ASSEMBLY STANDING COMMITTEE
COMMITTEE OF THE WHOLE
THE CITY AND BOROUGH OF JUNEAU, ALASKA

June 16, 2014, 6:00 PM.
Municipal Building - Assembly Chambers

Assembly Worksession with the Planning Commission

I. ROLL CALL

II. APPROVAL OF AGENDA

III. APPROVAL OF MINUTES

A. April 14, 2014 Assembly Committee of the Whole Meeting

B. May 5, 2014 Assembly Committee of the Whole Meeting

IV. AGENDA TOPICS

A. Ordinance 2014-32 An Ordinance Amending the Land Use Code of the City and Borough to Provide for the Regulation of Wireless Communication Facilities and Providing for a Penalty.

B. Ordinance 2014-14 An Ordinance Amending the Land Use Code Relating to Rezoning Procedures.

C. Seawalk 1% for Art

V. ADJOURNMENT

Note: Agenda packets are available for review online at www.juneau.org.

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ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA

April 14, 2014 Assembly Committee of the Whole Meeting

ATTACHMENTS:

	Description	Upload Date	Type
☐	Assembly Committee of the Whole Minutes - DRAFT April 14, 2014	6/11/2014	Minutes

ASSEMBLY STANDING COMMITTEE
COMMITTEE OF THE WHOLE
THE CITY AND BOROUGH OF JUNEAU, ALASKA

April 14 2014, 6:00 PM.
Municipal Building - Assembly Chambers

Assembly Worksession

I. ROLL CALL

Deputy Mayor Mary Becker called the meeting to order at 6:02 p.m. in the Assembly Chambers.

Assemblymembers Present: Mary Becker. Karen Crane, Loren Jones, Jesse Kiehl, Jerry Nankervis, Carlton Smith, Kate Troll and Randy Wanamaker

Assemblymembers Absent: Merrill Sanford

Staff present: Kim Kiefer, City Manager; Rob Steedle, Deputy City Manager; Tricia Everson, Executive Assistant II; Hal Hart, Community Development Director; Bob Bartholomew, Finance Director; Eric Feldt, Planner II; Beth McKibben, Senior Planner, Charlie Ford, Building Codes Official

II. APPROVAL OF AGENDA

Ms. Becker said the City Manager would like to add a Letter of Support for HB358 to the agenda. Hearing no objection, the agenda was approved.

III. APPROVAL OF MINUTES

A. March 10, 2014 Assembly Committee of the Whole

Ms. Becker had changes to page one to say “minutes,” page two in seventh paragraph, second line, “school” needed to be corrected; page four, third paragraph second sentence should be “she.” Ms. Troll said page four, same paragraph, third sentence from bottom should be “shielding” the light. Mr. Kiehl said on page four third sentence from the bottom, the first word should be “pursuing” and on page one, the name should be Travis Goddard.

Hearing no objections, the minutes of the March 10, 2014 Committee of the Whole meeting were approved as corrected.

B. March 24, 2014 Assembly Committee of the Whole Minutes

Hearing no objections, the minutes of the March 24, 2014 Committee of the Whole meeting were approved.

IV. AGENDA TOPICS

A. Juneau Economic Development Plan Update

Jim Calvin of the McDowell Group introduced Barbara Sheinberg and Kirsten Shelton Walker, who had been very busy collecting information on the economy and holding meetings. They were developing a road map for a path towards a stronger, more diverse, economy over the next ten years. They broke it down into three tasks: 1) the economic baseline work; 2) community engagement effort, and 3) the actual strategic planning exercise.

The economic baseline included the over-arching trends, including a slow population growth. Juneau was growing at about the same rate as the rest of the state. Mat-Su was the fastest growing area in the state, about the same rate as Anchorage. Last year Juneau gained about 225 residents. Juneau was up to about 33,000 residents now. There was a downward trend of Juneau residents in the labor

force – there were 600 fewer Juneau residents in the labor force in 2012 than there were in 2003. During the same time, the non-resident labor force had grown quite dramatically, with 1,900 more non-residents in the labor force than 10 years ago. The most recent data showed Juneau paid $170 million dollars in wages to non-residents. This was something to think about in terms of economic opportunity, to determine what could be done to keep wages in the hands of Juneau residents.

