIRBANKS, AK 99703-6789

**CONTACT INFORMATION**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE LOCAL GOVERNING AUTHORITIES, NOTWITHSTANDING ANY ADAPTED BY THE LOCAL GOVERNING AUTHORITIES, NOTWITHSTANDING TO THE PLANS IS TO BE CONSIDERED TO PERMIT WORK NOT CONFORMING TO THE FOLLOWING LISTED CODES:

- 1. INTERNATIONAL BUILDING CODE
- 2. INTERNATIONAL CODE CONVENTION
- 3. ALASKA ADMINISTRATIVE CODE TITLE 8, CHAPTER 11
- 4. ALASKA ADMINISTRATIVE CODE TITLE 8, CHAPTER 11
- 5. CITY COUNTY ORDINANCES
- 6. CITY COUNTY ORDINANCES

**CODE COMPLIANCE**

**UTILITIES:**

POWER COMPANY: GVAE  
 MAIN OFFICE: 1000 UNIVERSITY AVENUE  
 CONTACT: (907) 452-1151  
 METER # NEAR SITE:

PHONE COMPANY: UNKNOWN  
 CITY: FAIRBANKS, AK  
 PHONE: (907) 452-1151  
 PED. # NEAR SITE:

**PLANS PREPARED FOR:**

2550 DENALI ST, SUITE 1000  
 ANCHORAGE, AK 99503  
 OFFICE: (800) 770-7886

**PLANS PREPARED BY:**

**TOWER ENGINEERING PROFESSIONALS**  
 5545 WEST 88TH AVE, SUITE  
 ANCHORAGE, AK 99502  
 OFFICE: (907) 568-9914  
 www.towergroup.net

REV	DESCRIPTION
1	TITLE SHEET
1	GENERAL NOTES
1	SITE PLAN
1	UTILITY LOT
1	FOUNDATION DETAIL
1	EQUIPMENT PLAN
1	ICE BRIDGE DETAILS
1	COAX MOUNTING DETAILS
1	ANTENNA CONFIGURATION & COAX COLOR CODE
1	FENCE DETAILS
1	DRIVEWAY DETAILS
1	SHED FOUNDATION DETAILS
1	E SHEETS BY Q ENGINEERS

REV	DATE	ISSUED FOR
1	01-12-15	CONSTRUCTION
0	01-29-15	PERMITS

SEAL: Andrew T. Holdens  
 No. 261,117-2  
 January 12, 2015

**INDEX OF SHEETS**

SHEET NUMBER	REVISION
T-1	1

### GENERAL NOTES:

- ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED MARSH CREEK, OR ITS DESIGNATED REPRESENTATIVE.
- ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY, THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED, AND THAT HE IS PROPERLY LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
- STRUCTURE IS DESIGNED IN ACCORDANCE WITH AWS/D14/214-222-G, 2005, FOR A 90 MPH 3-SECOND GUST WIND LOAD. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2003 EDITION.
- WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE, 2003 EDITION.
- UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.
- ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERSEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.
- IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR THE DOWNING THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
- ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN LIEU OF FIELD VERIFICATIONS. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. DISCREPANCIES MUST BE CORRECTED BEFORE PROCEEDING WITH THE WORK. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE PROCEDURES.
- ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS, AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING, AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROTECTIVE MEASURES THROUGHOUT THE CONSTRUCTION. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE, AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.
- ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS, WITH THE RESIDENT LEASING AGENT FOR APPROVAL.
- BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO BIDDING AND/OR ORDERING MATERIALS.
- ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
- 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
- THE CONTRACTOR SHALL REMOVED (ORX, SCARFY, ETC.) ALL MATERIAL NOT SUITABLE FOR SUBGRADE IN ITS PRESENT STATE AFTER REMOVING, IF THE MATERIAL REMAINS UNSUITABLE. THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SUBGRADES SHALL BE PROGRAMMED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFTER MATERIAL SHALL BE REMOVED OR REPLACED.
- THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PROPS, BRACES, AND OTHER BRACED STRUCTURES FREE FROM CONSTRUCTION UNTIL WORK IS ACCEPTED BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
- ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
- THE OWNER SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.

### STRUCTURAL STEEL NOTES:

- THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
- UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
  - STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A572, GR50.
  - ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
  - ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
  - ALL WASHERS, ASTM F436 HARDENED STEEL WASHERS.
- ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
- HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
- HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED. AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM, A133/A133M OR ASTM A653/A653M, G90, AS APPLICABLE.
- REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REMOVE SLUG FROM REPAIR AREA. REPAIRS TO METALS, METALS IN STICK OR PASTE, SPREAD WOLVEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIRE OFF EXCESS MATERIAL.
- A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
- ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
- ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS DEFINED IN SECTION 8.11 OF THE AISC SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, DATED JUNE 30, 2004.
- FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
- DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THIS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO DRINK AND SNAP OFF.
- PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE UP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
- GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
- WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PLANS PREPARED FOR:



2550 DENALI ST, SUITE 1000  
ANCHORAGE, AK 99503

PLANS PREPARED FOR:



2550 DENALI ST, SUITE 1000  
ANCHORAGE, AK 99503

PROJECT INFORMATION:

### WOLVERINE LANE

1816 WOLVERINE LANE  
FAIRBANKS, AK  
(FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
5545 WEST 56TH AVE, UNIT E  
ARVADA, CO 80002  
OFFICE: (303) 666-9814  
www.towereng.com

SEAL:

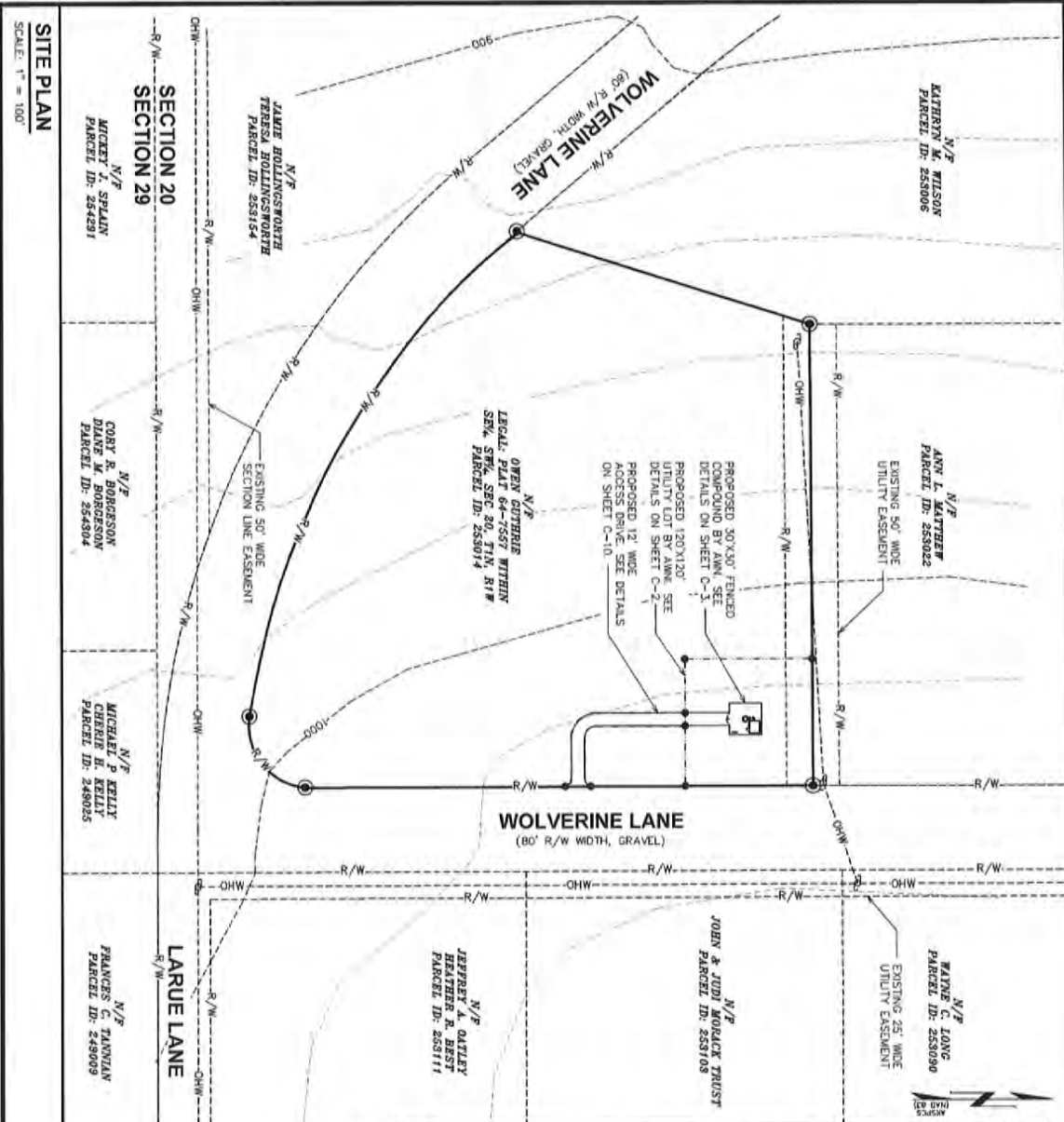


1	1/12/15	CONSTRUCTION
0	01-09-15	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: CES CHECKED BY: MJC  
SHEET TITLE:

### GENERAL NOTES

SHEET NUMBER:	REVISION:
<b>N-1</b>	1
TEP # 508-00-20-07	



### SITE COORDINATES

LATITUDE: N 64° 53' 37.798" (NAD 83)  
 LONGITUDE: W 147° 48' 4.5" (NAD 83)

### LEGEND

- PARENT PROPERTY LINE
- - - ADJACENT PROPERTY LINE
- EASEMENT BOUNDARY CORNER
- ⊙ EXIST. METER
- ⊕ EXIST. TRANSFORMER
- ⊖ EXIST. UTILITY POLE
- ⊠ EXIST. TELCO PEDESTAL
- ⊡ SECTION CORNER
- ⊙ PROPERTY CORNER
- EXIST. CONTOUR LINE
- OVERHEAD WIRE
- R/W --- RIGHT-OF-WAY
- - - CHAIN LINK FENCE
- ~ ~ ~ EXISTING TREE LINE
- ~ ~ ~ PROPOSED TREE LINE

### SITE NOTES:

1. THE BASIS OF THE METRONS AND COORDINATES FOR THIS PLAN IS THE NATIONAL GRID SYSTEM, NORTH AMERICAN DATUM 1983 (NAD83).
2. VERTICAL INFORMATION SHOWN, BASED ON THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD 88) IN FEET.
3. ALL DISTANCES ARE GROUND UNLESS OTHERWISE NOTED.
4. THE TOWER IS LOCATED IN AREA OF THE NEARBY NEARBY REGION, MAP REFERENCE DATED MARCH 17, 2014 SHOWS NEARBY REGION.

