


# MEMORANDUM

CITY/BOROUGH OF JUNEAU  
155 South Seward Street, Juneau, Alaska 99801

**DATE:** February 21, 2013

**TO:** Planning Commission

**FROM:** Teri Camery, Senior Planner   
Community Development Department

**FILE NO:** USE2012 0017

**PROPOSAL:** A Conditional Use Permit for a 100' Monopole Wireless Communication Facility (cell phone tower) with six panel antennas.

## GENERAL INFORMATION

**Applicant:** AT&T

**Property Owner:** University of Alaska Southeast

**Property Address:** 4300 University Drive

**Legal Description:** USS 3820 Tract D1

**Parcel Code Number:** 4-B28-0-103-014-0

**Site Size:** 28.63 Acres

**Zoning:** D-3, single-family residential

**Utilities:** public sewer and water

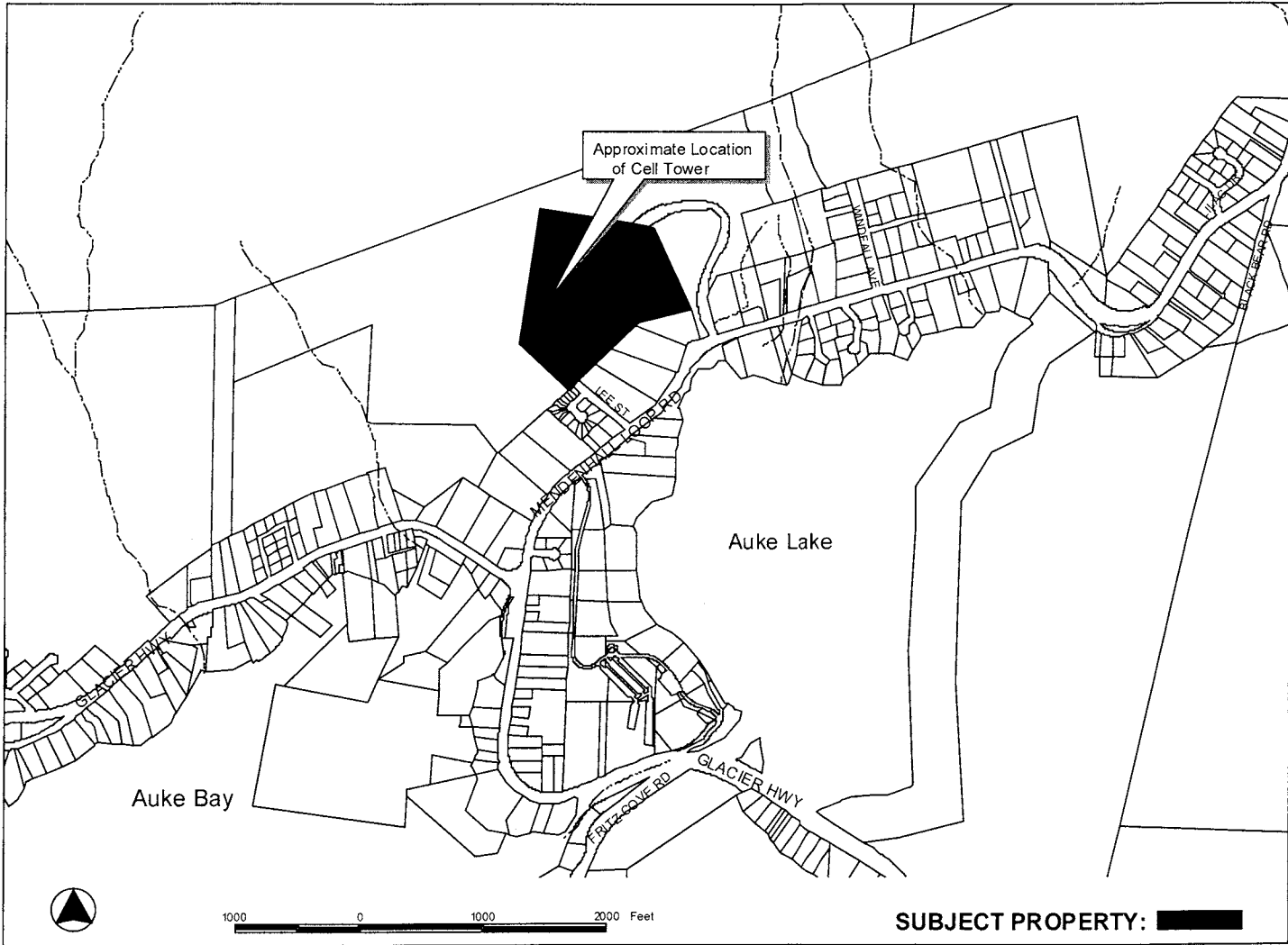
**Access:** University Drive

**Existing Land Use:** UAS Campus

**Surrounding Land Use:**

North	-	D-3, undeveloped
South	-	D-3, D-15 residential
East	-	D-3, residential & university
West	-	D-3, undeveloped





## **ATTACHMENTS**

Attachment 1 Development Permit Application  
Attachment 2 Conditional Use Application  
Attachment 3 Project Narrative  
Attachment 4 Site Plans  
Attachment 5 FAA No Hazard Determination  
Attachment 6 Visual Depictions  
Attachment 7 Horan & Company Appraisal Report 2/5/13  
Attachment 8 Tower Map

## **PROJECT DESCRIPTION**

The applicant requests a Conditional Use permit for the re-location of an existing AT&T communications facility (currently attached to the Banfield Hall building) on the same site with a new design. It is necessary to move the tower from Banfield Hall because the structure lacks adequate support on the building and the space is constrained. The new design includes a 100' monopole with six panel antennas and associated equipment within a 30' x 30' fenced lease area. In accordance with the FAA Determination, no lighting is required for the tower.

## **ANALYSIS**

**Project Site** – The project site is 28.63 acres with frontage on University Drive. The property is zoned D3 and is part of University of Alaska Southeast campus.

**Project Design** – The proposed tower will be located on a 30-foot by 30-foot lease area located in the northeast section of the property, 16 feet to the east of the existing asphalt trail and approximately 150 feet north of “Building C.” (Attachment 4, page A-1). The tower will be set back a minimum of 300 feet from the closest property line. The lease site will be accessed by a 16-foot wide driveway from the asphalt trail. Electricity will be extended from a nearby campus building and run along the pedestrian trail. The tower is designed to hold up to three antenna arrays and the lease area can accommodate additional equipment. The 900 square foot lease area will be surrounded by a chain link fence that is eight feet high.

**Traffic** – No significant increase in traffic is anticipated for the proposed monopole. The primary use of the site is a university campus, which has significant traffic due to the inherent use of the property. The monopole would only generate infrequent traffic for occasional maintenance and operation checks.

**Parking and Circulation** – The parcel has a well-established parking and circulation design. Access is provided from University Drive and there are parking areas for staff, students, visitors, etc. Vehicular access requirements for the tower use are negligible and are not expected to increase or otherwise affect the current vehicular parking and circulation patterns or requirements. A communications tower does not have an identified parking requirement. However staff has determined that one space

would adequately meet the needs of the communication tower for occasional maintenance and operational checks. This single space is easily accommodated on site.

**Noise** – Noise is not expected to be an issue with this proposed tower. Back-up power will be provided by battery pack rather than a generator.

**Public Health or Safety** – All telecommunication towers must be designed and constructed to meet specific wind and weight bearing loads, as specified in local building codes. Building Code review will be done during the building permitting process if this Conditional Use Permit is approved. With compliance to building codes, the tower installation will be structurally safe.

Regarding radio frequency emissions, antenna arrays distribute radio waves that contain levels of radio frequency (RF) emissions. RF emissions from these structures cannot exceed levels regulated by the Federal Communication Commission (FCC) to ensure compliance with National Environmental Protection Agency (NEPA). According to the 1996 Telecommunications Act, municipalities have zoning authority over towers but may not regulate the location of or deny a personal wireless facility based on environmental effects of radio frequency emissions to the extent that such facilities comply with the FCC regulations of emissions. Though municipalities cannot modify FCC's emission levels, they can require proof of compliance.

Staff recommends two conditions of approval requiring that the applicant submit a letter from a radio frequency expert indicating compliance with FCC emission levels during pre- and post-construction, as follows:

- 1) Prior the issuance of a Building permit, the applicant shall submit a letter to the Community Development Department signed by a radio frequency engineer certifying that the structures comply with electromagnetic radio emission levels set by the Federal Communications Commission (FCC).
- 2) Prior to receiving a Certificate of Occupancy, the applicant shall submit a letter to the Community Development Department signed by a radio frequency engineer certifying that the structures as constructed and at optimal emission levels comply with electromagnetic radio emission levels set by the Federal Communications Commission (FCC).

The FAA has determined that lighting is not necessary for the tower for flight safety. The Juneau International Airport Manager did not have any comments on the project.

**Habitat** – The project does not require fill in wetlands, and is not located near the stream setback of Lake Creek. No trees are proposed to be removed for this project. The lease area is relatively flat. No evidence indicates that the project will impact sensitive habitat. Additionally, no Land Use Code habitat regulations appear to be relevant to the proposed development.

**Property Value or Neighborhood Harmony** – According to the application, no trees will be removed for the installation of this tower. The tower is located within a relatively densely forested

area where, according to the elevations submitted as part of this application, the existing trees are approximately 60 to 80 feet in height.

The applicant has provided visual depictions of the tower from four different locations (Attachment 6). Though the tower will be clearly visible to university students and staff, it is nonetheless a typical feature of similar developed environments and will not be unusually obtrusive. The tower is not visible at the Auke Lake location demonstrated in View #4, but it may be visible from various locations on the lake from watercraft. The tower will be approximately 20 feet higher than the surrounding trees, depending on the angle of view.

The applicant has provided a report prepared by Horan & Company, LLC titled, *Appraisal Report of Perceived Impact of Installation of 100' Tall Telecommunications Monopole on Neighboring Property Values, Juneau, Alaska* (Attachment 7). The report summary states the following:

*"[The tower] would be similar to monopoles found in other residential settings in the Mendenhall Valley. As planned, it would not cause serious view blight and would not provide noise, smell, or any other tactile interference to make it disharmonious with the neighborhood. Based on our interviews with four realtors, nine appraisers, and our own experience in the marketplace, it does not appear that there would be any substantial or measurable decrease in value of neighborhood property due to the proposed development."*

**Conformity with Adopted Plans** – The 2008 Comprehensive Plan designates the subject neighborhood as IPU, Institutional and Public Use. IPU lands are in public ownership and dedicated to a variety of public uses. The public use of these lands can be accommodated by any appropriate zoning district, most particularly the same district as the surrounding lands. Surrounding lands closest to the proposed tower lease area are designated in the 2008 Comprehensive Plan as REC, Recreational Resource, RS, Recreational Park Service, and SP, Stream Protection Corridor. These lands are primarily intended for recreational and resource protection and are not intended for residential and commercial development. Lands to the south of the subject site are designated as MDR, Medium Density Residential and MMU, Marine Mixed Use.