Another interesting trend was the increasing reliance on investment income in the personal income picture. About 2/3 of personal income comes from wages and salaries. About 22% or so comes from investment income and 10-11% comes from transfer payments which is money that comes from government to individuals. Income from wages was pretty flat, growing about 1% a year in the last decade. Investment income was growing about 4-5% a year, and about 50% over what it was ten years ago. This was largely a function of the growth in the retired population. Investment income included rents and income on investments in the stock market, retirement income, 401(k)s, IRA's etc. Income from those sources was increasingly an important part of the income mix and would continue to grow as more people reached retirement years. A question to ask was how to keep that retirement income in the community, and how to provide necessary senior services. Another trend was a relatively flat employment picture over the last decade, growing at a rate of about 1/3 of the state overall. There was a net gain of about 860 jobs over the last decade, which included about 400 fewer government jobs and about 1200 private sector jobs. Overall employment in the state had grown 1.5% per year, and Juneau was growing at about .5% per year.

They were waiting for statistics from Dept. of Labor for 2013. The population was aging rapidly and had profound implications for the economy and the community. Currently 10% of the Juneau population was over 65 years of age, by 2015, it would be 20%. 45% of the State of Alaska labor force was over 50 years of age. Making sure we have the right services for the aging population and ensuring a replenishment of the workforce were concerns to keep jobs and population in Juneau.

Mr. Calvin spoke about the resident and business surveys underway and their publicity to get the word out. He discussed the questions asked during the telephone surveys and some of the answers they were hearing. There was a high level of interest in the project from many community groups. In June all the information would be gathered from the work to date and be provided to the Assembly to identify goals/obstacles and direction. The detailed planning would be done in the fall, with an action plan, identification of responsible parties, timeframes, the metrics for measurement of progress and a final plan by December.

The Assembly asked questions of and provided input to Mr. Calvin.

B. Ordinance 2014-13 - An Ordinance Amending the Purchasing of Supplies and Services Code Related to the Disposal of Surplus Supplies

Bob Bartholomew provided an issue paper regarding the revised code regarding the surplus of CBJ property. The current program was not working as well as it should and needed streamlining. The amendments to the code would allow much of the detail to be moved to an administrative policy approved by the manager and implemented by the Purchasing Division. The new process was tested and the response was good. There was a pent up demand from departments to move excess property out of CBJ and to where it could be used or destroyed. He answered questions and took comments from the Assembly.

C. Housing Group Report

Wayne Coogan, Contractor/Developer; Mike Ban, Realtor; Dave Hanna, Manufacturer/Building, Russ McDougal, Builders and Erroll Champion, Realtor were present to speak to the Assembly.

Mr. Coogan said the Community Development Department was the primary regulator of the housing industry and everyone was aware of the need for housing in the community. Builders he spoke with were encouraged by the new staff and the customer service attitude was noticed and appreciated. Mr. Coogan related that there were few places available for Section 8 housing, and for seasonal

rentals. He did not like the label "affordable housing." There was no housing that was cheap to build or buy and he thought the need was great and every kind of housing should be encouraged.

Mr. Hanna said he started taking notes in 2006 about the discussions on the issue of housing in Juneau and thought that some progress had been made regarding increasing density, updating the Comprehensive Plan, changes to development standards, and service standards at CDD. He said the CDD's staff's hands were tied to some extent by regulations, but those were being reviewed. He said it almost seemed that the balance was tipping in some instances about being over zealous about development and he suggested that a meeting with staff and developers, a peer review group, might be needed to review standards so that adequate safeguards were in place to protect the city and the buyers of property. Mr. Hanna spoke in favor of the D-10 SF designation that was underway and mobile home subdivisions. He encouraged a tax abatement program rather than deferral regarding the subdivision of property pending development.

Mr. Ban said the price point is very frustrating for first time home buyers - $250,000 - $300,000. This is generally a starter home price in Juneau and it was very difficult to find something in that range, and often led to people relocating out of Juneau. The majority of homes in that price range were condos or attached homes. Very few single family homes would be built in that price range. It did not appear that land had been made available to encourage construction of new attached homes for that market.

Mr. McDougal said it was important to implement the housing matrix. Changes in planning, zoning and providing incentives were important. The tax abatement issue was downsized and implemented as a tax deferral program. He would like that law changed at the state level. He supported allowing higher square footage in accessory apartments, and allowing a second bedroom in accessory apartments, as a way to provide more housing. He was concerned with the slow pace of implementing the changes. He spoke about the workforce at the local mines that were able to afford to buy homes, and a pending mine coming on-line, which would create a greater need for housing than existed now.

Discussion continued with Assemblymember questions and comments.

D. Housing Matrix Review

Hal Hart, Community Development Director, said staff was working on several of the issues on the matrix. He said their goal was to get people into housing. Since last year, 154 housing units were approved, it was similar to last year, and there were some on the horizon. The Planning Commission subcommittee on subdivision standards was meeting on April 22 and would there would be a joint Assembly / Planning Commission meeting on August 18 to consider a recommendation. Work continued on D-10 SF in the Pederson Hill area, which would allow smaller lot single family homes. Another trend was in-fill subdivisions in existing neighborhoods, taking large lots and putting in 2-4 homes. Beth McKibben spoke about a recent subdivision utilizing the bungalow housing option. Mr. Hart said housing was developing in most areas with the exception of downtown, and spoke about the barriers and opportunities for development.