PLANS PREPARED FOR:

2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:

2550 DENALI ST., SUITE 1000  
 ANCHORAGE, AK 99503

PROJECT INFORMATION:

**WOLVERINE LANE**  
 1616 WOLVERINE LANE  
 FAIRBANKS, AK  
 (FAIRBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:

**TOWER ENGINEERING PROFESSIONALS**  
 5545 WEST 56TH AVE. UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 556-9914  
 WWW.TOWERENG.COM

SEAL:

Andrew T. Haddad  
 No. 12742  
 State of Alaska  
 expires 12/31/2015

REV	DATE	ISSUED FOR
1	1-13-15	CONSTRUCTION
0	01-05-15	PRELIMINARY

DRAWN BY: CES CHECKED BY: TMLG

SHEET TITLE:

**SITE PLAN**

SHEET NUMBER: **C-1** REVISION: **1**

TEP #559605-2015T

SCALE: 1" = 100'

SCALE: 1" = 100'

SCALE: 1" = 100'

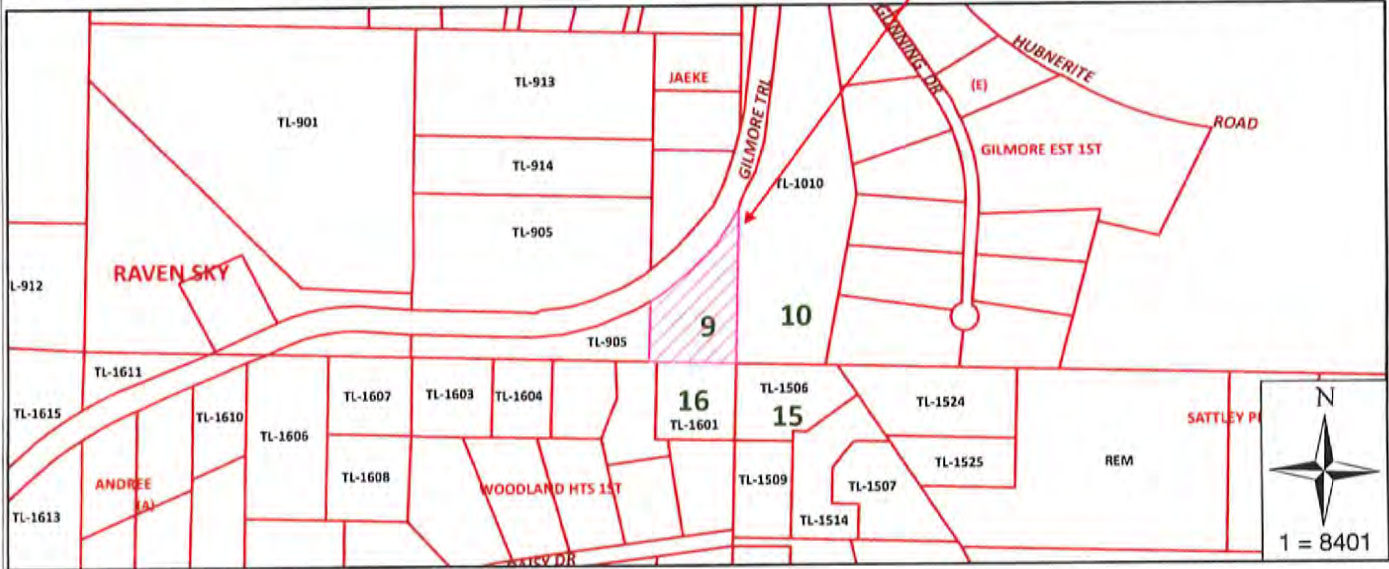




# Fairbanks North Star Borough

## All Data Report

PAN# 0594653  
Printed on: 06/04/2015



### Property Information for PAN#: 0594653

PROPERTY DESCRIPTION: JAEKE PROPERTY, LOT: 01  
 OWNER: Jaeke Derrell D [ownership], Jaeke Sharon L [co-owner]  
 BILLING ADDRESS: 1392 Gilmore Trl Fairbanks, AK 99712 2107  
 SITUS ADDRESS: 1392 Gilmore Trl, 1398 Gilmore Trl  
 PARCEL SIZE: 3.227 AC  
 NEIGHBORHOOD: Chena Hot Springs Hills (0601)  
 LAND CLASS: General Residential  
 PRIMARY USE: Residential  
 FLOOD ZONE: X (100%)  
 SPECIAL REG. AREAS: None  
 ZONING: RE-2 (100%)  
 COMP PLAN: Outskirt Area (100%), Outskirt Boundary (100%), Preferred Residential Land (96%)  
 PLANNING DISTRICT: Steele Creek (100%)  
 ROAD DISTRICT: N/A  
 URBAN BOUNDARY (2003): NO  
 ROAD SERVICE AREA: None  
 EMS RESPONSE AGENCY: Steese Area Volunteer Fire Department (100%)  
 FIRE SERVICE AREA: Steese (100%)  
 FIRE RESPONSE AGENCY: Steese Area Volunteer Fire Department (100%)  
 FIRE SERVICE (Property DB): Steese Vol Fire S A  
 STRUCTURES: SFR (1 Unit)  
 BUSINESS ON SITE: N/A  
 MILL GROUP: Steese Volunteer Fire Service Area (0937) (Est. Mill Rate: 14.39)  
 PLAT NUMBER: nothing (\_\_\_none)  
 DESCRIPTION (VAULT): LOT 1 JAEKE PROPERTY  
 Waiver 001-84 7/19/1984  
 Previously assessed as 1N 1E 09 906  
 COMMUNITY PLANNING PERMITS: NONE

### Assessment History

Year	Land	Improvements	Total
2015	\$40,265	\$157,476	\$197,741
2014	\$40,265	\$158,460	\$198,725
2013	\$40,265	\$159,443	\$199,708
2012	\$35,069	\$169,829	\$204,898
2011	\$35,069	\$156,477	\$191,546

Photo Date: 06, 2010 Photo No: 00



The Fairbanks North Star Borough does not warrant the accuracy of maps or data provided, nor their suitability for any particular application. There may be errors in the data.

PLANS PREPARED BY:



**TOWER ENGINEERING PROFESSIONALS**  
5545 W. 58TH AVE. UNIT E  
ARVADA, CO 80002  
OFFICE: (303) 566-9914  
www.tepgroup.net

7	03-30-15	CONSTRUCTION
6	03-17-15	PRELIMINARY
5	03-16-15	PRELIMINARY
4	03-09-15	PRELIMINARY
3	02-09-15	PRELIMINARY
2	01-23-15	PRELIMINARY
1	01-09-15	PRELIMINARY
0	12-16-14	PRELIMINARY
REV	DATE	ISSUED FOR:

DRAWN BY: TJS    CHECKED BY: WAC



SEAL:

March 30, 2015

SHEET NUMBER: **T-1**    REVISION: 7

TEP #SS014.27003

PLANS PREPARED FOR:



2550 DENALI ST., SUITE 1000  
ANCHORAGE, AK 99503  
OFFICE: (800) 770-7886

PLANS PREPARED BY:

**TOWER ENGINEERING PROFESSIONALS**  
5545 W. 58TH AVE. UNIT E  
ARVADA, CO 80002  
OFFICE: (303) 566-9914  
www.tepgroup.net

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E-100	ELECTRICAL OVERALL SITE PLAN	-
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E-102	COMM SHELTER - INTERIOR ELEVATIONS	-
E-103	COMM SHELTER - EXTERIOR ELEVATIONS	-
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EG-100	GROUNDING PLAN AND DETAILS	-
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EG-102	GROUNDING SITE DETAILS	-
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PROJECT INFORMATION:



**MARSHCREEK**

**SITE NAME: GILMORE TRAIL**

**1392 GILMORE TRAIL  
FAIRBANKS, AK 99712**

**(FAIRBANKS NORTH STAR BOROUGH)**

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE FOLLOWING:

- INTERNATIONAL BUILDING CODE (2009 EDITION)
- LOCAL TITLES OF THE CODE COUNCIL
- AUSTRIAN-222.0
- ALASKA ADMINISTRATIVE

**CODE COMPLIANCE**

UTILITIES: GVEA - GOLDEN VALLEY ELECTRIC ASSOCIATION  
CONTACT: (907) 452-1151  
METER # NEAR SITE: TBD

PHONE COMPANY: UNKNOWN  
CONTACT: UNKNOWN  
PHONE: UNKNOWN  
METER # NEAR SITE: UNKNOWN

**TOWER OWNER:**  
GENERAL COMMUNICATION INC.  
2550 DENALI ST., SUITE 1000  
ANCHORAGE, AK 99503  
CONTACT: (800) 770-7886

**SITE PROJECT MANAGER:**  
MARKY CRITIKAL LLC  
1000 SCHMALLE  
ANCHORAGE, AK 99507  
CONTACT: (907) 343-6300

**CIVIL ENGINEER:**  
TOWER ENGINEERING PROFESSIONALS  
326 TRYON ROAD  
ANCHORAGE, AK 99503  
CONTACT: (918) 661-6391

**ELECTRICAL ENGINEER:**  
O. ELLIOTT, INC.  
700 W INT. AIRPORT RD., SITE 201  
ANCHORAGE, AK 99523  
CONTACT: (907) 289-4194

**ORIGINAL SURVEYOR:**  
ACUTEK GEOMATICS  
5099 E. BLUE LUPINE DR.  
WASILLA, AK  
CONTACT: TERRY L. NIICOODEMUS  
PHONE: (907) 376-8800

**LAND OWNER:**  
BERRELL D. & SHARON L. JAENE  
1392 GILMORE TRAIL  
FAIRBANKS, AK 99712

**CONTACT INFORMATION**

**SITE NAME:** GILMORE TRAIL

**PROJECT DESCRIPTION:** NEW SITE BUILD

**TOWER TYPE:** 119' MONOPOLE

**SITE ADDRESS:** 1392 GILMORE TRAIL  
(6911 ADDRESS TBD) FAIRBANKS, AK 99712  
(FAIRBANKS NORTH STAR BOROUGH)

**JURISDICTION:** FAIRBANKS NORTH STAR BOROUGH

**AREA OF CONSTRUCTION:** 960 SQ. FEET

**LEGAL DESCRIPTION:** T1N, R1E, S9 FAIRBANKS MERIDIAN

**PARCEL ID#:** 594653

**PROJECT INFORMATION**

**LATITUDE:** N 64° 55' 20.64" (NAD '83)  
**LONGITUDE:** W 147° 32' 31.8" (NAD '83)  
**GROUND ELEVATION:** 1553 FEET (NAD '89)"

\* INFORMATION OBTAINED FROM RFDS DATED 08-28-14.  
\*\* INFORMATION OBTAINED FROM GOOGLE EARTH.



**LOCATION MAP**

FROM FAIRBANKS, AK: TRAVEL NORTHEAST ON AK-2 FOR APPROXIMATELY 5 MILES. TURN RIGHT ONTO STEELE CREEK RD AND TRAVEL 0.1 MI. TAKE THE 1ST LEFT ONTO GILMORE TRAIL AND TRAVEL 1.9 MI. SITE WILL BE ON THE RIGHT JUST AFTER GREAT VIEW LN.

**DRIVING DIRECTIONS**

**GENERAL NOTES:**

1. ALL REFERENCES TO OWNER IN THESE DOCUMENTS SHALL BE CONSIDERED GC, OR ITS DESIGNATED REPRESENTATIVE.
2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED BY THE CONTRACTOR UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN THE TYPE OF WORK TO BE PERFORMED. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ACCURACY OF ALL INFORMATION AND DATA PROVIDED TO HIM. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, LICENSES AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
3. STRUCTURE IS DESIGNED IN ACCORDANCE WITH ANSI/AIA/SEA-222-G, 2005, FOR A 90 MPH 1-SECOND GUST WIND LOAD. THIS CONFORMS TO THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 2009 EDITION.
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7. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF TEMPORARY BRACING, GUYS OR THE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER THE COMPLETION OF THE PROJECT.
8. ALL DIMENSIONS, ELEVATIONS, AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. THE CONTRACTOR SHALL NOT SCALE CONTRACT DRAWINGS IN FIELD VERIFICATIONS. ANY DISCREPANCIES MUST BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE CONSTRUCTION. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS, LICENSES AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE OF ALASKA.
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12. BILL OF MATERIALS AND PART NUMBERS LISTED ON CONSTRUCTION DRAWINGS ARE INTENDED TO AID CONTRACTOR. CONTRACTOR SHALL VERIFY PARTS AND QUANTITIES WITH MANUFACTURER PRIOR TO ORDERING MATERIALS.
13. ALL PERMITS THAT MUST BE OBTAINED ARE THE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR WILL BE RESPONSIBLE FOR ASKING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS.
14. 24 HOURS PRIOR TO THE BEGINNING OF ANY CONSTRUCTION, THE CONTRACTOR MUST NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY OR CITY) ENGINEER.
15. THE CONTRACTOR SHALL REMOY (OR SCARY, ETC.) ALL MATERIAL NOT SUITABLE FOR STORAGE IN ITS PRESENT STATE AFTER REMOVAL. IF THE MATERIAL REMAINS UNSUITABLE, THE CONTRACTOR SHALL UNLOAD THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL. ALL SIBERIAN SHALL BE PROTECTED WITH A FULLY LOADED TANKED DUMP TRUCK PRIOR TO PAVING. ANY SPILLER MATERIAL SHALL BE REWORKED OR REPLACED.
16. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL PILES, DORIES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURE IN OPERABLE CONDITION.
17. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE YEAR FROM ACCEPTANCE DATE.
18. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHILE WORK IS BEING PERFORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR GOVERNING AGENCY INSPECTIONS.