Telecommunication towers are not listed under this definition or specifically identified in the Plan. However, telecommunication services are vital for Juneau as the Capital City and regional hub for Southeast Alaska. On page 64, the Comprehensive Plan states "As Alaska's Capital, it is vital for the CBJ to offer modern transport and communications systems and facilities to Alaskan residents who wish to participate in State legislative affairs."

Telecommunication infrastructure is also a form of a communication utility. As stated in the Comprehensive Plan, "Together with the transportation network and private utility and communication systems, public services and facilities provide the community's 'urban glue' and require efficient and timely provision". The proposed tower would be constructed at the northern end of the Urban Service Boundary Area.

With increasing demand for telecommunication technology usage throughout the nation, additional communication coverage will be needed in areas not served or underserved. Most telecommunication services in suburban or rural areas are distributed from towers because there are so few tall structures above the tree line. Taking this fact into consideration for the subject area, one can infer that surrounding neighborhoods are underserved by wireless telecommunication service by the lack of towers. Few existing towers along this road can be seen in Attachment 8, Antenna & Tower Location Map. Enabling towers to be built throughout the borough in ways that do not disrupt neighborhood harmony, property value, or the public's health or safety would meet the intent of the Comprehensive Plan. With the recommended conditions, the proposed tower will meet the intent of the Comprehensive Plan.

## **FINDINGS**

CBJ §49.15.330 (e)(1), Review of Director's Determinations, states that the Planning Commission shall review the Director's report to consider:

1. Whether the application is complete;
2. Whether the proposed use is appropriate according to the Table of Permissible Uses;  
and,
3. Whether the development as proposed will comply with the other requirements of this chapter.

The Commission shall adopt the Director's determination on the three items above unless it finds, by a preponderance of the evidence, that the Director's determination was in error, and states its reasoning for each finding with particularity.

CBJ §49.15.330 (f), Commission Determinations, states that even if the Commission adopts the Director's determination, it may nonetheless deny or condition the permit if it concludes, based upon its own independent review of the information submitted at the public hearing, that the development will more probably than not:

1. Materially endanger the public health or safety;
2. Substantially decrease the value of or be out of harmony with property in the neighboring area;  
or,
3. Not be in general conformity with the comprehensive plan, thoroughfare plan, or other officially adopted plans.

Per CBJ §49.15.330 (e) & (f), Review of Director's & Commission's Determinations, the Director makes the following findings on the proposed development:

### ***1. Is the application for the requested conditional use permit complete?***

**Yes.** The application contains the information necessary to conduct full review of the proposed operations. The application submittal by the applicant, including the appropriate fees, substantially

conforms to the requirements of CBJ Chapter 49.15.

***2. Is the proposed use appropriate according to the Table of Permissible Uses?***

**Yes.** The requested permit is appropriate according to the Table of Permissible Uses. The permit is listed at CBJ §49.25.300, Section 18.300, for the D3 zoning district.

***3. Will the proposed development comply with the other requirements of this chapter?***

**Yes.** The proposed development complies with the other requirements of this chapter. Public notice of this project was provided in the February 15, 2013 and February 22, 2013 issues of the Juneau Empire's "Your Municipality" section, and a Notice of Public Hearing was mailed to all property owners within 500 feet of the subject parcel. Moreover, a Public Notice Sign was posted on the subject parcel, visible from the public Right of Way.

***4. Will the proposed development materially endanger the public health or safety?***

**No.** As discussed in the staff report, with the recommended conditions and compliance with building codes, the tower and accessory structures will not endanger the public's health or safety.

***5. Will the proposed development substantially decrease the value of or be out of harmony with property in the neighboring area?***

**No.** As described in the preceding analysis, no evidence indicates that the proposed development will substantially decrease the value of or be out of harmony with property in the neighboring area. The appraisal report indicates that the tower is typical of towers in other residential areas, and would not decrease property value. The visual depictions indicate that the tower will not have a significant negative visual impact.

***6. Will the proposed development be in general conformity with the land use plan, thoroughfare plan, or other officially adopted plans?***

**Yes.** Based on staff's review and with the recommended conditions, staff finds that the intent of the 2008 Comprehensive Plan will be met.

**Per CBJ §49.70.900 (b)(3), General Provisions, the Director makes the following Juneau Coastal Management Program consistency determination:**

***7. Will the proposed development comply with the Juneau Coastal Management Program?***

**N/A.** The Juneau Coastal Management Program is not relevant to the current proposal.

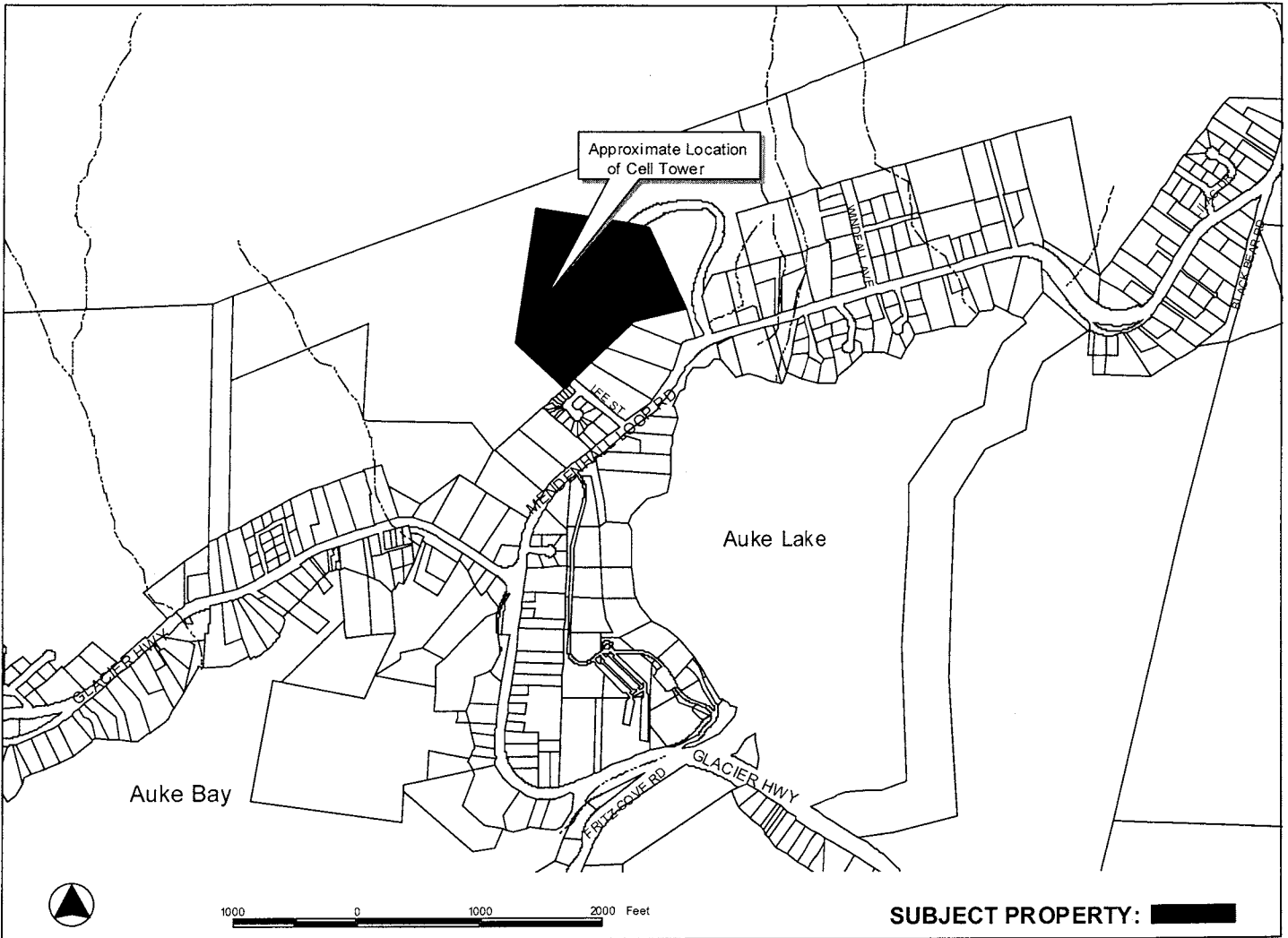
### **RECOMMENDATION**

Staff recommends that the Planning Commission adopt the Director's analysis and findings and **approve** the requested Conditional Use permit. The permit would allow the development of a new AT&T communications facility, including a 100' monopole with 6 panel antennas and associated equipment within a 30' x 30' fenced lease area. The approval is subject to the following conditions:

- 1) Prior the issuance of a Building permit, the applicant shall submit a letter to the Community Development Department signed by a radio frequency engineer certifying that the structures comply with electromagnetic radio emission levels set by the Federal Communications Commission (FCC).
- 2) Prior to receiving a Certificate of Occupancy, the applicant shall submit a letter to the Community Development Department signed by a radio frequency engineer certifying that the structures, as constructed and at optimal emission levels, comply with electromagnetic radio emission levels set by the Federal Communications Commission (FCC).



# NOTICE OF PUBLIC HEARING



**PROPOSAL:** A Conditional Use Permit for 100' Monopole Wireless Communication Facility (cell phone tower) with six panel antennas.

<p><b>FILE NO:</b> USE2012 0017</p> <p><b>TO:</b> Adjacent Property Owners</p> <p><b>HEARING DATE:</b> February 26, 2013</p> <p><b>HEARING TIME:</b> 7:00 PM</p> <p><b>PLACE:</b> <b>ASSEMBLY CHAMBERS</b> Municipal Building 155 South Seward St Juneau, Alaska 99801</p>	<p><b>APPLICANT:</b> Justin Abbott</p> <p><b>Property PCN:</b> 4-B28-0-103-014-0</p> <p><b>Size:</b> 28.63 acres</p> <p><b>Zoned:</b> D3</p> <p><b>Owner:</b> University of Alaska Southeast</p> <p><b>Site Address:</b> 4300 University Drive</p> <p><b>Accessed via:</b> University Drive</p>
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**PROPERTY OWNERS PLEASE NOTE:**

You are invited to attend this Public Hearing and present oral testimony. The Planning Commission will also consider written testimony. You are encouraged to submit written material to the Community Development Department no later than 8:30 A.M. on the Wednesday preceding the Public Hearing. Materials received by this deadline are included in the information packet given to the Planning Commission a few days before the Public Hearing. Written material received after the deadline will be provided to the Planning Commission at the Public Hearing.