E. FEMA Mapping Update

Mr. Hart said since the passage of the flood ordinance in August, 2013, there was an ongoing effort to reach out to the community and staff had worked on over 50 map amendments to date. Eric Feldt was the lead on the project and said that FEMA had removed several properties from the flood zone on their maps due to the applications that were made. Mr. Hart said that the USGS had approved the LIDAR mapping data for use, which would allow the discovery report process to proceed. This would allow FEMA to look at CBJ data and issues with this new tool. Good data led to better certainty and would eventually be available to the public for its use regarding development of property. Mr. Feldt explained the "Risk Map Process," and said Juneau was selected by FEMA to have CBJ tell them about the known hazards and request assistance for management suggestions. This did not mandate CBJ to incur any expenses but did put Juneau on FEMA's radar of communities that wanted

to move forward in making the community more resilient to hazards. The Assembly discussed the flood velocity zones and issues surrounding the experience with FEMA regulations. Mr. Steedle explained the benefits of the LIDAR mapping and that any partnership with FEMA was not mandatory and all risks would be evaluated.

F. Ordinance 2014-22 - An Ordinance Amending the City and Borough of Juneau Code Relating to Street and Sidewalk Vending.

Mr. Steedle said the ordinance was before the Assembly because of Mr. Kiehl's concerns about the deletion of street vending.

Mr. Kiehl suggested opening opportunities for street vending rather than deleting. He thought it would be better to leave the code on the books as is, even if it had not been used, rather than to delete the section. On page 3, lines 18-23, no street vending was allowed in PD1 and PD2, the traditional downtown district, and he would like to see the ordinance opened to PD1, which might increase the vibrancy of downtown.

MOTION, by Wanamaker, to direct staff to incorporate Mr. Kiehl's comments into the ordinance.

Mr. Steedle asked for clarification, that the Assembly was interested in allowing vehicles and carts to be allowed in parking spaces as well as other locations. Mr. Kiehl said that the sidewalk vending would stay in place and he proposed to keep the street vending section in the code for a cart or vehicle to use a parking spot in the PD1 zone.

Mr. Smith suggested review by the Downtown Business Association.

Ms. Kiefer said the rules in Parks are slightly different so there can be different vending in parks than on the streets. Mr. Kiehl said the opportunities for use of a cart or vehicle is enhanced if it could be used in parks as well as streets.

Hearing no objection, it was so ordered.

Ms. Becker opened the floor to discussion of an added topic, the approval of the Assembly to send a letter by the Mayor supporting Senate Bill 220 - regarding state funding for the PRS/TRS program. Ms. Crane said there should also be a letter supporting the House Bill 358. Item 3, second sentence from the bottom on the first page, she said it should say "we understand that this proposal *will* extend the contribution rate" (vs. may). If we do these letters they should be hand delivered, not mailed. Mr. Kielh said in the first paragraph the phrase "on behalf" appears in quotes twice and the second one should be struck.

MOTION, by Kiehl, to send a letter of support for SB220 and HB358. Hearing no objection, it was so ordered.

V. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

Ms. Crane reminded the Assemblymembers about the pending Finance Committee meeting. Ms. Kiefer asked the members to bring the April 2 packet along in order to conserve paper.

VI. ADJOURNMENT

Hearing no objection, the meeting adjourned at 8:30 p.m.

Submitted by Laurie Sica, Municipal Clerk

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ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA

May 5, 2014 Assembly Committee of the Whole Meeting

ATTACHMENTS:

	Description	Upload Date	Type
☐	May 5, 2014 Assembly Committee of the Whole DRAFT Minutes	5/23/2014	Minutes

ASSEMBLY STANDING COMMITTEE
COMMITTEE OF THE WHOLE
THE CITY AND BOROUGH OF JUNEAU, ALASKA

May 5 2014, 6:00 PM.
Assembly Chambers

Assembly Worksession - No public testimony will be taken.

I. ROLL CALL

Chair Becker called the meeting to order at 6 p.m.

Assembly Present: Mary Becker, Karen Crane, Loren Jones, Jesse Kiehl, Jerry Nankervis, Carlton Smith, Kate Troll, Randy Wanamaker, Merrill Sanford.

Assembly Absent: None.