**STRUCTURAL STEEL NOTES:**

1. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AISC SPECIFICATIONS AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
2. UNLESS OTHERWISE NOTED, ALL STRUCTURAL ELEMENTS SHALL CONFORM TO THE FOLLOWING REQUIREMENTS:
  - A. STRUCTURAL STEEL, ASTM DESIGNATION A36 OR A992 GR50.
  - B. ALL BOLTS, ASTM A325 TYPE I GALVANIZED HIGH STRENGTH BOLTS.
  - C. ALL NUTS, ASTM A563 CARBON AND ALLOY STEEL NUTS.
  - D. ALL WASHERS, ASTM F436 HARBDED STEEL WASHERS.
3. ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH AISC SPECIFICATION AND MANUAL OF STEEL CONSTRUCTION, 13TH EDITION.
4. HOLES SHALL NOT BE FLAME CUT THRU STEEL UNLESS APPROVED BY THE ENGINEER.
5. HOT-DIP GALVANIZE ALL ITEMS UNLESS OTHERWISE NOTED AFTER FABRICATION WHERE PRACTICABLE. GALVANIZING: ASTM A123, ASTM A153/A153M OR ASTM A553/A553M, 99Q, AS APPLICABLE.
6. REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A790 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED AND REPAIR TO BE IDENTIFIED TO THE ENGINEER. THE REPAIR SHALL BE IDENTIFIED TO MEET THE DETAILS IN SECTION OF PASTEL SPREAD MOLDED UNIFORM OVER SURFACES TO BE COATED AND WIRE OFF EXCESS MATERIAL.
7. A NUT LOCKING DEVICE SHALL BE INSTALLED ON ALL PROPOSED AND/OR REPLACED BOLTS.
8. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH TO EXCLUDE THE THREADS FROM THE SHEAR PLANE.
9. ALL PROPOSED AND/OR REPLACED BOLTS SHALL BE OF SUFFICIENT LENGTH SUCH THAT THE END OF THE BOLT BE AT LEAST FLUSH WITH THE FACE OF THE NUT. IT IS NOT PERMITTED FOR THE BOLT END TO BE BELOW THE FACE OF THE NUT AFTER TIGHTENING IS COMPLETED.
10. ALL ASSEMBLY BOLTS ARE TO BE TIGHTENED TO A "SNUG TIGHT" CONDITION AS OPENED IN SECTION. 8.1 OF THE AISC, SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS, DATED JUNE 30, 2004.
11. FLAT WASHERS ARE TO BE INSTALLED WITH BOLTS OVER SLOTTED HOLES.
12. DO NOT OVER TORQUE ASSEMBLY BOLTS. GALVANIZING ON BOLTS, NUTS, AND STEEL PARTS MAY ACT AS A LUBRICANT, THIS OVER TIGHTENING MAY OCCUR AND MAY CAUSE BOLTS TO CRACK AND SNAP OFF.
13. PAL NUTS ARE TO BE INSTALLED AFTER NUTS ARE TIGHT AND WITH EDGE UP OUT. PAL NUTS ARE NOT REQUIRED WHEN SELF-LOCKING NUTS ARE PROVIDED.
14. GALVANIZED ASTM A325 BOLTS SHALL NOT BE REUSED.
15. WELDING SHALL BE PERFORMED IN ACCORDANCE WITH AMERICAN WELDING SOCIETY (AWS) D1.1-2010 STRUCTURAL WELDING CODE - STEEL.

PLANS PREPARED FOR:



2550 DENALI ST. SUITE 1000  
ANCHORAGE, AK 99503

PLANS PREPARED FOR:



2000 E. 98TH AVENUE  
ANCHORAGE, AK 99507

PROJECT INFORMATION:

**GILMORE TRAIL**

1392 GILMORE TRAIL  
FARMBANKS, AK 99712  
(FARMBANKS NORTH STAR BOROUGH)

PLANS PREPARED BY:



**TORNER ENGINEERING PROFESSIONALS**

5545 W. 58TH AVE. UNIT E  
ARVADA, CO 80002  
OFFICE: (303) 556-9914  
www.torner.com



STATE OF ALASKA  
Professional Engineer  
No. 10000  
Exp. 12/31/2013

7	03-30-13	CONSTRUCTION
6	03-17-13	PERMITS/ISSUE
REV	DATE	ISSUED FOR
DRAWN BY:	TJS	CHECKED BY:
SHEET TITLE:		
<b>GENERAL NOTES</b>		

SHEET NUMBER:	REVISION:
<b>N-1</b>	7
TIP #58014.071003	

PLANS PREPARED FOR:  
  
 2550 DENALI ST. SUITE 1000  
 ANCHORAGE, AK 99503

PLANS PREPARED FOR:  
  
 2000 E. 88TH AVENUE  
 ANCHORAGE, AK 99507

PROJECT INFORMATION:  
**GILMORE TRAIL**  
 1392 GILMORE TRAIL  
 FAIRBANKS, AK 99712  
 (FAIRBANKS NORTH STAR BOROUGH)

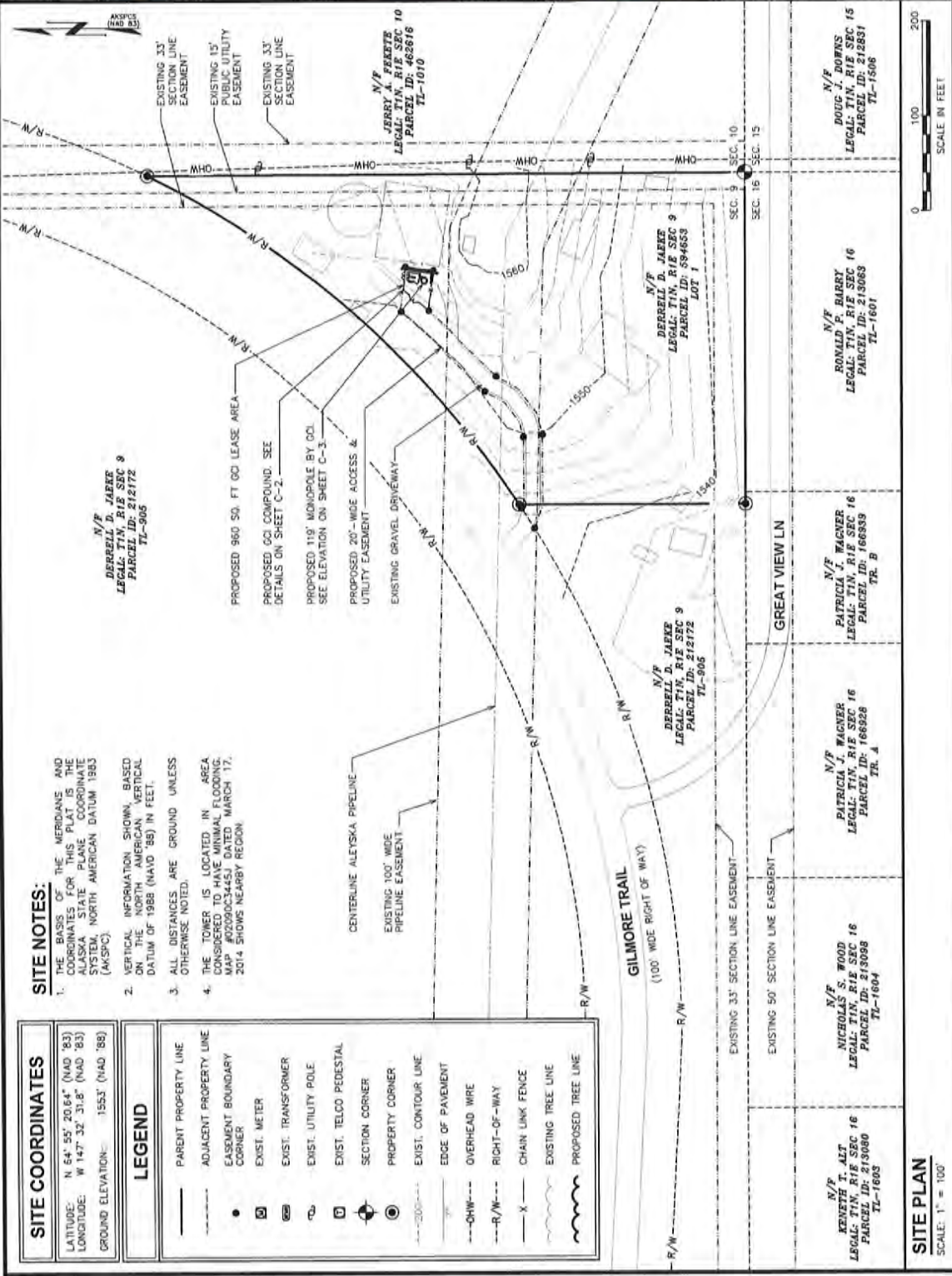
PLANS PREPARED BY:  
  
**TOWER ENGINEERING PROFESSIONALS**  
 5545 W. 36TH AVE., UNIT E  
 ARVADA, CO 80002  
 OFFICE: (303) 566-8914  
 WWW.TEPGROUP.COM



1	03-30-15	CONSTRUCTION
5	03-17-15	PRELIMINARY
REV	DATE	ISSUED FOR:
DRAWN BY: CS   CHECKED BY: HMC		

SHEET TITLE:  
**SITE PLAN**

SHEET NUMBER: **C-1**  
 REVISION: **7**  
 TEP #59014-27-003



**GCI CELL PHONE TOWER STUDY - SITE PHOTOS -  
TAKEN BY E. CHILTON HINES, MAI - JUNE 2, 2015**



**1616 WOLVERINE LANE - LOOKING SOUTHERLY ACROSS THE SITE - THE  
PROPOSED CELL PHONE TOWER WILL BE PLACED IN THIS VICINITY.**



**1616 WOLVERINE LANE - LOOKING NORTH ON WOLVERINE LANE - SITE LEFT.**

**GCI CELL PHONE TOWER STUDY - SITE PHOTOS -  
TAKEN BY E. CHILTON HINES, MAI - JUNE 2, 2015**



**1616 WOLVERINE LANE - LOOKING WESTERLY FROM WOLVERINE LANE AT  
PROPOSED (L-SHAPED) DRIVEWAY INTO THE SITE. THE CELL TOWER WILL  
BE PLACED OUT OF VIEW FROM THE STREET AND TO THE RIGHT.**