If you have questions, please contact Teri Camery at [teri\\_camery@ci.juneau.ak.us](mailto:teri_camery@ci.juneau.ak.us) or at 586-0755.

Planning Commission Agendas, Staff Reports and Meeting Results can be viewed at [www.juneau.org/plancomm](http://www.juneau.org/plancomm).

# DEVELOPMENT PERMIT APPLICATION

Project Number	<b>CITY and BOROUGH of JUNEAU</b>	Date Received: <b>9-16-12</b>
Project Name (City Staff to Assign Name)		

PROJECT / APPLICANT	<b>Project Description</b> A Conditional Use Permit to allow for an existing AT&T communications facility to be relocated on the same property with a new design. The new communications facility is proposed to the North of the University Housing Buildings. The relocated site consists of a new 100-foot steel monopole, 6 panel antennas, and outdoor equipment cabinets inside a fenced 30' x 30' lease area. See drawings for details.		
	<b>PROPERTY LOCATION</b>		
	Street Address 4300 University Drive	City/Zip Juneau / 99801	
	Legal Description(s) of Parcel(s) (Subdivision, Survey, Block, Tract, Lot) USS 3820 Lot 3 TR D1		
	Assessor's Parcel Number(s) 4B2801030140		
	<b>LANDOWNER/ LESSEE</b>		
	Property Owner's Name University of Alaska Land Management	Contact Person: Tina Schimschat	Work Phone: 907-786-7766
	Mailing Address 1815 Bragaw Street, Suite 101, Anchorage, AK 99508	Home Phone:	Fax Number:
	E-mail Address tmschimschat@alaska.edu	Other Contact Phone Number(s):	
	<b>LANDOWNER/ LESSEE CONSENT</b> ****Required for Planning Permits, not needed on Building/ Engineering Permits****		
I am (we are) the owner(s) or lessee(s) of the property subject to this application and I (we) consent as follows: A. This application for a land use or activity review for development on my (our) property is made with my complete understanding and permission. B. I (we) grant permission for officials and employees of the City and Borough of Juneau to inspect my property as needed for purposes of this application.			
X	See Attached LOA Landowner/Lessee Signature	9/7/12 Date	
X	Landowner/Lessee Signature	Date	
NOTICE: The City and Borough of Juneau staff may need access to the subject property during regular business hours and will attempt to contact the landowner in addition to the formal consent given above. Further, members of the Planning Commission may visit the property before the scheduled public hearing date.			
<b>APPLICANT</b> If the same as OWNER, write "SAME" and sign and date at X below			
Applicant's Name AT&T	Contact Person: Justin Abbott	Work Phone: 206-790-4655	
Mailing Address 870 Oravetz Road SE	Home Phone:	Fax Number:	
E-mail Address justin.abbott@selectsiteacq.com	Other Contact Phone Number(s):		
X	Justin Abbott Applicant's Signature	9/7/2012 Date of Application	

OFFICE USE ONLY BELOW THIS LINE				
	Permit Type	SIGN	Date Received / Application Number(s)	
STAFF APPROVALS	<input checked="" type="checkbox"/> Building/Grading Permit			
	City/State Project Review and City Land Action			
	Inquiry Case (Fee In Lieu, Letter of ZC, Use Not Listed)			
	Mining Case (Small, Large, Rural, Extraction, Exploration)			
	Sign Approval (If more than one, fill in all applicable permit #'s)			
	Subdivision (Minor, Major, PUD, St. Vacation, St. Name Change)			
	X Use Approval (Allowable, Conditional, Cottage Housing, Mobile Home Parks, Accessory Apartment)	✓	9/16/12	Use 2012 0017
	Variance Case (De Minimis and all other Variance case types)			
	Wetlands Permits			
	Zone Change Application			
Other (Describe)				
***Public Notice Sign Form filled out and in the file.				
Comments:			Permit Intake Initials <b>CNH/</b>	

NOTE: DEVELOPMENT PERMIT APPLICATION FORMS MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS  
 FORMS 2010 Applications Revised November 2009

# ALLOWABLE/CONDITIONAL USE PERMIT APPLICATION

Project Number	Project Name (15 characters)	Case Number	Date Received
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## TYPE OF ALLOWABLE OR CONDITIONAL USE PERMIT REQUESTED

- Accessory Apartment\*\*\* (AAP)     Driveway in Right-of-Way (ADW)  
 Use Listed in §49.25.300 (USE)  
 (Table of Permissible Uses)

Please list the Table of Permissible Uses Category: 18.300

\*\*\*An Accessory Apartment Application will also be required.

## DESCRIBE THE PROJECT FOR WHICH AN ALLOWABLE OR CONDITIONAL USE APPROVAL IS NEEDED.

A Conditional Use Permit to allow for an existing AT&T communications facility to be relocated on the same property with a new design. The new communications facility is proposed to the North of the University Housing Buildings. The relocated site consists of a new 100-foot steel monopole, 6 panel antennas, and outdoor equipment cabinets inside a fenced 30' x 30' lease area. See drawings for details.

## IS THIS A MODIFICATION OF AN EXISTING APPROVAL?

NO     YES - Case # \_\_\_\_\_

## CURRENT USE OF LAND OR BUILDING(S):

AT&T currently has antennas mounted to one of the buildings on the University campus. This proposed site will replace the existing non-expandable site. Education/Communications - Uses

## PROPOSED USE OF LAND OR BUILDING(S):

Unchanged use of the land. New site location will provide better coverage and the ability to accommodate future technology growth.

## UTILITIES PROPOSED:

WATER:  Public  On Site

SEWER:  Public  On Site

## SITE AND BUILDING SPECIFICS:

Total Area of Lot 1247,123 square feet    Total Area of Existing Structure(s) \_\_\_\_\_ square feet  
 Total Area of Proposed Structure(s) 900 lease area square feet

## EXTERNAL LIGHTING:

Existing to remain     No     Yes - Provide fixture information, cutoff sheets, and location of lighting fixtures  
 Proposed     No     Yes - Provide fixture information, cutoff sheets, and location of lighting fixtures

## PROJECT NARRATIVE AND SUBMITTAL CHECKLIST:

- |   |   |
|---|---|
| <input checked="" type="checkbox"/> Site Plan   | <input checked="" type="checkbox"/> Existing and proposed parking areas (including dimensions) and proposed traffic circulation |
| <input checked="" type="checkbox"/> Floor Plan of proposed buildings                  | <input checked="" type="checkbox"/> Existing Physical Features of the site (drainage, habitat, hazard areas, etc.)              |
| <input checked="" type="checkbox"/> Elevation view of existing and proposed buildings |   |
| <input checked="" type="checkbox"/> Proposed Vegetative Cover                         |   |

For more information regarding the permitting process and the submittals required for a complete application, please see the reverse side.

If you need any assistance filling out this form, please contact the Permit Center at 586-0770.

## ALLOWABLE/CONDITIONAL USE FEES

Fees	Check No.	Receipt	Date
Application Fees			
Admin. of Guarantee			
Adjustment			
Pub. Not. Sign Fee			
Pub. Not. Sign Deposit			
Total Fee	<u>95650</u>	<u>cds 3cd</u>	<u>9/10/12</u>

**NOTE: MUST BE ACCOMPANIED BY DEVELOPMENT PERMIT APPLICATION FORM**

TO BE COMPLETED BY THE APPLICANT

## JN3021 Auke Bay – Relocation Site

### Conditional Use Permit Narrative:

Proposed Site Location: 4300 University Drive, Juneau, AK 99801

Proposed Communications Facility: Consisting of a 100-foot high steel monopole to support six (6) transmit/receive panel antennas and other associated equipment. Overall height with antennas/equipment will not exceed 102-feet. No FAA lighting is required on the tower so the facility will not be lit for aeronautical safety. A 30-foot by 30-foot fenced compound is proposed for the entire facility, which includes outdoor equipment cabinets. The facility has been designed to accommodate future collocation by another communications company. The existing paved access will be utilized for construction along with a short gravel access spur. See drawings for details.

Existing Environment: The proposed location for the replacement facility is located West of the campus buildings within a treed area that will provide a visual buffer. The University property currently has an existing AT&T facility located on Banfield Hall. The existing facility can no longer support the required equipment for the new technology, which is why the facility must be relocated.

Surrounding Uses: The proposed property is a very large parcel which contains a portion of the University Campus. The surrounding properties are buffered by large areas of undeveloped forested land. Government forest lands continue to the North and West of the proposed facility. The closest residential uses are located a considerable distance from the proposed location along Mendenhall Loop Road.

Visual Impact Analysis: The proposed tower location was selected after an extensive analysis of the existing topography, environment and close coordination with the University of Alaska.

The entire area was driven by a vehicle with the sole purpose of identifying any potential visual impacts that the new tower would have on the surrounding area. The proposed tower was not visible from Mendenhall Loop Road or Glacier Highway. The only potential location that the new tower would be visible would be from the middle of Auke Lake. Due to the minimal visual presence of the facility, the tower is not proposed to be painted. Photo-simulations of the proposed facility are included in the application package.

Additionally, the proposed facility will not have any adverse impacts on surrounding property values or neighborhood harmony, as the facility will not be visible, except on the University property.

Alternative Site Locations: As part of the relocation process, the existing and proposed communications facilities located within ½ mile of the existing facility/campus were analyzed. There is currently an existing steel monopole located approximately 1/3<sup>rd</sup> of a mile to the South @ the First Student Bus Barn property. This existing facility currently has multiple antenna arrays located on the tower and is more than 100-feet lower in ground elevation than the proposed facility. Additionally, Verizon Wireless has an approved land use permit to erect a new 150-foot monopole on the same property. This location was modeled as a potential solution but fails to provide the needed coverage to the University campus due to the topographic feature between the proposed tower and the University campus. Additionally, dense trees on this hilltop would prevent the radio frequency (RF) signal from penetrating the coverage objectives of the campus buildings and coverage along Mendenhall Loop Road. Collocation on either of these structures would not meet the RF coverage objectives. Additionally, AT&T has an existing facility located along Glacier Highway which already provides service in the Auke Bay marina area.