Others Present: Kim Kiefer, City Manager; Amy Mead, Municipal Attorney, Rob Steedle, Deputy Manager; Laurie Sica, Municipal Clerk; Hal Hart, Community Development Director; Travis Goddard, Planning Manager; Eric Feldt, Planner; Kirk Duncan, Public Works Director; Dave Crabtree, Utilities Superintendent; Greg Chaney, Lands and Resources Manager; David Means, Juneau School District Administrative Services Director; Kristin Bartlett, Communications Manager.

II. APPROVAL OF AGENDA

Hearing no objection, the agenda was approved.

III. APPROVAL OF MINUTES

No minutes were available for approval.

IV. AGENDA TOPICS

A. Wireless Communication Facilities

Ms. Mead provided a general overview of the draft Wireless Communication Facilities (WCF) ordinance. The Planning Commission would hold its first review of the draft on May 8. The ordinance was circulated to AT&T and Verizon. The companies did not have many comments, were generally happy with one exception which would be discussed with the consultant. Anyone wanting to install a WCF must submit an application, which would be processed in one of three ways. There was a streamlined process that was required by federal law, a director's decision process, and a special use process heard by the Planning Commission similar to a conditional use permit. The Comprehensive Plan instructs that a new special use process be created to address WCF applications. The streamline permit is allowed for co-location and minor modifications, as defined by federal law, with a 90 day turnaround following submission of a complete application and the end result was a building permit. The WCF applications available for director's decision permits were addressed in Table 1 of the draft ordinance, had a 120 day turnaround time for review and the end result was a building permit. A special use permit application would be required for all WCF that were not identified in Table 1, with a 150 day turnaround time, with substantive decisions made by the Planning Commission and the end result was a special use permit and a building permit. Federal Law limited the time for deciding upon an application. The ordinance encourages applicants to construct WCF's according to CBJ's preferred hierarchy, drafted by the Planning Commission and encourages co-location on existing towers not requiring lighting. She explained the incentives in Table 1. CBJ can regulate on the basis of zoning principles and concepts, such as setbacks. The ordinance limits tower height to be no higher than for effective functioning of the provider's network.The ordinance addresses abandonment of WCF's, lighting, and any tower than requires lighting requires a special use permit. The applicant must install the least intrusive lighting configuration required by federal law. Notice requirements for the special use permit follows the same

for the conditional use permit process, but it is a policy decision of the Planning Commission to review. Structural assessments will be required when installed. Fees for processing of applications will be similar to building permits and conditional use permits. Any technical review will be charged to applicant. Viewsheds and scenic corridors were outlined in the Comp Plan and were addressed in the ordinance. The ordinance addressed concealment and aesthetics and required WCFs to be designed to resemble the surrounding landscapes and building to minimize visual impacts.

Ms. Troll asked about using a balloon test to assist with public notification of the height of a potential WCF. Ms. Mead said the consultant said advised a balloon test was not effective in this environment, but suggested other things such as the structural assessment and the height guidelines, but the test could be added in.

Mr. Kiehl said he appreciated the structural assessment but it did not provide any public notice and something should be done that served a comparable purpose. He asked about the term concealment, and what were the definition of the phrases in the ordinance, for example, "resemble the surrounding landscape." Ms. Mead said there was a limited world of concealment techniques. The recommendation was to not limit the concealment techniques but to outline the goal. The Law Department's goal with this ordinance was to take the previous ordinance and format it so that it provided a process that was easy to follow. The Planning Commission would provide more substantive policy.

Ms. Crane said the direction that WCFs should not significantly impact scenic corridors and viewsheds was ambiguous. Ms. Mead said those type of determinations would be the purview of the Department Director. Ms. Crane said the public notice should be increased beyond what the ordinance provided.

Mr. Smith asked what type of time committment would be required by staff to respond to the applications. Ms. Mead said a similar process used for building permits was approximately 30 days. She used the maximum time allowed by law for the ordinance. Mr. Smith asked if there was a way to compare this ordinance with the requirements in other communities and any benchmarks. Ms. Mead said she used a number of different ordinances and checked it ageainst federal law. The draft contained benchmarks from other communities, and there was some information from the "old" ordinance worked on by Planning Commission and staff.

Ms. Troll urged the use of a balloon test for a visual marker. Ms. Mead said that the consultant said a neighbor did not have the authority to say the tower was too high and CBJ was very limited on what it could regulate. CBJ could regulate height to the extent that it was imposing zoning conditions. If there was a zoning related reason for imposing the condition, then it could be regulated.

Mr. Kiehl asked about Table 1 and the footnote about maximum height and asked if that referred to above the existing building. Ms. Mead said yes. He asked the setbacks in the various zoning districts and Mr. Goddard said Table 1 was the qualifier for what could be done without requiring a special use permit.