**1616 WOLVERINE LANE - LOOKING SOUTHERLY ON WOLVERINE LAND -  
SUBJECT AHEAD RIGHT.**

**GCI CELL PHONE TOWER STUDY - SITE PHOTOS -  
TAKEN BY E. CHILTON HINES, MAI - JUNE 2, 2015**



**1392 GILMORE TRAIL - LOOKING NORTH ON THE SITE TOWARD THE  
PROPOSED CELL TOWER LOCATION.**



**1392 GILMORE TRAIL - LOOKING NORTH ON GILMORE TRAIL - SUBJECT  
RIGHT AND ON TOP OF THE HILL, LEFT OF RESIDENCE.**

**GCI CELL PHONE TOWER STUDY - SITE PHOTOS -  
TAKEN BY E. CHILTON HINES, MAI - JUNE 2, 2015**



**1392 GILMORE TRAIL - LOOKING NORTH ON JAEKE SITE AT THE PROPOSED  
CELL TOWER LOCATION.**



**THIS CELL PHONE TOWER IS LOCATED SOUTH OF THE SUBJECT JAEKE  
PROPERTY ABOUT ¼ MILE±. IT WAS STATED BY BRYAN MARACLE OF GCI TO  
BE SOMEWHAT SIMILAR TO THE PROPOSED TOWER THAT WILL BE  
INSTALLED ON THE JAEKE PROPERTY.**



# Cellular Facilities

Existing and Proposed in FNSB

Existing Site - Awn Tower and Awn Permit Shelter  
Proposed 2015 Site - Awn Tower and Awn Permit Shelter  
Existing Tower Owned by Others - Awn Antennas and Awn Shelter Co-Location

Wolverine Lane

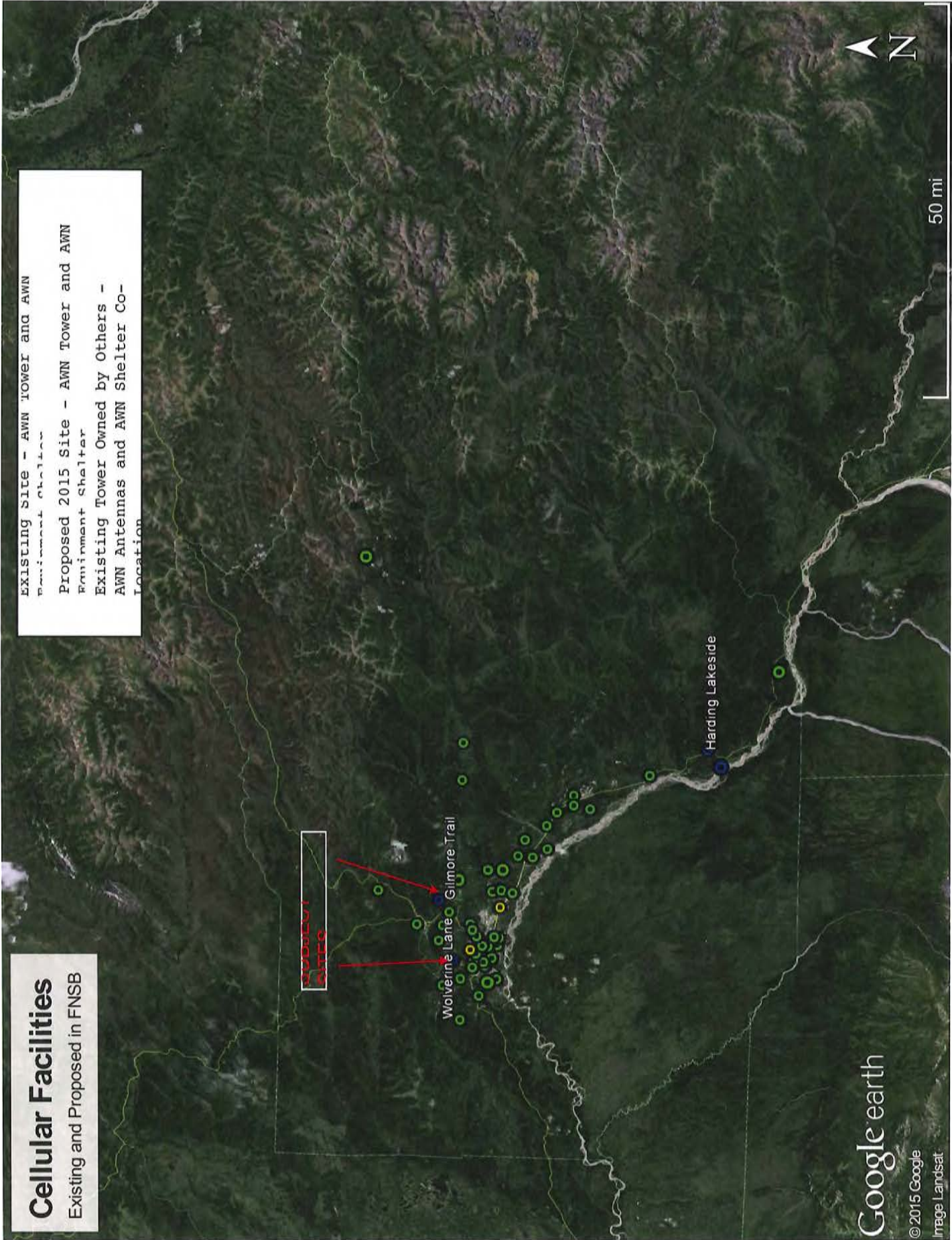
Gilmore Trail

Harding Lakeside

Google earth

© 2015 Google  
Image Landsat

50 mi



# Cellular Facilities

Existing and Proposed in FNSB

Existing Site - Awn Tower and Awn  
Equipment shelter  
Proposed 2015 Site - Awn Tower and Awn  
Equipment shelter  
Existing Tower Owned by Others - Awn  
Antennas and Awn Shelter Co-Location

**SUBJECT SITES**



# Cellular Facilities

Existing and Proposed in FNSB

EXISTING SITE - AWW TOWER and AWW  
PROPOSED 2015 SITE - AWW TOWER and AWW  
EXISTING TOWER OWNED BY OTHERS - AWW  
Antennas and AWW Equipment Shelter Co-

NEW GCI CELL PHONE TOWERS - RECENTLY INSTALLED





Harding Lakeside

Google earth

© 2015 Google  
Image Landsat

10 mi



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## Cellular Phone Towers

Cellular (cell) phones first became widely available in the United States in the 1990s, but since then their use has increased dramatically. The widespread use of cell phones has led to cell phone towers being placed in many communities. These towers, also called *base stations*, have electronic equipment and antennas that receive and transmit radiofrequency (RF) signals.

### How do cellular phone towers work?

Cell phone base stations may be free-standing towers or mounted on existing structures, such as trees, water tanks, or tall buildings. The antennas need to be high enough to adequately cover the area. Base stations are usually from 50-200 feet high.

Cell phones communicate with nearby cell towers mainly through radiofrequency (RF) waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. Like FM radio waves, microwaves, visible light, and heat, they are forms of non-ionizing radiation. This means they cannot cause cancer by directly damaging DNA. RF waves are different from stronger types of radiation such as x-rays, gamma rays, and ultraviolet (UV) light, which can break the chemical bonds in DNA.

At very high levels, RF waves can heat up body tissues. (This is the basis for how microwave ovens work.) But the levels of energy used by cell phones and towers are much lower.

When a person makes a cell phone call, a signal is sent from the phone's antenna to the nearest base station antenna. The base station responds to this signal by assigning it an available radiofrequency channel. RF waves transfer the voice information to the base station. The voice signals are then sent to a switching center, which transfers the call to its destination. Voice signals are then relayed back and forth during the call.

### How are people exposed to the energy from cellular phone towers?

As people use cell phones to make calls, signals are transmitted back and forth to the base station. The RF waves produced at the base station are given off into the environment, where people can be exposed to them.

The energy from a cellular phone tower antenna, like that of other telecommunication antennas, is directed toward the horizon (parallel to the ground), with some downward scatter. Base station antennas use higher power levels than other types of land-mobile antennas, but much lower levels than those from radio and television broadcast stations. The amount of energy decreases rapidly as the distance from the antenna increases. As a result, the level of exposure to radio waves at ground level is very low compared to the level close to the antenna.

Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly.

At ground level near typical cellular base stations, the amount of RF energy is thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.

When a cellular antenna is mounted on a roof, it is possible that a person on the roof could be exposed to RF levels greater than those typically encountered on the ground. But even then, exposure levels approaching or exceeding the FCC safety guidelines are only likely to be found very close to and directly in front of the antennas. If this is the case, access to these areas should be limited.

The level of RF energy inside buildings where a base station is mounted is typically much lower than the level outside, depending on the construction materials of the building. Wood or cement block reduces the exposure level of RF radiation by a factor of about 10. The energy level *behind* an antenna is hundreds to thousands of times lower than in front. Therefore, if an antenna is mounted on the side of a building, the exposure level in the room directly behind the wall is typically well below the recommended exposure limits.

### Do cellular phone towers cause cancer?

Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there is very little evidence to support this idea. In theory, there are some important points that would argue against cellular phone towers being able to cause cancer.

First, the energy level of radiofrequency (RF) waves is relatively low, especially when compared with the types of radiation that are known to increase cancer risk, such as gamma rays, x-rays, and ultraviolet (UV) light. The energy of RF waves given off by cell phone towers is not enough to break chemical bonds in DNA molecules, which is how these stronger forms of radiation may lead to cancer.

A second issue has to do with wavelength. RF waves have long wavelengths, which can only be concentrated to about an inch or two in size. This makes it unlikely that the energy from RF waves could be concentrated enough to affect individual cells in the body.

Third, even if RF waves were somehow able to affect cells in the body at higher doses, the level of RF waves present at ground level is very low – well below the recommended limits. Levels of energy from RF waves near cell phone towers are not significantly different from the background levels of RF radiation in urban areas from other sources, such as radio and television broadcast stations.

For these reasons, most scientists agree that cell phone antennas or towers are unlikely to cause cancer.

### Studies in people

Very few human studies have focused specifically on cellular phone towers and cancer risk.

In one large study, British researchers compared a group of more than 1,000 families of young children with cancer against a similar group of families of children without cancer. They found no link between a mother's exposure to the

towers during pregnancy (based on the distance from the home to the nearest tower and on the amount of energy given off by nearby towers) and the risk of early childhood cancer.

In another study, researchers compared a group of more than 2,600 children with cancer to a group of similar children without cancer. They found that those who lived in a town that could have exposed them to higher than average RF radiation from cellular phone towers in the previous 5 years had a slightly higher risk of cancer, although not of any certain type of cancer (like leukemia or brain tumors). This study estimated the children's possible exposure based on the number of towers in their town and how strong the signals were from the towers. It did not look at actual exposure of any individual child based on how far their home or school was from a tower. This limitation reduces confidence in the results of the study.

One study looked for signs of DNA and cell damage in blood cells as a possible indicator of cancer-causing potential. They found that the damage was no worse in people who lived near a cell phone tower as compared with those didn't.

The amount of exposure from living near a cell phone tower is typically many times lower than the exposure from using a cell phone. About 30 studies have looked at possible links between cell phone use and tumors in people. Most studies to date have not found a link between cell phone use and the development of tumors, although these studies have had some important limitations. This is an area of active research. For more information, see the document,

[Cellular Phones](#)

### Studies done in the lab

Laboratory studies have looked at whether the types of RF waves used in cell phone communication can cause DNA damage. Most of these studies have supported the idea that the RF waves given off by cell phones and towers don't have enough energy to damage DNA directly.

Some scientists have reported that the RF waves may produce other effects in human cells (in lab dishes) that might possibly help tumors grow. However, these studies have not been verified, and these effects weren't seen in a study that looked at the blood cells from people living near a cellular phone tower.

Several studies in rats and mice have looked at whether RF energy might promote the development of tumors caused by other known carcinogens (cancer-causing agents). **These studies did not find evidence of tumor promotion.** Research in this area continues.

### What expert agencies say

#### About cell phone towers

The 3 expert agencies that usually classify cancer-causing exposures (carcinogens) – the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and the US Environmental Protection Agency (EPA) – have not classified cell phone towers as to their cancer-causing potential.