Conclusion: The proposed relocation facility will provide the necessary coverage to the University campus and will reduce the coverage gaps along the Mendenhall Loop Road, while providing the least amount of impacts to the subject property & surrounding environment. Additionally, the facility is designed to accommodate future collocation to another wireless provider, limiting the need for an additional support structure in this part of Juneau.





VeriCenter  
Communications, Inc.

Site/Site Acquisition,  
LLC  
10000 W. 10th Ave., Suite 100, West  
Platte, Colorado 80036

JUN3021 AUKE BAY RELO  
4300 UNIVERSITY DRIVE  
JUNEAU, AK 99801

NO.	DATE	ISSUE BLOCK
1	01-03-13	PRELIMINARY CONSTRUCTION DRAWINGS
2	07-17-12	FINAL CONSTRUCTION DRAWINGS
3	09-09-12	CHP REVISIONS
4	10-24-12	WEA REVISIONS
5	10-26-12	PERMIT REVISIONS PER CLIENT
6	01-03-13	FM LIGHT REVISIONS PER CLIENT



SHEET TITLE:

GENERAL NOTES

SHEET NUMBER:  
**G-1**

**APPLICABLE BUILDING CODES AND STANDARDS:**

- CONTRACTORS WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE A-CY ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.
- BUILDING CODE (INTERNATIONAL BUILDING CODE).
- ELECTRICAL CODE.
- AMERICAN FIRE PROTECTION ASSOCIATION (NFPA) 70, NATIONAL ELECTRICAL CODE.
- AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE (AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL IF STEEL CONSTRUCTION, ASD, 13TH EDITION).
- ALL TRANSMITTING ANTENNAS WILL BE INSTALLED IN A MANNER AS SET FORTH BY THE MANUFACTURER AND BY THE FEDERAL COMMUNICATIONS COMMISSION AS HEERING THE CURRENT AMERICAN NATIONAL STANDARDS INSTITUTE (ANSI) STANDARD FOR NORMALIZING ELECTROMAGNETIC RADIATION (NEMR).
- TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-F, STRUCTURAL STANDARD FOR STRUCTURAL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES.
- INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE 81, GUIDE FOR MEASURING DAPTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND STRIKE IEE 1000 (1989) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT.
- IEEE 625.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS FOR LOCATION CATEGORY "C3" AND "D" HIGH SYSTEM EXPOSURE).
- TIA 807 COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS.
- FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RECENT EDITION OF THE APPLICABLE REQUIREMENT SHALL GOVERN, WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

**GENERAL NOTES:**

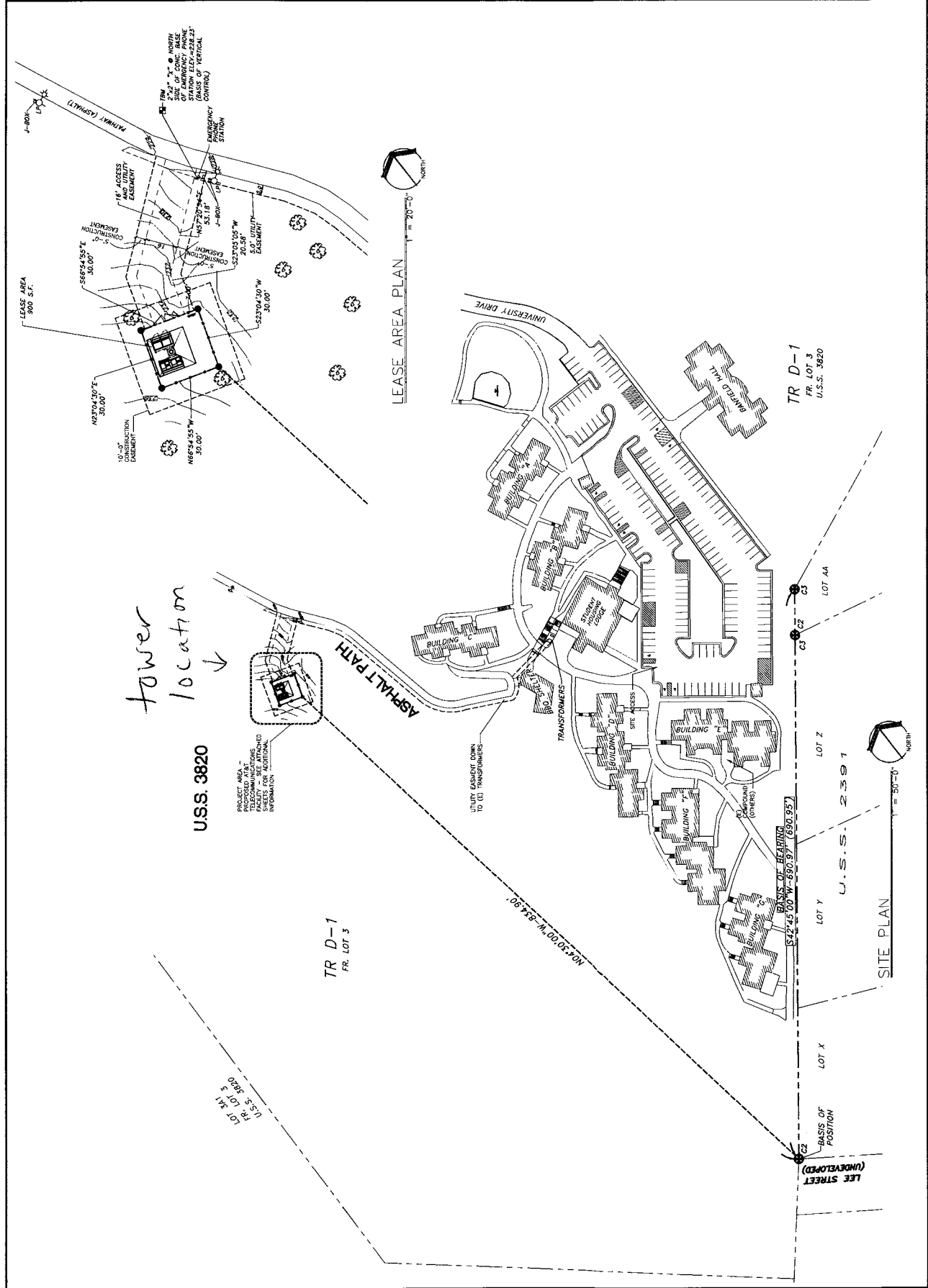
- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONSTRUCTION MANAGER - WESTOWER COMMUNICATIONS, INC.  
CONTRACTOR - WESTOWER COMMUNICATIONS, INC.  
THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF THE CONSTRUCTION MANAGER.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL NECESSARY PERMITS AND COORDINATE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- PERMITS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE BY THE CONSTRUCTION MANAGER.
- CONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF ANTENNA AND GROUNDING CABLES AS SHOWN. CONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY. CONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE AND PROPERLY FINISHED TO MATCH EXISTING CONDITIONS.
- CONTRACTOR SHALL REMOVE ALL DEBRIS AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS CEMENT CEMENTS AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL HAVE 2800 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
- ALL STRUCTURAL STEEL SHALL BE DONE IN ACCORDANCE WITH AISC SPECIFICATIONS.
- CONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE CONSTRUCTION DRAWINGS MUST BE VERIFIED. CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY CONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH THE OWNER. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW USUALLY IN LOW TRAFFIC PERIODS.
- SINCE THE CELL SITE IS ACTIVE, ALL SAFETY PRECAUTIONS MUST BE TAKEN WHICH WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION. EQUIPMENT SHOULD BE SHUT DOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO UNACCEPTABLE LEVELS OF EXPOSURE MONITORS ARE ADVISED TO BE WORK TO ALERT OF ANY UNACCEPTABLE EXPOSURE LEVELS.
- CONTRACTOR TO PROVIDE/RECORD ALL CHANGES IN DOCUMENTS IN REDLINE FORM AND PROVIDE TO CONSTRUCTION MANAGER WITHIN 3 DAYS OF COMPLETED WORK.
- CONTRACTOR TO PERFORM ANTENNA CABLE MARKINGS IN ACCORDANCE WITH AWS DOCUMENT NUMBER AWS-00217, REV 1.4, DATED 06/20/02.
- CONTRACTOR TO PROVIDE AND DOCUMENT ANTENNA CABLE SWEEP TEST IN ACCORDANCE WITH AWS STANDARDS.
- CONTRACTOR TO PROVIDE CLOSE OUT DOCUMENTS AS DIRECTED BY CONSTRUCTION MANAGER.
- ALL ITEMS NOT LISTED AS "EXISTING" OR "PROVIDED BY OTHERS" ARE TO BE SUPPLIED AND INSTALLED BY THE CONTRACTOR.





ISSUED DATE: 01-03-13

01-03-13	FA LIGHT REVISIONS PER CLIENT
10-26-12	EQUIPMENT REVISIONS PER CLIENT
10-24-12	PERMITS REVISIONS
08-21-12	PERMITS REVISIONS
08-21-12	CONSTRUCTION AGREEMENTS ADDED
08-09-12	CONSTRUCTION AGREEMENTS ADDED
07-18-12	CONSTRUCTION AGREEMENTS ADDED
07-17-12	PRELIMINARY CONSTRUCTION DRAWINGS
DATE	ISSUE BLOCK



tower location  
U.S.S. 3820

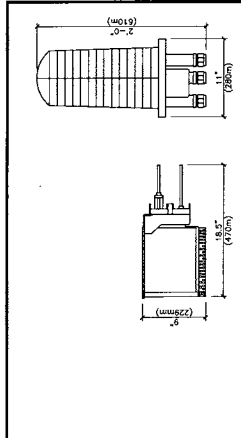
PROJECT AREA -  
PROPOSED AREA -  
EXISTING AREA -  
FACILITY - SEE ATTACHED  
INFORMATION FOR  
ADDITIONAL

TR D-1  
FR. LOT 3  
U.S.S. 3820  
FR. LOT 3  
U.S.S. 3820

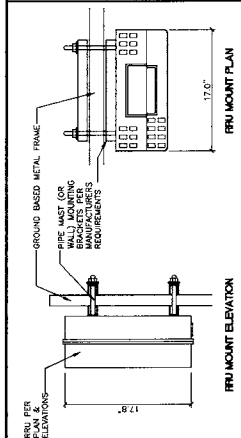
TR D-1  
FR. LOT 3  
U.S.S. 3820

SITE PLAN

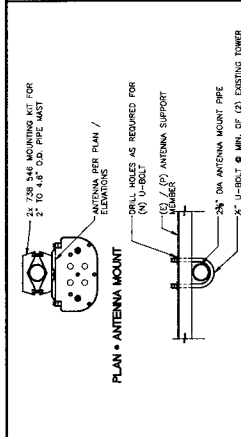




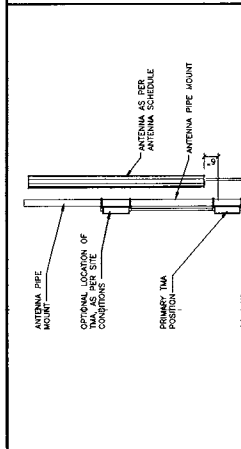
13. DC6-48-60-18-8F (SQUID)  
17/2" = 1'-0"