Mayor Sanford said he met with one of the companies that was building a lot of towers which stated they were already built out for their system within Juneau, so requests will be few from them regarding the use of staff time. He asked about the fee for an application and if it was increasing. Ms. Mead said the fees were outlined in the code, and the payment for a technical review was being added. Mr. Goddard said the SUP would have similar fee to CUP and there would be a third party review fee of approximately $3,000 per application. Ms. Mead said CBJ was prohibited from charging more than actual costs.

B. Juneau School District Budget

Mr. Means thanked the Assembly for the opportunity to talk about the state's actions regarding schools. He said $2 billion was put into the teachers retirement system, $1 billion into the public employees retirement system, and as a result the budget needed to be amended to include those

figures, which substantially changed the totals of the school budget. SB 119 appropriated $200 to the district for curricular materials. HB 278 passed with several different provisions and affects upon the school budget. It raised the Base Student Allocation (BSA) $150 per student for the upcoming year and and additional $50 in each of the two following years. The state required the school district to provide more funding to the charter school. The School Board met and provided a final budget that was presented to the Assembly. 13 teaching positions and three support staff were added back to the budget, restored some money to high school activities, and other actions outlined in the memo from JSD. The District was below the funding cap of $904,000. If the Assembly were to get the funding to the cap the Board has pledged to restore the class sizes next year to what they are this year, which means about 7.5 teaching positions at about $768,000.

Mr. Wanamaker asked Mr. Means what the total amount of money was provided from the state to the school for transportation. Mr. Means said about $2.9 million and he would provide the exact figure to the Assembly the next day.

Ms. Troll asked if the add backs above the line drawn on the memo dated April 29, 2014 were approved by the School Board and Mr. Means said yes.

Mr. Wanamaker asked about the purchase of curriculum. Mr. Means said the district planned to purchase a Language Arts program for the elementary schools and a music program. The $200,000 from SB119 would be used for part of it and the remainder would come from the operating budget. One of the adbacks that the Board approved as $50,000 for music curriculum. Mr. Wanamaker asked how many teaching positions could be restored if the district delayed that purchase of curriculum. Mr. Means said the elementary language arts program cost was approximately $500,000, products had been reviewed and the selection was yet to be made. That was about equal to five teachers.

Mr. Kiehl said that the $200,000 in capital funds for curriculum would reduce the base amount that the district had in its budget for curriculum. Mr. Means said yes, the funds freed up money in the operating budget for other purposes. Mr. Kiehl said that was a meaningful shift to fund teachers. Because the legislature had set three years of flat funding, he asked what the districts plan was to address the fixed cost increases that were known in the next few years. Mr. Means said the Board had a long discussion on that topic and affected the discussion about curriculum. Additional staffing comes with continued increased costs. There were no negotiated agreements with any employees beyond FY15. It was a topic for future discussion.

MOTION, by Sanford, to refer the school districts request to the Finance Committee. Hearing no objection, so ordered.

C. Juneau Affordable Housing Commission - Housing Action Plan

Norton Gregory and Justin Shearer of the Juneau Affordable Housing Commission were present to encourage the Assembly to fund a Housing Action Plan (HAP). They explained the need for, and the elements and outcomes of a HAP.

Ms. Crane asked if the request was to use $75,000 of the funds that existed in the Affordable Housing Fund. Mr. Gregory said yes, there was currently approximately $400,000 in that fund, so this was not a request for new funds.

Mayor Sanford questioned how the HAP could avoid duplicating information that already existed. Mr. Gregory said that was one of the questions that they hoped the HAP would answer following the statistical analysis of the community, so there would be a roadmap of the need, with a strategy for making that happen.

Mr. Smith asked if the commission had looked at other plans and what are some of the features in those plans and how can they be applied here. Mr. Shearer said Bozeman put together a workforce plan for worker housing and allowed builders a tax deferral for that type of housing. The plans look at taxes, identification of lands for disposal, other resources in the community, land use incentives and

designating new areas of land that may not have been considered in the past.

Ms. Kiefer what the next step was - does this have to go to the assembly and what is the process if assembly action is needed. Ms. Kiefer said the funding had already been identified and appropriated, it was money from the principal that was meant for loans initially. The CIP needed to be created. Ms. Crane said she wanted the process to run through the manager's office.

Mr. Wanamaker said he would like the manager take a look at the way the fund was set up. It was a loan fund and this use would change that purpose.

Ms. Kiefer said the Assembly put together the fund as a loan fund and Ms. Kiefer said she would confirm with the city attorney that this was an appropriate use.