The US Federal Communications Commission (FCC) has said this about cell phone towers near homes or schools:

"Radiofrequency emissions from antennas used for cellular and PCS [personal communications service] transmissions result in exposure levels on the ground that are typically thousands of times below safety limits. These safety limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety. Therefore, there is no reason to believe that such towers could constitute a potential health hazard to nearby residents or students."

#### About RF radiation

Some of the agencies that classify cancer-causing exposures have, however, made statements about radiofrequency radiation.

The International Agency for Research on Cancer (IARC) has classified RF fields as "possibly carcinogenic to humans," based on limited evidence of a possible increase in risk for brain tumors among cell phone users, and inadequate evidence for other types of cancer. (For more information on the IARC classification system, see our document, [Known and Probable Human Carcinogens](#).) IARC also noted that exposure to the brain from RF fields from cell phone base stations (mounted on roofs or towers) is less than 1/100<sup>th</sup> the exposure to the brain from mobile devices such as cell phones.

The Environmental Protection Agency (EPA) states:

At very high levels, RF energy is dangerous. It can heat the body's tissues rapidly. However, such high levels are found only near certain equipment, such as powerful long-distance transmitters. Cellphones and wireless networks produce RF, but not at levels that cause significant heating. In addition, RF energy decreases quickly over distance. At ground level, exposure to RF from sources like cellphone towers is usually very low.

Some people are concerned about potential health effects, especially on the developing brains and bodies of children. Some studies suggest that heavy long-term use of cellphones could have health effects. Other studies don't find any health effects from cellphone use. Long-term studies on animals exposed to the RF found in wireless networks (Wi-Fi) have, so far, found no health effects. Scientists continue to study the effects of long-term exposure to low levels of RF.

### Can I limit my exposure?

Cell phone towers are not known to cause any health effects. But if you are concerned about possible exposure from a cell phone tower near your home or office, you can ask a government agency or private firm to measure the RF field strength near the tower (where a person could be exposed) to ensure that it is within the acceptable range.

### What should I do if I've been exposed to cellular phone towers?

There is no test to measure whether you have been exposed to RF radiation from cellular phone towers. But as noted above, most researchers and regulatory authorities do not believe that cell phone towers pose health risks under ordinary conditions. If you have additional health concerns, you might want to talk with your doctor.

## Additional resources

### More information from your American Cancer Society

The following related information may also be helpful to you. These materials may be viewed on our Web site or ordered from our toll-free number, at 1-800-227-2345.

[Cellular Phones](#)

[Does This Cause Cancer?](#)

[Known and Probable Human Carcinogens](#)

[Microwaves, Radio Waves, and Other Types of Radiofrequency Radiation](#)

### National organizations and Web sites\*

In addition to the American Cancer Society, other sources of information and support include:

#### Environmental Protection Agency

Home page: [www.epa.gov](http://www.epa.gov)

Understanding radiation: [www.epa.gov/radiation/understanding-radiation-overview.html](http://www.epa.gov/radiation/understanding-radiation-overview.html)

#### Federal Communications Commission

RF Safety Program, Office of Engineering and Technology

Web site: [www.fcc.gov/oet/rfsafety](http://www.fcc.gov/oet/rfsafety)

#### Food and Drug Administration

Home page: [www.fda.gov](http://www.fda.gov)

Radiation-emitting products: Cell phones: [www.fda.gov/Radiation-](http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm)

[EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm](http://www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm)

#### National Cancer Institute

Toll-free number: 1-800-422-6237 (1-800-4-CANCER)

Home page: [www.cancer.gov](http://www.cancer.gov)

Cellular telephone use and cancer risk: [www.cancer.gov/cancertopics/factsheet/Risk/cellphones](http://www.cancer.gov/cancertopics/factsheet/Risk/cellphones)

#### National Institute of Environmental Health Sciences

Home page: [www.niehs.nih.gov](http://www.niehs.nih.gov)

Electric and magnetic fields: [www.niehs.nih.gov/health/topics/agents/emfi/index.cfm](http://www.niehs.nih.gov/health/topics/agents/emfi/index.cfm)

## STANDARD (GENERAL) ASSUMPTIONS AND LIMITING CONDITIONS

(General - Other Specific Assumptions May Be Found in the  
Appraisal Report)

All appraisals are made subject to certain assumptions and limiting conditions. Except where expressly stated to the contrary, the following Assumptions and Limiting Conditions are governing upon this report.

1. No legal questions are considered, such as titles, encumbrances, etc. The property is appraised as though free and clear and is assumed to have good and marketable title.
2. All dimensions and legal descriptions are assumed to be correct as found through available records, building plans, and the on-ground inspection.
3. All information as found in data furnished is considered reliable. If any errors are found, the right is reserved to modify the conclusions reached.
4. Where the value of the land and the improvements are shown separately, the value of each is segregated only as an aid to better estimate the value of the whole; the value shown for either may or may not be its correct Market Value.
5. While various "approaches to value" and various mathematical calculations have been used in estimating value, these are but aids to the formulation of the opinion of value expressed by the appraiser in this report. In these calculations, certain arithmetical figures are rounded off to the nearest significant amount.
6. The data and conclusions contained in this appraisal are a part of the whole valuation. No part of this appraisal is to be used out of context, and by itself alone; no part of this appraisal is necessarily correct, as being only part of the evidence upon which the final judgement as to value is based.
7. Employment to make this appraisal does not require testimony or appearance in court without previous arrangements, and only when my standard per diem fees and travel costs are paid in advance.
8. Disclosure of the contents of this appraisal report is governed by the By-Laws and Regulations of the Appraisal Institute.



9. Neither all nor any part of the contents of this report, or copy thereof...shall be used for any purposes by anyone but the client specified in the report, the borrower if appraisal fee paid by same, the mortgagee or its successors or assigns,...without the previous written consent of the appraiser. Furthermore, the stated conclusions as to value, the identity of the appraiser or the firm with which he is connected, nor any reference to the Appraisal Institute or the MAI or SRA designations) shall be disseminated to the public through advertising media, public relations media, news media, sales media, or any other public means of communication without the prior written consent and approval of the appraiser.
10. New tax laws are frequently passed by the U. S. Congress. Their effect may not be known for some years into the future. It is anticipated that recent legislation will have an effect on local real estate values but the exact effect(s) on the markets in general, and on the subject property in particular, is not known at this time.
11. The forecasts included in this appraisal are used to assist in the valuation process and are based on current market conditions, anticipated short-term supply and demand factors, and my "best guess" as to the future condition and direction of the local economy and real estate market. These forecasts are, therefore, subject to changes in future conditions, which cannot be accurately predicted by the appraiser and could affect the future income and/or value forecasts. Forecasts of income and expenses, including the reversion at the time of resale, are not predictions of the future. Rather they are the best estimate of current market thinking of what future trends will be. No warranty or representation is made that these forecasts will materialize. The real estate market is constantly changing and fluctuating. It is not the task of the appraiser to estimate the conditions of a future real estate market, but rather to reflect what the investment community envisions for the future in terms of expectations of growth in rental rates, expenses, and supply and demand.
12. It is assumed that at no time past or present has the subject itself been contaminated by noxious chemicals or toxic waste of any kind (including asbestos, leaky underground fuel or other storage tanks, etc.). Unless otherwise stated in this report, the existence of hazardous chemicals or material, which may or may not be present, were not observed by the appraiser. The appraiser has no knowledge of the existence of such chemicals or materials on or in the property. The appraiser, however, is not qualified to detect such substances, chemicals, or materials. The presence of substances such as asbestos, urea-formaldehyde foam insulation, radon, PCB's or other potentially hazardous materials or gases may affect the value of the subject property. The value estimate set forth in this appraisal report is predicated upon

the assumption that there is no such material on or in the property that would cause a loss in value. No responsibility is assumed for any such conditions, or for any expertise or engineering knowledge required to discover them. The client is urged to retain an expert in this field, if desired.

13. It is assumed that no asbestos products (harmful or otherwise) have been incorporated into the construction of the subject building. No contingency has been made in this appraisal report for asbestos removal or abatement.
14. The quality on a property's on-site management has a direct effect on its economic viability and Market Value. The financial forecasts in this appraisal assume both responsible ownership and competent management. Any variance from this assumption may have a significant impact on the forecasted operating results and value estimate.
15. It is assumed that there are no hidden or unapparent conditions of the property, subsoil, or structures that render it more or less valuable. No responsibility is assumed for such conditions or for arranging for engineering studies that may be required to discover them.
16. All engineering is assumed to be correct. The plot plans and illustrative material in this report are included only to assist the reader in visualizing the property. No survey of the subject property was made available and no responsibility is assumed in connection with such matters.
17. All information (including financial operating statements, estimates, and opinions) furnished by others is assumed to be correct and reliable. However, no warranty is given for its accuracy. No liability resulting from misinformation can be assumed by the appraiser.
18. It is assumed that there is full compliance with all applicable federal, state, and local environmental laws and regulations unless non-compliance is stated, defined, and considered in this report.
19. It is assumed that all applicable zoning and use regulations and restrictions have been complied with, unless a non-conformity has been stated, defined, and considered in this report.
20. It is assumed that all required licenses, certificates of occupancy, consents, or other legislative or administrative authority from any local, state, or national government or private entity or organization have been or can be obtained or renewed for any use on which the value estimate contained in this report is based.

21. It is assumed that the utilization of the land and improvements is within the boundaries or property lines of the property described and that there is no encroachment or trespass unless such is stated, defined, and considered in this report.
22. Appraising real estate is both an art and a science. Although this appraisal employs various mathematical calculations to provide value indications, the final estimate of value is subjective and may be influenced by the appraiser's experience and other factors not set forth in this appraisal.
23. It is agreed that the liability of the appraiser to the client is limited to the amount of the fee paid as liquidated damages. The appraiser's responsibility is limited to the client, and use of this appraisal by third parties shall be solely at the risk of the client and/or third parties. This appraisal may not be used or relied upon by anyone other than the client, for any purpose whatsoever, without the express written consent of the appraiser.
24. The appraiser takes no responsibility for any events, conditions, or circumstances affecting the subject property's Market Value that take place subsequent to either the date of value contained in this report, or the date of the field inspection, whichever occurs first.
25. All mortgages, liens, encumbrances, leases, and servitudes have been disregarded unless specified otherwise.
26. The subject property may or may not conform with the "Americans with Disabilities Act" that took effect 7/26/92. If the reader or user of this report desires detailed information regarding the subject's compliance or non-compliance with this act, I highly recommend that a qualified engineer or architect be employed.
27. Marketing/Exposure Times - marketing and exposure time are assumed to be approximately one (1) year unless otherwise stated and discussed in the appraisal report.
28. The appraisal which is the subject of this report represents an "estimate" (of Market Value or other defined conclusion or opinion) which is based upon various market/economic factors. Furthermore, the conclusions are the appraiser's interpretation of present and future market/economic conditions which are subject to change at any time. "Market Value" is typically expressed as a "single point estimate", but, in fact, is actually a "broad range of values", an expression of the appraiser's opinion.



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Fairbanks, Alaska 99707-1267  
(907) 459-1000**

# **COMMUNITY RESEARCH QUARTERLY**

**A Socio - Economic Review**



**Winter 2014**

**Volume XXXVII, No. 4**

# Construction forecast positive in short term with 3% dip

By Elwood Brehmer, Alaska Journal of Commerce

Published: 2015.01.29 01:51 PM

The state budget may be grim but Alaska's construction industry as a whole should have another good year, according to a University of Alaska Anchorage Institute of Social and Economic Research forecast.

The 2015 construction outlook predicts a total spend of more than \$8.5 billion statewide. That would be a 3 percent decline from the revised 2014 projection of \$8.8 billion worth of construction activity in Alaska.