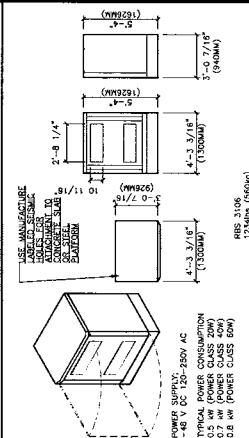
14. RRU MOUNT DETAIL  
17/2" = 1'-0"



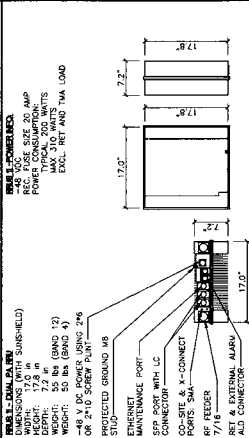
15. ANTENNA PIPE MOUNTS  
17/2" = 1'-0"



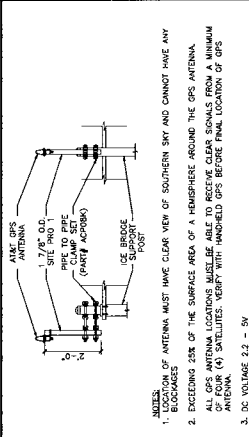
16. TMA PIPE MOUNT  
17/2" = 1'-0"



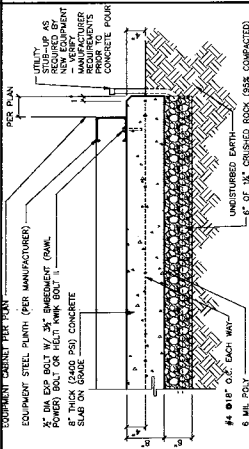
17. RBS 3106  
17/2" = 1'-0"



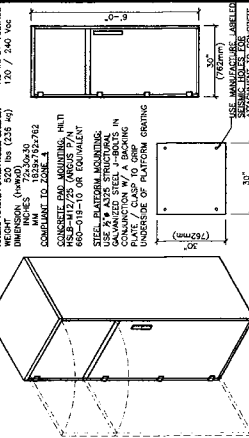
18. RRUS 11 - DUAL PAU RRU  
17/2" = 1'-0"



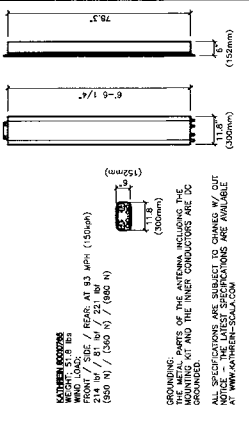
19. GPS ANTENNA  
17/2" = 1'-0"



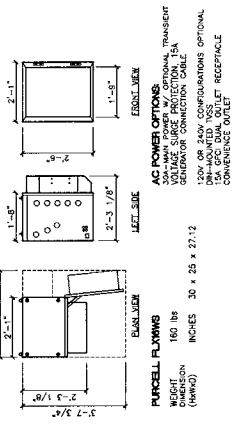
20. SLAB ON GRADE DETAIL  
17/2" = 1'-0"



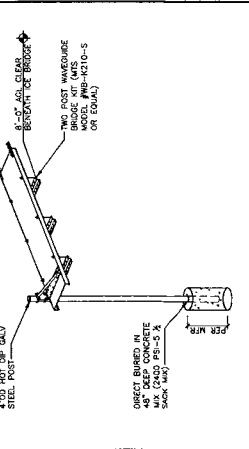
21. ARGUS TE45  
17/2" = 1'-0"



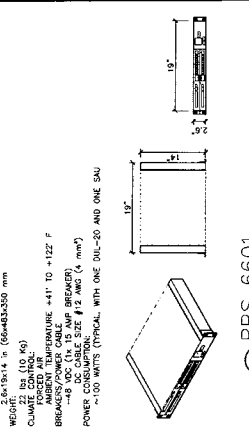
22. KATHREIN 80010765  
17/2" = 1'-0"



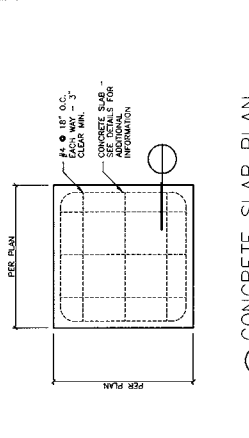
23. PURCELL FLX16WS  
17/2" = 1'-0"



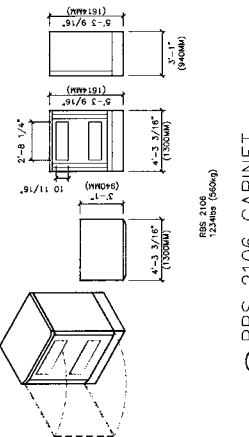
24. ICE BRIDGE  
17/2" = 1'-0"



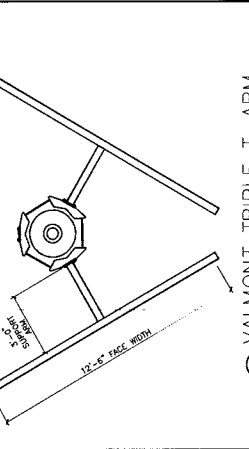
25. RBS 6601  
17/2" = 1'-0"



26. CONCRETE SLAB PLAN  
17/2" = 1'-0"



27. RBS 2106 CABINET  
17/2" = 1'-0"



28. VALMONT TRIPLE T-ARM  
3/8" = 1'-0"

POWER SUPPLY: 250V AC  
TYPICAL POWER CONSUMPTION:  
0.5 W (POWER CLASS 20W)  
0.6 W (POWER CLASS 50W)  
0.8 W (POWER CLASS 80W)

USE MANUFACTURER'S RECOMMENDED MOUNTING HARDWARE TO ATTACH TO CONCRETE. USE 1/2" DIA. ANCHOR BOLTS TO ATTACH TO STEEL.

AC INPUT VOLTAGE: 120 / 240 VAC

AC POWER OPTIONS: 200 WATT, 500 WATT, 1000 WATT, 1500 WATT, 2000 WATT, 3000 WATT, 4000 WATT, 5000 WATT, 6000 WATT, 7000 WATT, 8000 WATT, 9000 WATT, 10000 WATT

CONCRETE SLAB: 4" MIN. THICK, 150 PSI COMPRESSIVE STRENGTH, 10% FIBER REINFORCED. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE W/OUT NOTICE. THE LATEST SPECIFICATIONS ARE AVAILABLE AT: WWW.PURCELL-TECH.COM

GROUNDING: THE METAL PARTS OF THE ANTENNA INCLUDING THE MOUNTING HARDWARE AND THE INNER CONDUCTORS ARE TO BE GROUNDING. ALL SPECIFICATIONS ARE SUBJECT TO CHANGE W/OUT NOTICE. THE LATEST SPECIFICATIONS ARE AVAILABLE AT: WWW.PURCELL-TECH.COM

CLIMATE CONTROL: WEIGHT: 15.0 KG (33.0 LB) CLIMATE CONTROL: AMBIENT TEMPERATURE: +41 TO +122 F (5 TO 50 C) BREW: +48 C (118 F) AMP BREAKER: POWER CORD: 1.5 M (5 FT) AMP BREAKER: ~100 WATTS (TYPICAL WITH ONE DUAL-20 AND ONE SAU)

FRU MOUNT DETAIL: 17.9" x 17.9" x 11.0"

RRUS 11 - DUAL PAU RRU: 17.9" x 17.9" x 11.0"

GPS ANTENNA: 1.28m x 1.28m x 0.10m

SLAB ON GRADE DETAIL: 1.28m x 1.28m x 0.10m

ARGUS TE45: 1.28m x 1.28m x 0.10m

KATHREIN 80010765: 17.9" x 17.9" x 11.0"

PURCELL FLX16WS: 1.28m x 1.28m x 0.10m

ICE BRIDGE: 1.28m x 1.28m x 0.10m

RBS 6601: 1.28m x 1.28m x 0.10m

RBS 2106 CABINET: 1.28m x 1.28m x 0.10m

VALMONT TRIPLE T-ARM: 1.28m x 1.28m x 0.10m



Mail Processing Center  
 Federal Aviation Administration  
 Southwest Regional Office  
 Obstruction Evaluation Group  
 2601 Meacham Boulevard  
 Fort Worth, TX 76137

Aeronautical Study No.  
 2012-AAL-490-OE

Issued Date: 12/07/2012

John Monday  
 ATT Mobility (DB)  
 5601 Legacy Dr  
 MS:A-3  
 Plano, TX 75024

**\*\* 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:	Monopole Auke Bay RELO
Location:	Juneau, AK
Latitude:	58-23-36.72N NAD 83
Longitude:	134-38-31.00W
Heights:	236 feet site elevation (SE) 110 feet above ground level (AGL) 346 feet above mean sea level (AMSL)

This aeronautical study revealed that the structure does not exceed obstruction standards and would not be a hazard to air navigation provided the following condition(s), if any, is(are) met:

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 I)
- Within 5 days after the construction reaches its greatest height (7460-2, Part II)

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 06/07/2014 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 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.

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 our office at (907) 271-5863. On any future correspondence concerning this matter, please refer to Aeronautical Study Number 2012-AAL-490-OE.