Hearing no objection, Ms. Becker said that it was the Assembly's intention to have the manager look into the uses of the fund, and if it were appropriate, award $75,000 to fund the HAP, and if there was any problem Ms. Kiefer would report back to the Assembly.

Mr. Nankervis and Mr. Kiehl were interested in having the manager's office oversee the development of the RFP to ensure that the action plan would provide new information.

D. Utility Rate Study Update

[Please note the spreadsheets in the Utility Rate Study section are set to be printed on legal size paper.]

Ms. Kiefer distributed an updated memo which changed the manager's funding recommendation. The initial recommendation was to increase water rates by 9.5% and increase wastewater rates by 9.5% in FY15. Due to the $1 million grant for improvements at Salmon Creek, Mr. Duncan revised his recommendation to no increase in water rates in FY15. Work on the Water and Wastewater Rate study would continue and he would bring additional information to the Assembly in the future.

Mr. Duncan acknowledged Jeff Larson and Scott Willis from the Utility Advisory Board and Dave Crabtree, Water Superintendent and Samantha Stoughtenger, Wastewater Superintendent, in the audience. He said CBJ had $275 million in water/ww assets, and there was a goal of replacing 25% of those over the next ten period. The funding strategy was outlined in the memo dated May 2. There are $23 million in needs for the water utility and $1.4 million needed for wastewater over the next ten years. 2.5% inflation for operating was built and 4.5% for capital improvment inflation were built in to the model. $1.2 million coming from Marine Passenger Fees was built into the model and $22.5 million from 1% sales tax in 2017. If we do this it allows us to fund the CIP program over the next ten years. The May 5 memo says we still recommend a 9.5% increase in wastewater but today, pending Governor approval, CBJ received notice of $1 million in grant money for the water utility improvements at Salmon Creek. That would allow us to not increase water rates for the next year only. In wastewater today there is $17.4 million in available funds in CIPs and operating funds. We will spend over the next ten years $61 million indexed for inflation. If we do the funding that we've talked about with the beginning fund balance at $17.4 million - it ends up being $26.4 million. We have looked at the next ten years 2025-2034 and we will be spending a $99 million in capital improvement in wastewater. Carrying money in at $26 million, if we just do 5% rate increases annual during that study period it would work out, but it was a policy call. We can't reduce that $26.8 million to something less than that - that was a policy call. This is a recommendation that will allow a future Assembly not to be faced with a series of 9.5% increases, but a consistent 5% increase in the next cycle. The 9.5% increase in wastewater for FY15 would increase on an annual cost the average homeowner would pay $73.08 more per year for wastewater and the water utility would not increase.

Ms. Kiefer showed how the spreadsheet outlined how CBJ was operating at a loss and was using fund balance to meet needs in wastewater expenses. The operating income was $4.3 million in water and operating expenses were $3.4 million, which was why the staff was recommending increasing wastewater now and showing the possibility of holding off on water increases. CBJ had not

increased fees since 2011 and they were increased at that time by 7%.

Ms. Crane asked if there were different water and wastewater rates proposed for large users. Mr. Duncan said that topic was called "cost of service" and it was controversial as there were many ways to look at cost of service. Staff recommended continuing the rates study and have an across the board rate increase, and in the future consider whether a cost of service rate made sense.

Ms. Troll said the consultants showed a low/medium and high scenario. This new memo shows the high scenario to build revenues sooner rather than later to get to the 25% increase. She asked for the justification. Mr. Duncan spoke about the best management practice of maintaining assets and lack of reinvestment in the system has caused some issues. Mayor Sanford had stated that the Assembly had funded everything the utility had asked for and he was correct, but staff had not asked for enough. Staff was now asking for what they think they need. It was a good investment.

Mr. Jones asked if the plan proposed included funding in 2017 from sales tax, money from passenger fees, and since this Assembly will not commit that far out, why not do the water rate increase this year. It was good that CBJ received $1 million, but that would be less money that would need to be obtained from a future Assembly from sales tax or other areas. Putting money in the bank, funding depreciation was good and he did not want to get into bouncing up and down in rates depending on capital projects. Mr. Duncansaid they had talked about Marine Passenger Fees being staged over a number of years, but there is only $1.2 million in FY15 from MPF, in the total plan. Yes, we should be funding both water and wastewater but staff was also aware of tremendous needs in the community in many areas. Ms. Kiefer said staff would be back again next year to talk about rates and this was not a one time effort. The plan called for increases every year.

Mr. Kiehl said we are just making a plan already to come back next year and just bouncing around. Juneau residents and businesses are not well served if we can't look down the road and figure out our costs are. There was a smoother approach so that people could do their budgets and he suggested looking to the mid-case vs. the high case and look at both water and wastewater increases this year.