"Our short-term outlook is positive," Associated General Contractors of Alaska Executive Director John MacKinnon said in a formal statement. "We've seen dips in the price of oil and dips in the economy before, and they both come back up. At this point in the cycle we don't know what the bottom will be or how long before it trends up; it will go back up."

MacKinnon also noted that there is typically a lag between when public money is appropriated and when it actually "hits the street" in the form concrete being poured or buildings going up, so prior year bonds and capital spends will undoubtedly have an impact in 2015.

ISER prepares the forecast for AGC of Alaska every year.

Employment in the industry is expected to dip slightly from the 17,600 jobs last year, which was a 6 percent increase over 2013. Those projections do not include self-employed contractors in Alaska, estimated to number 9,000 in 2011.

"Our annual forecast underscores the importance of the construction industry in Alaska. It's not just about the jobs and the economic value of the current construction projects — the one-time expenditures," MacKinnon said. "It's really about how what we build becomes a part of the ongoing economy of Alaska for years and often, generations."

Private spending is expected to be more than \$5.5 billion of the total and down about 6 percent. Leading the way per usual will be the oil and gas industry with about \$3.8 billion of work, a slight decline from 2014.

ConocoPhillips has several large oil projects on the Western North Slope and ExxonMobil is continuing work on its large Point Thomson gas development.

Forecast authors Scott Goldsmith and Pamela Cravez wrote that low oil prices have a greater impact on how much producers have in the bank than what they want to do because projects are planned based on conservative price models.

"Some of the largest operators in Alaska are quite strong financially, and others have funding sources not tied to the oil price. Furthermore, in Cook Inlet, activity is more sensitive to the price of natural gas than of oil, and the state, through its tax credit programs, has also provided a funding source not directly tied to the price of oil," they wrote. "Finally, the industry is under political pressure to show that the new state production tax, SB 21, has stimulated new investment."

At \$210 million, mining work is projected to be up 19 percent despite some lower metal prices. The state's six major producing mines have larger capital expenditures planned for the year, according to the report.

A subcategory that could go under public and private spending, utilities should spend about \$680 million this year, down 20 percent. That is due mainly to the completion of Matanuska Electric Association's Eklutna plant. The largest project left is Anchorage's Municipal Light and Power \$275 million replacement plant scheduled for completion in mid-2016.

Health care spending will be pretty steady, at \$240 million in the coming year, based on federally supported projects by Alaska Native health organizations. The Alaska Native Medical Center in Anchorage is building a 200-room patient housing facility.

Public sector spending should be about flat, at more than \$2.9 billion, according to Goldsmith and Cravez.

Residential construction is pegged to be down 14 percent at \$415 million. The activity continues to center on the Matanuska-Susitna Borough; however, land shortages in Anchorage, high heating costs in Fairbanks and overall stagnant economic and population growth will likely slow the construction segment.

Public sector spending should be about flat, at more than \$2.9 billion.

Work on transportation infrastructure — highways, airports, ports, and railroad — should be up slightly and total more than \$1.2 billion.

Defense spending, which includes U.S. Army Corps of Engineers environmental work along with military construction, should be \$435 million, up about 10 percent. Fort Greely is expected to get \$50 million for its missile defense program, a recent addition to the federal budget, the authors wrote.

Other federal spending, done largely by the Interior Department in Alaska, is expected to be off 15 percent to \$255 million.

*Elwood Brehmer can be reached at [elwood.brehmer@alaskajournal.com](mailto:elwood.brehmer@alaskajournal.com).*

# ECONOMY AT-A-GLANCE

Fairbanks North Star Borough

Economic Indicator	Current Data Period	One Period Ago % Change from	One Year Ago % Change from
Reporting Period	4th Qtr '14	3rd Qtr. '14	4th Qtr. '13
<b>BANKING</b>			
Total Bank Deposits (millions of \$)	\$1,105.7	2.8%	3.0%
Total Bank Loans (millions of \$)	\$668.9	0.9%	0.9%
<b>BANKRUPTCIES</b>			
Business	2	100.0%	0.0%
Non-Business	12	-40.0%	50.0%
<b>TRANSPORTATION</b>			
Fairbanks International Airport			
Incoming Freight (thousands of lbs.)	1,763	-23.8%	16.0%
Outgoing Freight (thousands of lbs.)	6,685	-29.3%	-7.5%
Transit Freight (thousands of lbs.)	154	-53.6%	-83.7%
Revenue Landings	5,193	-29.9%	3.7%
Incoming Passengers	99,229	-39.0%	2.5%
Outgoing Passengers	106,819	-34.8%	2.8%
Alaska Highway (statewide)			
Entering Passengers	7,022	-83.2%	-11.1%
Exiting Passengers	8,461	-82.2%	-3.3%
<b>EMPLOYMENT</b>			
Total Employment	39,100	-3.7%	-0.8%
Mining and Logging	1,600	-11.1%	-11.1%
Construction	2,600	-23.5%	0.0%
Manufacturing	500	-16.7%	0.0%
Trade/Transportation/Utilities.	8,300	-3.5%	1.2%
Information	500	0.0%	-16.7%
Financial Activities	1,300	0.0%	0.0%
Professional & Business Services	2,300	0.0%	-8.0%
Education & Health Services	5,400	0.0%	0.0%
Leisure & Hospitality	3,600	-21.7%	2.9%
Other Services	1,200	0.0%	0.0%
Government	11,700	6.4%	0.0%

NOTE: Employment numbers rounded to nearest 100.

## Fairbanks Economy at a Glance

(continued)  
Fairbanks North Star Borough

Economic Indicator	Current Data Period	One Period Ago	One Year Ago
Reporting Period (annual/by qtr.)			
<b>CONSTRUCTION</b>	Annual		
New Structures Annual Report (2013)	255	-	-23.4%
Reporting Period (annual/by qtr.)	4th Qtr. '14	3rd Qtr. '14	4th Qtr. '13
<b>REAL ESTATE</b>			
Single Family Houses			
Number Sold	289	-19.0%	70.8%
Average Price	\$223,477	-1.1%	10.2%
<b>RENTALS</b>			
Residential Rentals			
Rental Units Advertised	747	2.1%	5.7%
Average Rent (2 bdrm. apartment)	\$1,197	-0.2%	-3.2%
<b>POPULATION</b>			
FNSB (Census annual)**	100,436	-	0.0%
City of Fairbanks** (annual)	32,324	-	0.0%
City of North Pole** (annual)	2,214	-	0.0%
FNSB (DCCED annual)^	97,972	-	-1.7%
FNSB (ADOL annual)**	97,972	-	-1.7%
City of Fairbanks** (annual)	31,721	-	-1.5%
City of North Pole** (annual)	2,198	-	-0.5%

**SOURCE:** (1) U.S. Census Bureau, Population Division, July 1st estimates. 2013 Population Estimates. PEPANNRES Table: *Annual Estimates of the Resident Population for Counties of Alaska: April 1, 2010 to July 1, 2013*, also Table: *Annual Estimates of the Resident Population in Alaska: now known as \*Intercensal Estimates of the Resident Population for Incorporated Places and Minor Civil Divisions: April 1, 2000 to July 1, 2013*, May 2014. Geographic change notes defined at: <http://www.census.gov>.

(2) Alaska Department of Labor and Workforce Development, Research and Analysis Section; and US Census Bureau. *Alaska Population Estimates by Borough, Census Area, City and Census Designated Place (CDP), 2010-2014*, Vintage 2014, and *Alaska Population Estimates by Borough, Census Area, City and Census Designated Place (CDP), 2010-2014*, Vintage 2014. All numbers are based on 2010 Census geography. ADOL website: <http://laborstats.alaska.gov>, February 2015.

(3) Alaska Department of Commerce, Community and Economic Development (DCCED), Division of Community and Regional Affairs, 2014 Commissioner Certified Estimates, January 15, 2014. DCCED Certified numbers may vary from ADOL population estimates as a result of the Population Estimate Appeal process available to incorporated communities on a yearly basis, as well as annual revisions by ADOL. Once certified, DCCED numbers may be applied for two consecutive calendar years. ^ DCCED website: <http://www.commerce.state.ak.us/dca/commdb/CF/COMDB.htm>.

**NOTE:** The FNSB numbers include population for all communities within the Borough plus Fort Wainwright Army Base and Eielson Air Force Base.

\*\* U.S. Census and ADOL estimated numbers may be revised annually.



## Economic Indicators

### HOTEL/MOTEL ROOM RECEIPTS\*

Fairbanks North Star Borough  
2009-2014

Quarter	2009	2010	2011	2012	2013	2014	% Change 2013-14
1st	\$5,554,495	\$5,549,520	\$6,317,082	\$6,603,066	\$7,170,000	\$8,202,072	14.4%
2nd	\$11,750,227	\$14,817,922	\$13,757,533	\$14,464,988	\$14,031,111	\$14,523,111	3.5%
3rd	\$25,311,523	\$27,183,699	\$26,099,065	\$28,737,266	\$25,686,646	\$25,687,167	0.0%
4th	\$7,176,965	\$6,887,983	\$7,429,594	\$8,886,940	\$10,909,172	\$8,430,551	-22.7%
<b>Total</b>	<b>\$49,793,210</b>	<b>\$54,439,124</b>	<b>\$53,603,274</b>	<b>\$58,692,260</b>	<b>\$57,796,929</b>	<b>\$56,842,901</b>	

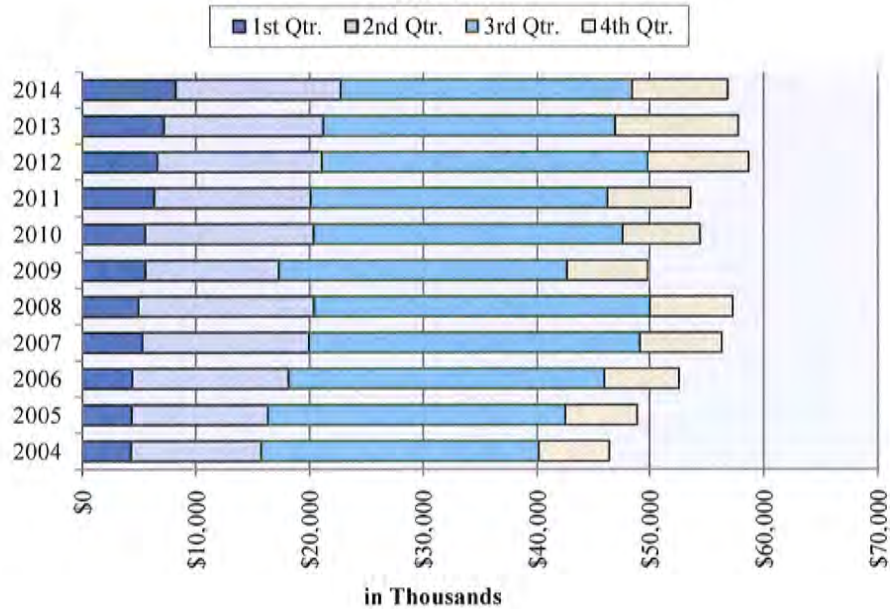
**SOURCE:** City of Fairbanks, Finance Dept.; City of North Pole, Finance Dept.; FNSB, Financial Services, personal communications, 2009-2014.

**NOTE:** Room receipt figures are based on hotel/motel bed tax which is 8%. Receipts are calculated on taxes paid. There is a time lag between collection and reporting of these taxes. Arctic Winter Games took place March 2014.

\* Due to accrual adjustments the current data will supersede previous figures reported.