**Signature Control No: 177081473-178514586**

( DNE )

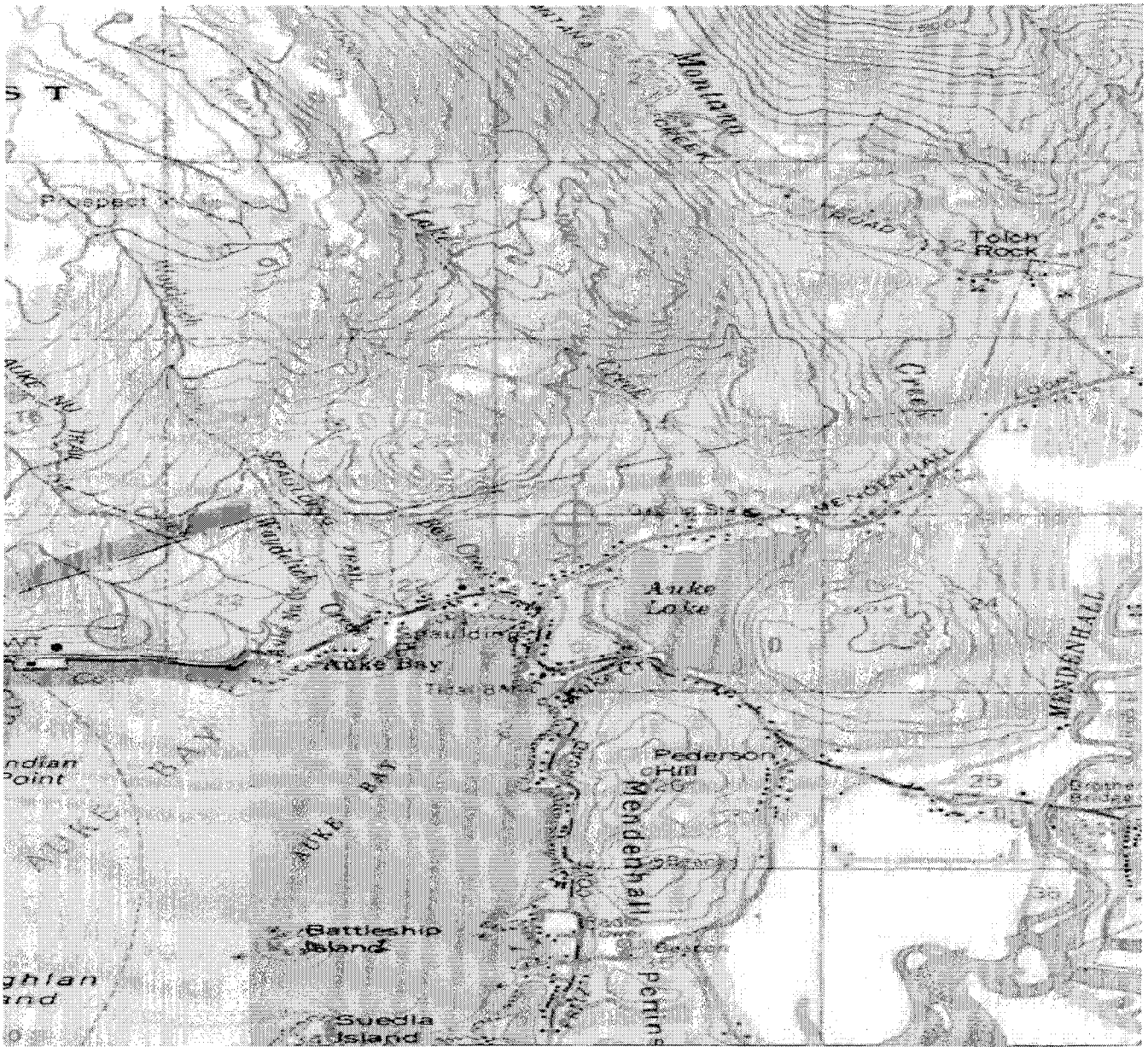
Robert van Haastert  
Specialist

Attachment(s)  
Frequency Data  
Map(s)

cc: FCC

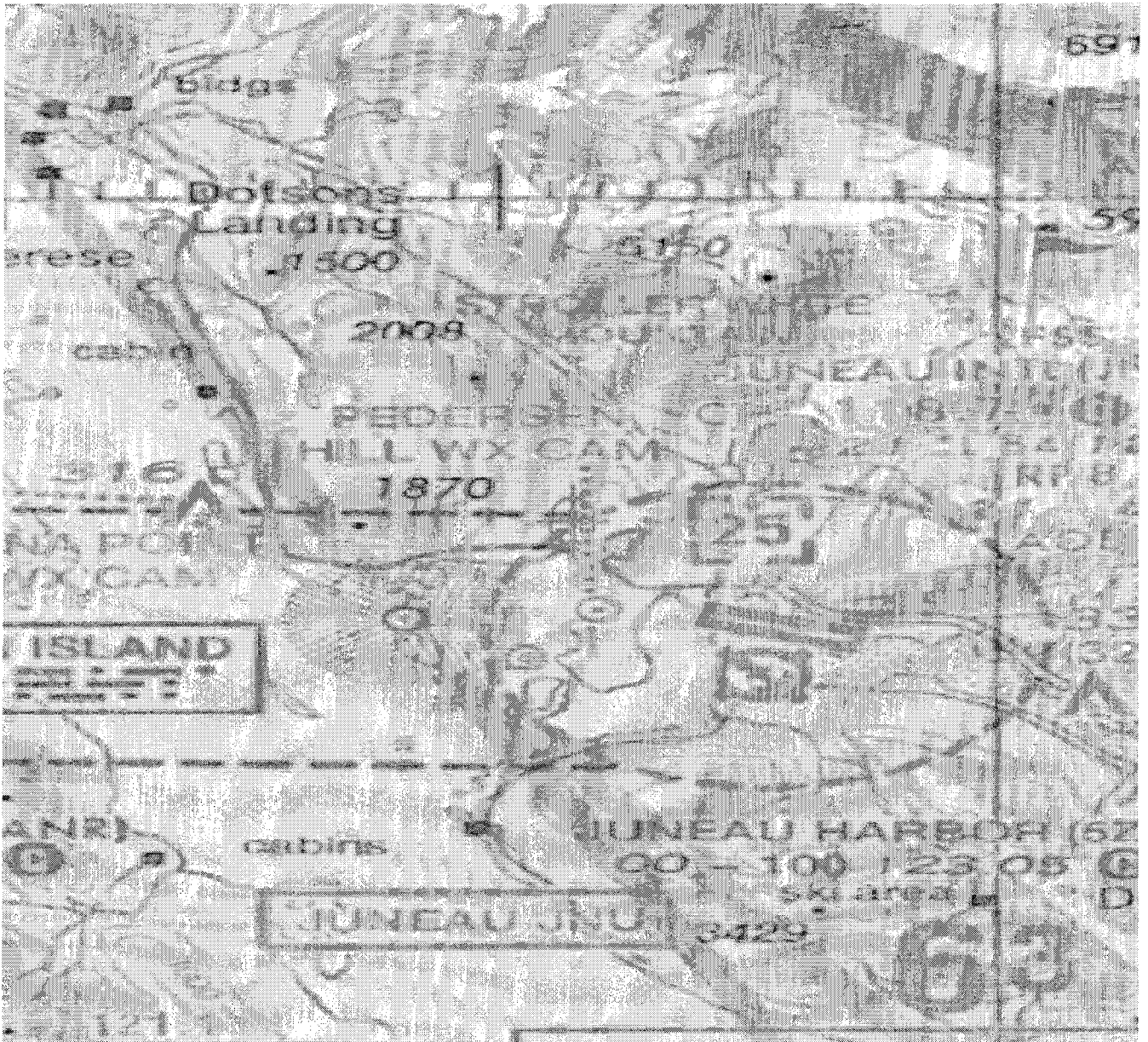
Frequency Data for ASN 2012-AAL-490-OE

LOW FREQUENCY	HIGH FREQUENCY	FREQUENCY UNIT	ERP	ERP UNIT
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
2305	2310	MHz	2000	W
2345	2360	MHz	2000	W





Sectional Map for ASN 2012-AAL-490-OE





# View #1 - Looking NW - Existing



Auke Bay - Relo Site



# View #1 - Looking NW - Proposed



Auke Bay - Relo Site

Building  
C



## View #2 - Looking West - Existing



Auke Bay - Relo Site

## View #2 - Looking West - Proposed



Auke Bay - Relo Site



**View #3 - Looking West / NW from parking lot  
Existing**



**Auke Bay - Relo Site**

**View #3 - Looking West / NW from parking lot  
Proposed**



**Auke Bay - Relo Site**

**View #4 - From the shoreline of Auke Lake - near Boat Launch Tower is not visible from any other properties. Possible views from the lake while on a watercraft. Tower would be behind trees.**

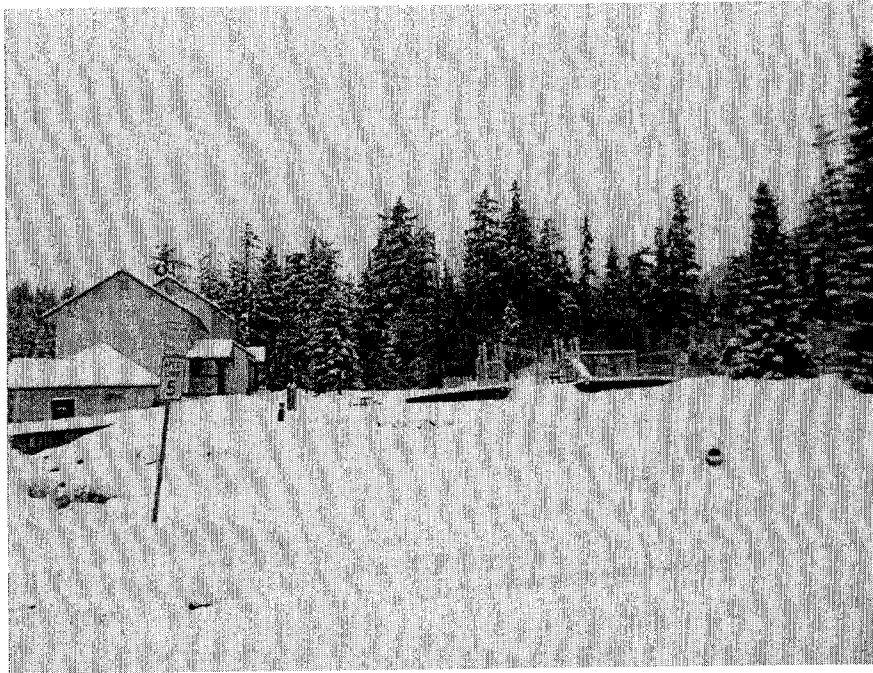


Auke Bay - Relo Site



# APPRAISAL REPORT

OF PERCEIVED IMPACT OF INSTALLATION OF  
100' TALL TELECOMMUNICATIONS MONOPOLE  
ON NEIGHBORING PROPERTY VALUES,  
JUNEAU, ALASKA



Prepared For: Justin Abbott, Auke Bay Relo  
AT & T  
870 Oravetz Road, SE  
Auburn, Washington 98092-8617