Mr. Nankervis agreed with Mr. Jones and Mr. Kiehl and said he did not want to kick the can down the road. He hoped CBJ would get a better assessment of the assets under the ground because we don't want to keep guessing and the plans are in drawers somewhere. We can't keep deferring maintenance.

Mr. Smith asked if therewere adequate contingencies for capital on both sides with these numbers if there were surprises regarding capital improvements. Mr. Duncan said as long as a major water line did not "blow up," this action put the utility on the right path and started to fund the depreciation discussed.

Mayor Sanford said water and sewer improvement projects were based on best guesses on a yearly basis. He asked about the biosolid issue and its timing. The Assembly had to be careful when putting the community's money in the bank and there were unknowns. We have to make difficult decisions on where 1% sales tax money would be spent - on building new or repairing existing infrastructure. A true picture of what was going on with our system within the next three years was needed but beyond that it was a guess.

Ms. Becker asked if the CIP projects listed were shovel ready and Mr. Duncan said yes, they were ready and in the CIP system. hwo shovel ready are the projects.

Ms. Troll referred to an editorial in the Juneau Empire that said essentially that CBJ's utility rates were a bargain for a very good system. Mr. Duncan said the rates were raised in 2004 by 39% for wastewater and 19% for water, in 2010 and 2011 they were raised 7% for water and 7% for wastewater. There was no increase in rates from 1980 - 2004.

Mayor Sanford said CBJ had a good, functioning system built within a reasonable cost. Mr. Duncan

said yes, CBJ had a very good system and his job was to ensure it continued.

Mr. Wanamaker said it was important to have operational audit, an independent third party review, to maximize efficiency and he asked if there were any plans to do such a study. Mr. Duncan said he was working with the manager's office on scope for "right sizing" to look at what other utilities are doing. Mr. Wanamaker said that sounded like part of what needed to be done, but 2.5% operational inflation - 4% capital inflation - those were significant.

MOTION, by Jones, to forward to the Assembly a proposal to increase the water and wastewater rates by 9.5 % for the fiscal years 2015, 2016 and 2017.

Roll call:
Aye: Crane, Jones, Nankervis, Smith, Troll
Nay: Becker, Kiehl, Wanamaker, Sanford
Motion passed, 5 ayes, 4 nays.

V. COMMITTEE MEMBER / LIAISON COMMENTS AND QUESTIONS

None.

VI. ADJOURNMENT

There being no further business to come before the Committee, the meeting was adjourned at 7:35 p.m.

Submitted by Laurie Sica, Municipal Clerk

Note: Agenda packets are available for review online at www.juneau.org.

ADA accommodations available upon request: Please contact the Clerk's office 72 hours prior to any meeting so arrangements can be made to have a sign language interpreter present or an audiotape containing the Assembly's agenda made available. The Clerk's office telephone number is 586-5278, TDD 586-5351, e-mail: city_clerk@ci.juneau.ak.us

ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA

Ordinance 2014-32 An Ordinance Amending the Land Use Code of the City and Borough to Provide for the Regulation of Wireless Communication Facilities and Providing for a Penalty.

MANAGER'S REPORT:

ATTACHMENTS:

	Description	Upload Date	Type
☐	Ordinance 2014-32 - DRAFT for COW	6/11/2014	Ordinance
☐	Planning Commission Recommendation - TXT2009-00007 re Wireless	6/3/2014	Cover Memo
☐	CDD Staff report and Wireless Master Plan - TXT2009-00007	6/3/2014	Exhibit

Presented by: The Manager
Introduced:
Drafted by: A. G. Mead

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2014-32

An Ordinance Amending the Land Use Code of the City and Borough to Provide for the Regulation of Wireless Communication Facilities and Providing for a Penalty.

BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City and Borough of Juneau Municipal Code.

Section 2. New Article. Article IX. Wireless Communication Facilities, is created to read:

ARTICLE IX. – WIRELESS COMMUNICATION FACILITIES

49.65.900 Purpose.

It is the purpose of this article to establish reasonable regulations for the placement, construction and modification of wireless communication facilities (WCF) consistent with the Telecommunications Act of 1996 and applicable law and:

(a) Promote the health, safety, and general welfare of the public and the City and Borough;

(b) Minimize the impacts of WCFs by establishing standards for siting, design and screening and by requiring consistency with the City and Borough's Wireless Telecommunications Master Plan;

(c) Encourage the collocation of antennas on existing structures thereby minimizing new visual impacts and reducing the need for new towers;

(d) Maintain the natural surroundings and character of the City and Borough;

(e) Preserve neighborhood harmony and scenic viewsheds and corridors as indicated in the Comprehensive Plan of the City and Borough of Juneau;

(f) Accommodate the growing need and demand for wireless communications services;

(g) Respond to the policies embodied in the Telecommunications Act of 1996 in such a manner as not to unreasonably discriminate between providers of functionally equivalent personal wireless services or to prohibit or have the effect of prohibiting personal wireless services; and

(h) Respond to the policies embodied in Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012.