### QUARTERLY HOTEL/MOTEL ROOM RECEIPTS

Fairbanks North Star Borough  
2004-2014



# QUALIFICATIONS

## E. CHILTON HINES, MAI

### Several Large and Interesting Appraisal Projects

Various challenging appraisal over the past 33± years have included the Trans-Alaska Pipeline right of way (1997 - state-owned portion, Prudhoe Bay to Valdez), the Alaska Railroad Corridor (1994 - assembled team to appraise the 378± mile ARRC corridor from Eielson Air Force Base near Fairbanks to South Anchorage), 400,000± acres (1987) of land plus various improvements in multiple village communities located along the Yukon River west of Fairbanks, many varied properties from land to office, residential, and industrial properties in every North Slope village from Barter Island to Point Hope, Barrow, etc. I worked for two (2) years (2008-2010) with an appraisal firm in Ocala, Florida on a Florida Gas proposed 36 inch loop line pipeline project located in west central Florida (potential eminent domain – easements within various lot and land parcels and corridor(s)). I have completed many, many assignments for various agencies involving thousands of remote and rural land parcels throughout Interior Alaska; also, many assignments in and around Denali National Park and Preserve, and surrounding areas. Please see additional appraisal and related experience discussed below.

Hines Appraisal Services, Fairbanks, Alaska - fee appraisal assignments. Recent contracts with the State of Alaska Department of Transportation for appraisals on the Third Street Widening road project in Fairbanks, Alaska and the Healy Airport (leased ground) in Healy, Alaska near Denali Park. I recently had appraisal contracts involving the Alaska Railroad extension from Eielson Air Force Base near Fairbanks to Delta Junction, Alaska (HDR), leasing, acquisition, and damage estimates. The Alaska Railroad is currently spending some \$850,000,000 to extend rail south a distance of 80± miles (long-term project over the next 20 to 30 years). I recently completed appraisals on leased land parcels in Fairbanks for the Alaska Railroad. In 2012, I completed an eminent domain (before and after) land appraisal for the Alaska DOTPF in Manley Hot Springs, Alaska (160 miles west of Fairbanks) for a new airport acquisition that required testimony at a Master's Hearing. I have testified many times over the past 30 years in Federal, District, and Superior Courts, Master's Hearings, Mediations, etc. Ongoing appraisal assignments include office, retail, industrial, medical office, mixed use, and land appraisals.

August 2008 to September 2010 - affiliated with Arline and Company in Ocala, Florida as a Senior Appraiser – typical assignments involved complex issues relating to appraisals of large land tracts or improved properties for individuals, agencies, estates, and for litigation, etc. Between August 2008 and September 2010, I worked on a large natural gas pipeline (eminent domain) project involving hundreds of land parcels, multiple corridors, etc. Other assignments included appraisals of large acreage tracts, parcel(s) in litigation, a large amenity package that is part a 3,500 lot subdivision, waterfront and agricultural land parcels, and an environmentally sensitive parcel located near Silver Springs, etc. In 2010, I completed a Standard 3 (USPAP) review on two appraisals for the Florida DEP, Division of State Lands, Tallahassee, on a 400± land parcel located near Ocala, Florida to help effectuate the

purchase of an environmentally sensitive land acquisition near Silver Springs, one of Florida's major tourist attractions.

May, 2005 to August, 2008 – self-employed – Hines Appraisal Services, Fairbanks, Alaska. Wide variety of assignments for government agencies and banks in Alaska.

June, 2003 to April, 2005 – Chief, Bureau of Appraisal, State of Florida Division of State Lands, Department of Environmental Protection (DEP). Major duties within the Bureau include gathering factual data for input into various appraisal assignments, performing preliminary cost estimates for the acquisition and disposal of real property interests, preparing appraisal contracts and Scope of Work for appraisal contracts with independent fee appraisers who prepare appraisal reports on moderately complex to highly complex real property interests ranging from vacant and improved lands, forestlands, conservation easements, life estates, and various improved properties including mental health facilities, offices, etc. The Chief, Bureau of Appraisal is responsible for hiring and administration of 300 fee appraisers that are located throughout the State of Florida; some 70 fee appraisers are under contract with DEP to provide regular appraisal and consulting services. Additionally, this position required budget input, litigation and purchase negotiation assistance, and a multitude of tasks related to operation of the bureau and assistance as needed to the Director, Division of State Lands as well as other bureaus within DOL and outside agencies such as the state fish and game, parks and recreation, forestry, et. al. (The Bureau of Appraisal (DOL) typically had approximately 100 appraisal jobs under task at any given time.) The Bureau acquires professionally prepared appraisals on land parcels ranging in size from a few acres up to 100,000 acres and values ranging from approximately \$5,000 to \$500,000,000. In addition, appraisals are acquired on office, medical, airport, and other facilities throughout the State of Florida as required. The Bureau primarily provides appraisal support for the Florida Forever program that is administered by the Governor and Cabinet (Board of Trustees, State of Florida) in Tallahassee. As the Chief, Bureau of Appraisal, I appeared regularly at Cabinet Aides and Cabinet meetings to present information and provide explanations and discussions of appraisals that support the acquisition and disposition of a wide variety real estate ownerships, but primarily purchases of environmentally sensitive lands. I supervised eleven (11) people including two (2) senior appraisal administrators, one (1) office manager, two (2) administrative assistants, and six (6) staff appraisers. As Chief, Bureau of Appraisal within the Division of State Lands, I initiated and directed the writing and publication of **“Timber Cruise/Timber Appraisal (TCTA) Standard”**, a joint effort between the State of Florida Division of State Lands and Department of Agriculture (published in April, 2004). This publication instituted professional standards and guidelines for foresters and real estate appraisers for the completion of timberland appraisals. I am on the “approved appraisers” list to perform appraisal and review appraisal assignments for the Bureau of Appraisal, Florida Department of Environmental Conservation (FDEP). While I was in the position of Bureau Chief, a large mineral exchange occurred between the State of Florida and the USDA/Forest Service located within the Blackwater River State Forest (northwest Florida) involving 182,658± acres (late 2003/early 2004). This was stated to be the largest such state/federal transfer/exchange ever to occur in the U. S.

June, 1981 to June, 2003 – Price & Associates, Hines, Price, and Hage, Hines and Hage, Inc., and Hines Appraisal Services performing a vast array of real estate

appraisal and consulting services including single family properties, apartments, industrials, offices, retail developments, land, and consulting for developers, attorneys, government agencies, and property owners. I traveled extensively all over Interior, Northern, Southeastern, and Western Alaska to perform various appraisals.

In 1987 I completed an appraisal on about 400,000+ acres of land and 20± buildings located in and around five (5) villages along the Yukon River (Galena, et.al.). I also traveled a number of times to Nome, Kotzebue, Barrow, Prudhoe Bay, Valdez, etc. for a large variety of appraisal assignments including land, camp facilities, hotel facilities, industrial, retail, offices, etc. Between 1987 and 1992, one of my largest clients was the Federal Deposit Insurance Corporation (FDIC) who had closed 7 banks in Alaska and had contracted for appraisals on hundreds of foreclosed properties throughout Alaska. FDIC work consumed a large portion of appraisal assignments for several years during this era. I have traveled around Alaska (including dozens of "bush" flights to many remote areas) to perform a wide variety of commercial property and land appraisals. At the request of the Alaska Railroad Corporation in early 1994 I assembled a team of appraisers in Fairbanks, Anchorage, and Houston, TX to perform an appraisal on 378 miles of the Alaska Railroad Corridor. In 1997 I was hired by Alyeska Pipeline Service Company (consortium owner representing Conoco Phillips, British Petroleum, Exxon, et.al., of the Trans-Alaska Pipeline – 800± miles in length) to complete an appraisal on the state-owned portion of the TAPS right of way, some 550± miles in length; but the state-owned portion extended intermittently for the entire length of the pipeline from Prudhoe Bay to Valdez, Alaska. I have completed many large right of way projects for the Alaska Railroad and the Alaska DOTPF, City of Fairbanks, et. al.

PROFESSIONAL MEMBERSHIPS:

Member Appraisal Institute - MAI # 7244 (awarded November, 1985)

Past President and "Realtor of the Year" - Greater  
Fairbanks Board of Realtors (1977)

Past Director - Alaska Association of Realtors (4 years – 1970's)

Former Member - International Right-of-Way Association  
Candidate for SR/WA designation

Past President - AIREA Alaska Chapter (1990)

Member, Professional Standards Panel, Northwest Region,  
Appraisal Institute

I am currently certified under the Appraisal Institute's Continuing Education Program.

State of Alaska Certified General Real Estate Appraiser – Certificate # AA23 –  
active

State of Washington Certified General Real Estate Appraiser –  
Certificate # 1101038 – voluntary inactive

State of Virginia Certified General Real Estate Appraiser – # 4001 006245 –  
active

State of Florida Certified General Real Estate Appraiser – # RZ2677 – inactive  
at present – re-certification through November 30, 2014

State of North Carolina Certified General Real Estate Appraiser - #A6479 –  
voluntary inactive

Past Member, Ethics and Counseling Panel, Region 1, Appraisal Institute.

EDUCATION:

B.S. University of Tennessee - (BA) Real Estate – graduated 1969  
Real estate course curriculum starting in 1966

American Institute of Real Estate Appraisers (now Appraisal Institute)  
courses and seminars successfully completed:

Basic Principles, Methods, and Techniques - 1974  
Capitalization Theory & Techniques 1,2,3 - 1983  
Standards of Professional Practice - 1983  
Investment Analysis - 1983  
Case Studies -1983  
Valuation Analysis and Report Writing - 1983  
Market Analysis (recert. only - no exam) -1987  
Hotel/Motel Seminar - 3/92  
Standards of Professional Practice - Part B - 9/92  
Appraisal Practices for Litigation - 5/16/95  
The Appraiser as an Expert Witness - 5/17/95  
Mock Trial - 5/18/95  
Appraisal Institute - Professional Standards and Ethics  
with exams - 11/28/95 to 12/1/95  
Appraisal Institute - Litigation Valuation Overview  
with exam - 3/98  
Appraisal Institute - Advanced Cost and Sales Comparison Approaches  
with exam - 3/98  
Appraisal Institute – Part C SPP with exam – 5/99  
Appraisal Institute – Partial Interest Divided seminar – 5-01  
Appraisal Institute – Partial Interest Undivided seminar – 5-01  
Appraisal Institute – Standards of Professional Practice, Part A - 5-01  
Appraisal Institute – Standards of Professional Practice, Part B - 5-01  
Appraisal Institute – Online Small Hotel/Motel Valuation – 10-02  
Appraisal Institute – Land Valuation Assignments Workshop – 11-02  
Appraisal Institute – Land Valuation Adjustment Procedures – 11-02  
Appraisal Institute - Effective Appraisal Writing (7 hours) – 8-03  
Appr. Inst. – Florida State Law for R. E. Appraisers (3 hours) – 11-03  
Appr. Inst. – Course 400 – National USPAP Update 7 hours) – 11-03  
Appr. Inst. – Emerging Val. - Financial Reporting (3 hours) – 11-03  
Appr. Inst. – USFLA -Yellow Book seminar (16 hours) – 3-04  
Appraisal Institute – Land Valuation Assignments Workshop – 10-04  
Appraisal Institute – Land Valuation Adjustment Procedures – 10-04  
Appr. Inst. – Florida State Law for R. E. Appraisers (3 hours) – 11-04  
Appr. Inst. – Course 400 – National USPAP Update 7 hours) – 11-04  
Wisconsin DNR/Florida DEP – Rail Corridor Acquisitions, 7 hours - 1-05  
Appr. Inst. – Course 420 – Standards and Ethics – 7 hours with exam –  
3-05  
Appr. Inst. – USPAP, 2006 Update – 7 hours – 3-06 – Anchorage, Alaska  
and again in early 2010 in Gainesville, Florida