Prepared By: Charles E. Horan, AA41  
Horan & Company, LLC  
403 Lincoln Street, Suite 210  
Sitka, Alaska 99835

Effective Date: January 29, 2013

Report Date: February 5, 2013

Our File Number: 13-010



# HORAN & COMPANY

REAL ESTATE APPRAISERS/CONSULTANTS

CHARLES E. HORAN MAI / WILLIAM G. FERGUSON, TIMOTHY W. RILEY, JOSHUA C. HORAN,  
JAMES A. CORAK, AND SARAH ADAY

403 LINCOLN STREET, SUITE 210, SITKA, ALASKA 99835

PHONE NUMBER: (907)747-6666

FAX NUMBER (907)747-7417

commercial@horanappraisals.com

February 5, 2013

Justin Abbott, Auke Bay Relo  
AT & T  
870 Oravetz Road, SE  
Auburn, Washington 98092-8617

VIA Email: [justin.abbott@selectsiteacq.com](mailto:justin.abbott@selectsiteacq.com)

Re: Appraisal Report of Perceived Impact of Installation of 100' Tall Telecommunications  
Monopole on Neighboring Property Values, Based on Interviews with Knowledgeable  
Market Observers, Juneau, Alaska; Our File No. 13-010

Dear Mr. Abbott:

AT&T is developing communication facilities in Juneau that include a 100 foot tall monopole and associated equipment cabinet and appurtenances at 4300 University Drive. A conditional use permit is required from the City and Borough of Juneau (CBJ) for this development. One of the requirements of the permit is to determine the impact of the proposed facility on surrounding neighborhood property values. We have completed a study to identify the valuation issues through discussions with local knowledgeable people involved in this issue, the property owner and local real estate appraisers, brokers and other market participants who would enable us to discern the market perception relative to this issue in the Juneau market.

We have viewed the subject site and reviewed the development plans. It appears that the tower, a monopole, will be 20' to 40' above the existing tree height surrounding the subject property. In my opinion, this would be similar to monopoles found in other residential settings in the Mendenhall Valley. As planned, it would not cause serious view blight and would not provide noise, smell, or any other tactile interference to make it disharmonious with the neighborhood. Based on our interviews with four realtors, nine appraisers, and our own experience in the market place, it does not appear that there would be any substantial or measurable decrease in value of neighborhood property due to the proposed development.

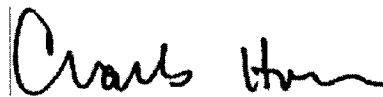
In addition to interviewing knowledgeable market observers, we have collected anecdotal information which substantiates this finding. The only additional research that might be done

to further probe the issue would be to identify recent sales in residential areas where there are cell towers and do a one-on-one comparison to see how those sale prices compare to the sale values of other properties with a lesser presence of cell tower influence. In our opinion, it is highly probable that the results of this additional analytical effort would not differ from the conclusions found from interviewing local, knowledgeable market observers.

Your attention is invited to the attached report which describes the subject property, outlines our methodology, discerns the opinions of knowledgeable market observers and identifies areas of other cell towers in residential settings that might have comparisons to the subject. Also, we have outlined what type of locational impacts may result in substantial decrease in property values. The report contains other background information relative to our conclusions, and summarizes Assumptions and Limiting Conditions, Definitions and Certification of this consultation.

If you have any questions or comments, please do not hesitate to call.

Sincerely,



Charles Horan, AA41  
HORAN & COMPANY



Joshua Horan, AA617  
HORAN & COMPANY

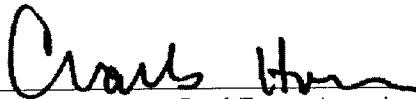
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## CERTIFICATION OF CONSULTATION

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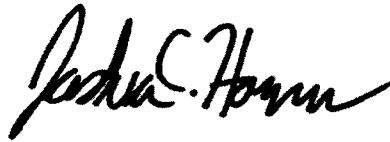
We certify that, to the best of our knowledge and belief:

- 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 is our impartial, and unbiased professional analyses, opinions, and conclusions.
- We 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.
- We have no bias with respect to the property that is the subject of this report or to the parties involved with this assignment.
- Our engagement in this assignment was not contingent upon developing or reporting predetermined results.
- Our 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 the review by its duly authorized representatives.
- We 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 people signing this certification.
- We have not performed any services regarding the subject property within the prior three years, as appraisers or in any other capacity.
- As of the date of this report, we, Charles Horan and Joshua Horan, have completed the continuing education program of the Appraisal Institute.



---

Charles E. Horan, Real Estate Appraiser  
AA41



---

Joshua Horan, Real Estate Appraiser  
AA617

January 29, 2013

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Effective Date

February 5, 2013

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Report Date

FIGURE 1 - SIMULATED PHOTO SHOWING WHAT PROPOSED TOWER WILL LOOK LIKE. SOURCE: AT&T





### 1.1 PROPOSED PROJECT

AT&T is negotiating an approximately 30'x30' lease from the University of Alaska, located at 4300 University Drive, Juneau, AK 99801 described as Tract D1, USS 3820, Juneau Recording District. The site is zoned D3, a medium density residential zone. The site is located west of campus buildings in in a wooded area with trees approximately 60' to 80' tall.

The proposed site has an access via an existing paved pedestrian path and a proposed gravel spur road. The area immediate to the site is surrounded by trees, with several student housing buildings located to the southeast.

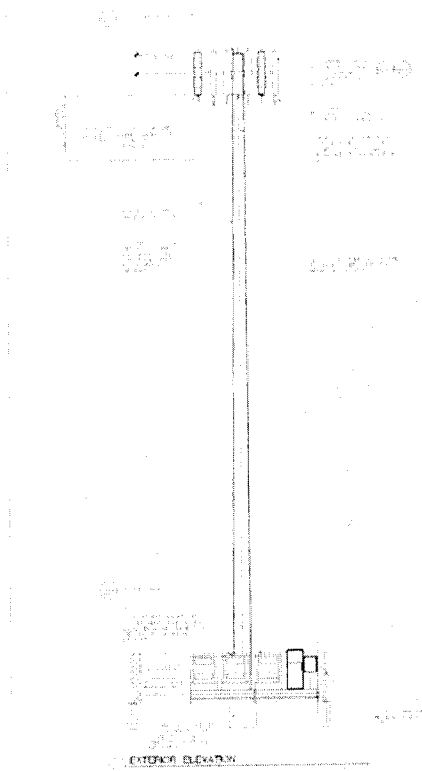


FIGURE 4 - EXTERIOR ELEVATION. SOURCE: AT&T

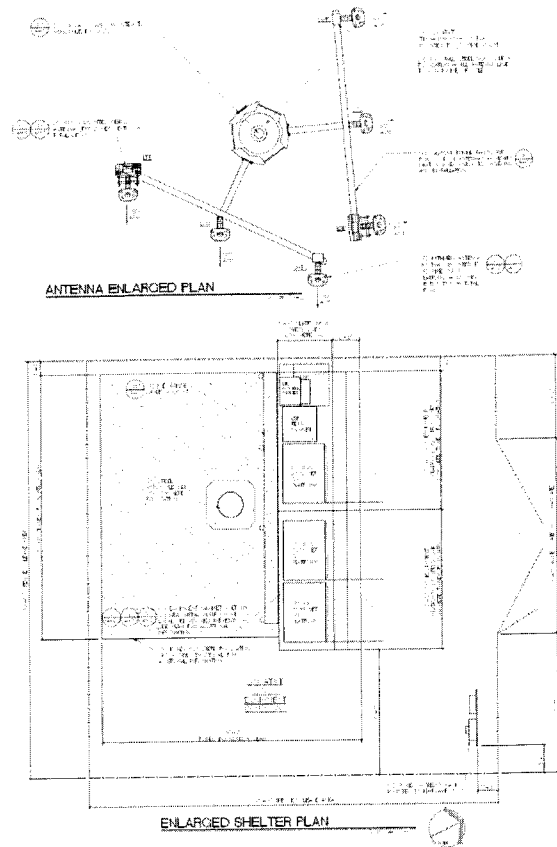


FIGURE 3 - ENLARGED SHELTER & ANTENNA PLANS. SOURCE: AT&T

The project as proposed would be a 100 foot tall monopole with six antennas and associated equipment. The 30 x 30' site is proposed to be fenced. There will be a metal equipment platform several equipment cabinets.

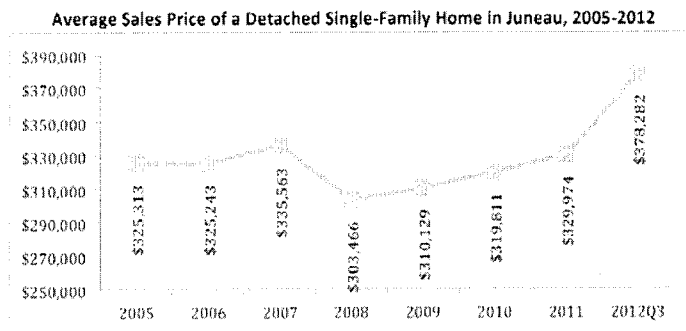
As proposed, it is not expected that the facility will generate significant sound. The tower will be easily visible from UAS Student Housing and possibly the middle of Auke Lake. The permit application notes that the surrounding area was driven, and that the tower should not be visible from Mendenhall Loop or Glacier Highway.

It is assumed the structure will meet wind and weight bearing specifications as it goes through the local building code process. The antennas will distribute electromagnetic radio waves that contain some level of radiation. These radio frequency levels must be in compliance with FCC emissions. There is a concern on the local level about the health hazards

of cell tower emissions. There have been local concerns about these health risks and these risks are also expressed in national and international literature on the issues on cell towers and their possible bio-hazards. There are two sides to this debate. While a sincere concern for health risks have been raised at a number of public meetings for conditional use permits in conjunction with tall cellular phone tower development in Juneau, there is extensive public literature that indicates there is no convincing scientific evidence that weak radio frequency signals from base stations and wireless networks cause adverse health effects.<sup>1</sup> New research and information may emerge over time and the arguments for and against the health concerns may change in the future. The only purpose of our study is to determine if there is a current negative market response to the presence of cell towers in the immediate neighborhood as of January 2013.

**Juneau Housing Sales and Prices**

In the first three quarters of 2012, the average sales price for single-family homes in Juneau reached \$378,282, surpassing the previous 2007 high of \$335,563. The average price for was based on 186 sales, so while the trend of increasing prices seems clear, the actual value can differ greatly on the basis of a few sales. Nationally, home sales peaked in 2006 and defaults of subprime mortgages increased quickly thereafter. By mid-2007, home prices and sales had dropped dramatically. Since 2009, Juneau's home prices have continued to rise as those at the national-level have faltered. Showing a strong rebound, however, national prices are up 11.4% in first half of 2012.