Appr. Inst. – Real Estate Finance, Value & Investment Performance – 7 hours – 9-06 – Palm Beach Gardens, Florida  
Appr. Inst. – Florida Real Estate Law for Real Estate Appraisers - 3 hours – 9-06 – Palm Beach Gardens, Florida  
Appr. Inst. – National USPAP Course – 7 hours – 9-06 – Palm Beach Gardens, Florida  
Appr. Inst. – Appraising the Tough Ones - 7 hours – 9-06 – Palm Beach Gardens, Florida  
Appr. Inst. – Appraisal Consulting: A Solutions Approach for Professionals – 7 hours – 9-06 – Palm Beach Gardens, Florida  
Appraisal Institute – Online Analyzing Distressed Real Estate – 4 hours 10-07  
Appraisal Institute – Valuation of Conservation Easements – 33 hours – 1-08 – Tallahassee, Florida  
Bert Rogers School – State of Florida - Supervisor/Trainee Role/Rules – 3 hours - 4-08 (distance – on-line)  
Bert Rogers School – State of Florida - Appraisal Licensing Law and Real Estate – 3 hours – 7-08 (distance – on-line)  
Bert Rogers School – State of Florida – 7 Hour National Equivalent USPAP Update 2008 – 7-08 (distance – on-line)  
Appraisal Institute - Online Analyzing Distressed Real Estate – July 2010  
Appraisal Institute - Online Business Practices and Ethics – March 2010  
Appraisal Institute – Florida Law – March 2010  
Appraisal Institute – Florida Supervisor/Trainee Roles and Rules – March 2010  
  
Appraisal Institute – 7-Hour National USPAP Update Course – February 2010  
Appraisal Institute – *Uniform Appraisal Standards for Federal Land Acquisitions* (Yellow Book) – February 2010

Continuing Education – completed in late 2011/early 2012

Appraising Convenience Stores – online – Appraisal Institute, August 2011  
Appraising the Appraisal – Orlando, FL – Appraisal Institute, January 2012  
USPAP Update – Knoxville, TN – Appraisal Institute, February 2012  
Fundamentals of Separating Real, Personal Property, and Intangible Business Assets – Appraisal Institute, Orlando FL – March 2012  
Bert Rogers School – State of Florida – Florida Law, online, April 2012

Continuing Education – completed in February 2014

USPAP Update – Orlando, FL – Appraisal Institute, 7 hours  
Business Law (FL) – Orlando, FL – Appraisal Institute, 3 hours  
Condemnation/Eminent Domain with exam – Orlando, FL – Appraisal Institute, 22 hours

International Right-of-Way courses successfully completed:

The Appraisal of Partial Acquisitions -1987

Transactional Analysis - 1988  
Appraisal Theory and Principles - 1991

CCIM Institute – An Affiliate of the National Association of Realtors  
Commercial Investment Course 101 – 1978 – passed exam  
Commercial Investment Course 102 – November, 2001 – passed exam

University of Georgia – Forestry for Non-Foresters seminar – 4-04

**REAL ESTATE EXPERIENCE:**

Licensed Real Estate Broker in Alaska from 1972 to 1992 and  
in Texas during various dates from 1980 until 1993.

Have appraised properties all over Interior, Northern, and Western Alaska including numerous Yukon River Villages, Fairbanks area and throughout Interior Alaska, Anchorage, Wasilla, Nome, Kotzebue, Valdez, Seward, Kenai, McCarthy, Delta Junction, Sitka, Tok, Healy, Sitka, McGrath, Nenana, Barrow and all North Slope Villages, and Prudhoe Bay. Additionally, see Florida appraisal assignments summarized on page one of this resume.

Have appraised all types of properties including Commercial,  
Industrial, and Residential – primary focus now is a wide variety of  
commercial, industrial, and special use properties, and land.

Qualified as Expert Witness in Federal Bankruptcy,  
Superior and District Courts and Arbitration,  
Fairbanks; Superior Court in Anchorage;  
Condemnation Master in Fairbanks.

Special Appointments:

1988 – appointed by Borough Mayor to Review Team – Assessing  
Department (Fairbanks North Star Borough).  
2002 – appointed by City Mayor to Review Committee – review two large  
City land leases for recommendations to City Council.  
Panelist, Public Land Administration Conference sponsored by the  
Florida DEP and held at Amelia Island, Florida in November, 2003.

<p>I served on two (2) Alaska DNR <u>Mental Health Trust Valuation Panels</u> during the 1990's for 3 months +/- each time. The panels valued 3,000 land panels located throughout Interior, Western, and Northern Alaska for the purpose of transferring the land parcels out of Alaska DNR ownership into a legislatively established mental health trust ownership.</p>
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REPRESENTATIVE APPRAISAL AND CONSULTING CLIENTS INCLUDE:

State of Alaska agencies including ADOTPF, Lands, et.al.

Alaska Gold Company

Alaska Teamster's Pension Fund

Alyeska Pipeline Service Company

Bentley Trust

Cities - Fairbanks, Barrow, Nenana, Kaktovik, Galena, et. al.

College Utilities Corporation

Banks -

Denali State, Mt, McKinley Mutual, Alaska USA Federal Credit Union,

CitiBank Arizona, SeaFirst, FNB of Anchorage, Rainier,

National Bank of Alaska, Northrim Bank, Zions First

National Bank (Salt Lake City), Union Bank of

California, Key Bank, Wells Fargo, et. al.

Native Corporations - Arctic Slope Regional Corp. and Arctic Slope Consulting

(Barrow), Cook Inlet (Anchorage), Gana-A' Yoo Ltd. (Galena), Dineega

(Ruby), Doyon, Ltd. (Fairbanks), KIC (Kotzebue),

Tanana Chiefs Conference (Fairbanks), UIC (Barrow), et. al.

Fairbanks Hospital, Hospital Foundation, and Denali Center

Fairbanks Chamber of Commerce

Fairbanks Gold Mining, Inc. (Fort Knox Project)

Fairbanks North Star Borough

Fairbanks Development Authority

Fairbanks Daily News-Miner

Chevron USA

U.S. agencies - FDIC, FNMA, FHLMC, FHA, MGIC, NPS,

BLM, Fish & Wildlife, BIA, SBA, EPA, Native Health

Service, U. S. Army Corps of Engineers, FAA

Gene's Chrysler/Jeep

Golden Valley Electric Association

The Hertz Corporation

Hickle Investment Company

Odom Corporation (Bill Odom)

University of Alaska Land Management Department

United Utilities (Manley)

Usibelli Coal Mine

Williams Petroleum (Alaska)

Wise Enterprises and Fountainhead Development

Seekins Ford Lincoln Mercury, Inc.

Medical and Dental Arts Group

Walmart Realty



REPRESENTATIVE APPRAISAL AND CONSULTING ASSIGNMENTS:

<u>Apartment Projects up to 355 units</u>	Royalty Valuations of Gravel and other Materials – Fort Knox Mine, et.al.
Business and Medical Condominiums	Mining Claims (land valuations)
Office and Medical Office Buildings up to 92,000± SF	Schools, Churches, and Public Facilities
Hotels, Motels, and Remote Lodges up to 150 rooms	Values in Use to include a Coal Tipple, etc.
Shopping Centers to include Strip Malls and large and small stand-alone Retail Facilities	<u>Leased Fee, Fee Simple, Leasehold, Sandwich Leasehold, and Sub-Leasehold Valuations</u>
<u>Industrial Projects up to 200,000± SF</u>	Restaurants of all types including Historic, Family, and Fast Food
Service Stations and Convenience Stores	<u>Medical Facilities</u> including Offices, Condo Offices, Denali Center (old and new), and Fairbanks Memorial Hospital – Market Rent, Leased Fee, etc.
<u>Large Land Projects up to 430,000± acres; Subdivisions and Land Appraisals to include contracts over many years with the Alaska Railroad Corporation</u>	<u>Alaska Railroad Corridor</u> (Using Across the Fence and Enhancement Methodology)
Recreational Properties including Remote	<u>Trans-Alaska Pipeline</u> (Using Across the Fence Methodology) and <u>Kaparuk Pipeline Rights of Way</u>
<u>Rights of Way – Eminent Domain – for the Alaska DOTPF and other clients</u>	<u>Port of Nenana in Nenana, Alaska</u>
<u>Car Stores to include Seekins Ford-Lincoln-Mercury, Gene's Chrysler, and A &amp; B Mercedes/Mazda, et.al.</u>	Real Estate Tax Assessment Appeal valuations
<u>Review Appraiser</u>	<u>Court Testimony/Expert Witness and Master</u>

**E. Chilton Hines, MAI**

**HINES APPRAISAL SERVICES**

**Current Mailing Address:**

**Box 73254**

**Fairbanks, Alaska**

**[chines46@gmail.com](mailto:chines46@gmail.com)**

**Voice: 907-328-3267**

U. S. Army veteran, 1970-1972, Airborne-Ranger qualified, 1 LT on active duty, later promoted to CPT in inactive reserves. Have traveled to all 50 U. S. states, portions of Europe, Japan, and East Africa.

No. 23

Effective: 05/30/2013

Expires: 06/30/2015

# STATE OF ALASKA

DEPARTMENT OF COMMERCE, COMMUNITY, & ECONOMIC DEVELOPMENT  
Division of Corporations, Business and Professional Licensing  
P.O. Box 110806, Juneau, Alaska 99811-0806

## BOARD OF CERTIFIED REAL ESTATE APPRAISERS

Certifies that

### ELLIS CHILTON HINES

Is a Certified

### GENERAL REAL ESTATE APPRAISER

Commissioner: Susan K. Bell

RICK SCOTT, GOVERNOR

KEN LAWSON, SECRETARY

STATE OF FLORIDA  
DEPARTMENT OF BUSINESS AND PROFESSIONAL REGULATION  
FLORIDA REAL ESTATE APPRAISAL BD

LICENSE NUMBER

RZ2677

The CERTIFIED GENERAL APPRAISER  
Named below IS CERTIFIED  
Under the provisions of Chapter 475 FS.  
Expiration date: NOV 30, 2016

HINES, ELLIS CHILTON  
BOX 73254  
FAIRBANKS AK 99707



ISSUED: 08/28/2014

DISPLAY AS REQUIRED BY LAW

SEQ # L1408280005175

DEPARTMENT OF PROFESSIONAL AND OCCUPATIONAL REGULATION  
COMMONWEALTH OF VIRGINIA

9960 Mayland Dr., Suite 400, Richmond, VA 23233  
Telephone: (804) 367-8500

EXPIRES ON  
04-30-2016

NUMBER  
4001006245

REAL ESTATE APPRAISER BOARD

CERTIFIED GENERAL REAL ESTATE APPRAISER

E CHILTON HINES  
P.O. BOX 73254  
FAIRBANKS, AK 99707



*Nick A. Christner*  
Nick A. Christner, Interim Director

ALTERATION OF THIS DOCUMENT, USE AFTER EXPIRATION, OR USE BY PERSONS OR FIRMS OTHER THAN THOSE NAMED MAY RESULT IN CRIMINAL PROSECUTION UNDER THE CODE OF VIRGINIA.

(SEE REVERSE SIDE FOR NAME AND/OR ADDRESS CHANGE)



Sign posted on June 18, 2015



Applicant submitted picture of subject property



Driving north on Gilmore Trail, south of Great View Lane looking north toward subject property



Subject property



Looking south on Gilmore Trail from Gold Mine Trail towards subject property



Looking at north corner of subject property from Gilmore Trail



Looking at north part of subject property from Gilmore Trail



Subject property



South side of subject property



North side of subject property





Looking south down Gilmore Trail from subject property



Looking at subject property from Great View Lane



Great View Lane



Looking at rear of subject property from Great View Lane



Looking at rear of subject property from Great View Lane



Looking at rear of subject property from Great View Lane





Looking at rear of subject property from Great View Lane



Looking north on Great View Lane at Daisy Drive



Looking west on Daisy Drive from Great View Lane



Looking northwest toward subject property from Great View Lane at Daisy Drive



Looking west toward subject property from Great View Lane



Rear of subject property from Great View Lane