**FIGURE 5 - JUNEAU HOUSING SALES AND PRICES**

**1.2 JUNEAU REAL ESTATE MARKET**

A market is a place where buyers and sellers meet to determine a price. The market in Juneau is relatively well developed with most transactions being handled by realtors. There is an active Multiple Listing Service (MLS) that gives reasonable exposure for the bulk of the sales. As an indicator of the volume and pricing trends in this market, Figure 5 from the Juneau Economic Development Association shows

average selling price of a single-family residence through Q3 of 2012. The market appears to have appreciated significantly from 2011 through 2012 has remained strong throughout the year.

This trend covers a period when housing prices had run up, which generally follows the national trend, peaking in 2007 and then cooling in the following years based on the national recession and the uncertainty in the real estate market. The Juneau market, however, has remained strong over the past four years with a persistent employment and population base. Also, the capital creep ended or slowed significantly in 2009 along with the announcement that

<sup>1</sup> See American Cancer Society web site under question Do Cellular Phone Towers Cause Cancer? <http://www.cancer.org/Cancer/CancerCauses/OtherCarcinogens/AtHome/cellular-phone-towers>



the Kensington Mine would come online. Indeed, production began in June 2010. Further, the influence of the state government in Juneau remained positive due to the strength of the treasury as a result of persistent high oil prices. In this environment, demand is good, sales brisk and the market would be characterized as in balance.

At the same time, the demand for cell phone usage has increased significantly. The increased demand has been filled mostly by AT&T and GCI within the Juneau area. They or their contractors have developed cell towers within the community in an attempt to get as complete coverage as possible. The Mendenhall Valley residential area has seen a development of several towers and some permitting of towers that have not been built. It is reported that within the subject area itself, reception is spotty for some carriers.

### **1.3 VALUE IMPACT AND HARMONY OF CELL TOWER PRESENCE**

This study specifically addresses the City and Borough of Juneau Code 49.15.330 (d) (5) (B) f, which require the Planning Director and Commission to answer the question “Will [the proposed development] substantially decrease the value of or be out of harmony with property in the neighborhood area?” The term “substantially decrease the value” would mean there would be a measurable negative influence. In the subject instance, this would come from the visual impact of the tower and the market’s perceived health and safety risks that would be substantial enough to be discernible through sales activity reflecting a measurable downward pricing trend discernible in the market. The term “be out of harmony” would be captured in these elements of market diminution due to the negative impact of sight, sound, smell or other perceived health or safety risks that were not present prior to the permitted use.

In the past, the appraisers have studied the Juneau market including specific sales research and interviews with knowledgeable market observers to discern what types of negative uses or situations may result in an impact on property values. Some of these impacts may be substantial or measurable to pricing in the market. Some impacts are more subtle and not considered to have a measurable impact on property values relative to comparable properties in areas without the particular disharmonious use. Some examples of situations that, in the extreme, may impact property values and on the other hand, if more subtle, probably would not impact property values include the following:

- A home in a slide area;
- Properties next to high voltage power lines, with view obstruction;
- Properties with significant view obstructions such as power poles, commercial and industrial or degraded uses within the view shed;

- Properties next to noxious odors or noises such as sewage treatment plants or airport noise;
- Properties within avalanche areas;
- Properties that have had oil spills or other bio-hazardous events that have been mitigated by cleaned up or managed in place.

In order to determine the impact of these types of negative attributes, we have considered a variety of methods including matched-paired sales studies and interviews with local knowledgeable market observers. The matched-paired sales method would include identifying recent sales of properties near cell towers that are similarly situated to the proposed situation. These sales could then be contrasted with other neighborhood sales or sales as similar as can be found in all regards except for the influence of cell towers due to proximity or visual orientation. This would be a time consuming and costly study. Its ultimate reliability would depend upon the availability of observations or sales that would provide the needed contrast. In situations where cell towers are large, of noticeable contrasting colors, and provide extreme nearby view obstructions in a residential settings, it would be an easier hypothesis to test. In the subject's case, where the cell tower would be more subtle, it may be difficult to discern the differences and would require a greater amount of market research with a questionable outcome depending on the quality of available data. As an alternative, there is a more direct way to address the problem. We developed a second method, interviewing knowledgeable market observers.

Ultimately, real estate is local. Prices paid and the factors influencing those prices are based on local preferences and market knowledge. Trends observed in other areas may not be immediately applicable to the local market. Professionals who have observed their local market, especially realtors and appraisers who are familiar with hundreds or thousands of transactions in the local market, would be the best to first discern what the expected impact of cellular phone towers would be on price or market value. The definition of market value is:

The most probable price that 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 and knowledgeably, and assuming the price is not affected by undue stimulus. Implicit in this definition are the consummation of a sale as of a specified date and the passing of title from seller to buyer under conditions whereby:

1. Buyer and seller are typically motivated;
2. Both parties are well informed or well advised, and acting in what they consider their best interests;

3. A reasonable time is allowed for exposure in the open market;
4. Payment is made in terms of cash in U.S. dollars or in terms of financial arrangements comparable thereto; and
5. 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.

The Dictionary of Real Estate Appraisal, 5th Edition, Appraisal Institute, Pages 123

The critical element here is the knowledge of the buyers and sellers. In order to determine the buyer and seller knowledge base, we have interviewed appraisers, realtors and others who are knowledgeable within the market place, having observed buyer and seller response to prices for various positive and negative aspects of residential real estate transactions in Juneau.



## **1.4 INTERVIEWS WITH MARKET PARTICIPANTS**

### **Juneau Residential Real Estate Appraisers' Feedback**

We have interviewed a significant number of brokers and residential real estate appraisers who work within the Juneau market and regularly communicate with buyers and sellers. Nine appraisers with over 100 years of experience and over 10,000 residential appraisals were asked if they had ever used a discount or adjustment for a property's locational influence relative to cell towers in the residential settings similar to the subject. The answer was no. Further inquiry was made as to what types of negative neighborhood influences might require consideration of market adjustments. Examples included proximity to Lemon Creek Correctional Center, the garbage dump, substation noise, avalanche zone or slide areas, residential views over industrial parks or old mobile home parks, and neighborhood densities. It is important to note that many of these negative influences are relative to comparables taken from other areas and are not necessarily negative for comparables from the similarly situated area.

### **Juneau Residential Realtors' Feedback**

Similar to the question proposed to appraisers, realtors were interviewed to ascertain if they had detected any influence of cell towers in their experience with buyers and sellers. Four realtors interviewed represented involvement of approximately 1,400 transactions, with over 30 years' experience within the Juneau market. Their responses were generally that there was no significant influence and, oftentimes, if cell towers were disguised, they were overlooked. There was an acknowledgment that if cell towers interfered significantly with the view shed, such as a large, direct, obstruction, which obstructed an otherwise scenic view, it may be an issue. However, there were no specific situations noted in this regard. One realtor commented that if there were a large tower developed immediately adjacent to the property it might have some influence, but it depended on the degree and how well screened the tower would be. In several cases, realtors commented that they were never discussed or not known to have existed in areas where they were present. In some cases, cell tower installations were confused with electrical installations.

When asked if there were health concerns related to cell towers within the market that impacted value, the answer was no. One comment was that there may have been some health concerns with proximity to electrical substations, and they would expect that concerns of cell towers might be similar; however, there was no known adjustment for price based on these situations.

The realtors were asked what kind of negative influences in the market they would consider substantial or measurable due to locational elements. Wastewater treatment plant, a gas company, downwind from the dump and proximity to the jail and avalanche areas were all mentioned. Properties that had persistent noise or odor, significant view obstruction or known

hazards such as avalanche may be considered significant within the market. When queried about less significant negative influences that may not be substantial, the indication was that if the degree of influences were moderate or subtle, they would not be significant market determinacies.

### **1.5 ANECDOTAL DATA**

The presence of cell towers in many instances is unnoticed. There are comments from realtors who sold houses adjacent to cell towers that they were not even aware the cell towers were there. One realtor handled two separate transactions within the last few years, literally across the street from the 100' tall cell tower at Valley Boulevard and Mendenhall Loop Road (8503 Valley Boulevard) and indicated the cell tower had no apparent influence on the transaction. A comment was made that the congested intersection and traffic along Mendenhall Loop Road would have more of an impact on price consideration.

A renter at 12280 Mendenhall Loop Road, Darrell West, indicated the nearby cell tower made no negative difference to him or his roommates. In fact they appreciated that they had very good reception for their 3G Android cell phones.

The former City and Borough of Juneau Assessor related an incident where as Assessor he had made a downward adjustment for a cell tower on North Douglas. Within a year of making a substantial downward adjustment, he reported the property sold for \$200,000 over the adjusted value. There seems to be an acknowledgment in the market that a large tower blocking a scenic view could have an influence on value, but this would be a rare case. There was no anecdotal data related to the Mendenhall Valley residential areas that would indicate well-situated, disguised cell towers would have a negative impact on surrounding property values.

### **1.6 PRICE COMPARISON**

The scope of this study did not include an analysis of pricing of properties directly in the influence of cell towers that would be comparable to the subject situation. The appraiser has reviewed various cell tower locations in the area. The most competitive towers would be those located at 12260 and 12364 Mendenhall Loop Road, at the Valley Chapel at 9741 Mendenhall Loop Road, 8503 Valley Boulevard, and 8748 Trinity Drive. Figure 6 indicates the potential similar study areas that would likely mimic the impact, if any, in the proposed area.

Further study could be done to suggest a radius of influence for these towers and identify sales, which have occurred since their installation. The sales analysis would attempt to identify properties similarly situated of similar characteristics in similar market conditions (time) and determine if there were significant price differences between the sales explainable by the influence of the cell tower. It is not certain how many sales and paired similar properties would

fulfill these criteria. Based on the research done so far and the interviews with knowledgeable market observers, it does not appear likely that the most competitive similarly situated cell towers would produce a negative influence on market values discernible by this paired sales technique. However, we stand ready to pursue this type of study if so desired.

## **1.7 CONCLUSION**

We have reviewed competing potentially similar neighborhood areas. We have found a lack of documented discounts or negative market reactions towards the presence of cell towers in these residential settings. This is confirmed by interviews with local knowledgeable market observers. It is therefore our opinion there would be no substantial decrease of value due to the presence of the proposed cell tower to the surrounding neighboring properties. It is further our opinion that if a more in-depth study was completed through market price comparisons, it is highly probable it would not change this conclusion.