49.65.910 Applicability.

(a) This article shall apply to the development activities including installation, construction, or modification of all WCFs including, but not limited to, existing towers, proposed towers and collocated facilities on existing structures.

(b) All applications for WCF are subject to the standards in this article to the extent that they do not violate Federal limitations on local siting standards and are not otherwise inconsistent with Federal law. The provisions of this article are not intended to and shall not be interpreted to prohibit or to have the effect of prohibiting personal wireless services. This article shall not be applied in such a manner as to unreasonably discriminate between providers of functionally equivalent personal wireless services.

(c) Exempt Facilities. The following are exempt from this article:

(1) Noncommercial, FCC licensed amateur (ham) radio antennas;

(2) Satellite earth stations and/or antennas used for private television reception;

(3) A government-owned or temporary, commercial WCF installed upon the declaration of a state of emergency by federal, state, or local government, or a written determination of public necessity by the director; except that such facility must comply with all federal and state requirements. The WCF shall be exempt from the provisions of this article for up to one week after the duration of the state of emergency; and

(4) A temporary, commercial WCF installed for providing coverage of a special event such as news coverage or sporting event, subject to approval by the director. The WCF shall be exempt from the provisions of this article for up to one week after the duration of the special event.

(d) All WCFs existing on or before the effective date of this article shall be allowed to continue as they presently exist, provided however, that any proposed modification to an existing WCF, including collocation, must comply with this article.

49.65.920 Location preference for new WCFs.

(a) Locating a new antenna array or new tower shall be in accordance with the following location preferences, one being the highest priority and six being the lowest priority:

(1) Collocated antenna on existing WCF;

(2) Concealed attached antenna;

(3) Non-concealed attached antenna;

(4) New concealed freestanding towers;

(5) New non-concealed freestanding towers;

(6) Any lighted WCF or any WCF requiring air navigation lighting.

(b) If the proposed location is not the highest priority listed above, then a detailed explanation justifying why a site of a higher priority was not selected must be submitted with the WCF application, as required by section 49.65.960. Any application seeking approval to locate a WCF in a lower-ranked location may be denied unless the applicant demonstrates to the satisfaction of the director or planning commission the following:

(1) That despite diligent efforts to adhere to the established hierarchy, doing so is technically infeasible or commercially impractical; and

(2) The reason or reasons why the application should be approved for the proposed location.

49.65.930 General requirements.

(a) *Concealed and non-concealed antenna.*

(1) Antennas shall be mounted on WCFs so as to present the smallest possible silhouette, profile, or cross-section, unless applicant provides sufficient evidence that doing so would prohibit the applicant from properly deploying the network. New antenna mounts shall be flush-mounted onto existing WCFs, unless it is demonstrated through RF propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.

(2) Attached, concealed feed lines and antennas shall be designed to architecturally match the facade, roof, wall, or structure on which they are affixed so that they blend with the existing design, color, and texture of the structure.

(b) *Security of WCFs.* All WCFs shall be located, fenced or otherwise secured in a manner that prevents unauthorized access.

(1) All antennas, towers and other supporting structures, including guy wires, shall be constructed or shielded to reasonably prevent unauthorized access.

(2) Transmitters and telecommunications control points must be installed in a manner to be readily accessible only to persons authorized to operate or service them.

(c) *Signage.* WCFs shall contain a sign no larger than four square feet with text in a sufficient font size to provide adequate notification to persons in the immediate area of the presence of an antenna that has transmission capabilities. The sign shall contain the name(s) of the owner(s) and operator(s) of the facility, an emergency phone number(s), and FCC registration number, if applicable. The sign shall be on the equipment shelter or cabinet and be visible from the access point of the site. The sign shall not be lighted unless authorized by the City and Borough or unless applicable provisions of law require such lighting. No other signage, including advertising, shall be permitted on any WCF, unless required by law.

(d) *Lighting.* Notice is required to be provided to the FAA, on a form prescribed by the FAA, if the facility falls under notification requirements mentioned in 14 CFR Part 77. The applicant is responsible for determining whether notification is required. Any WCF that is required to have lighting by the FAA will be lighted with the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. The lights shall be oriented so as not to project directly on to surrounding property, consistent with FAA requirements.

(e) *Design criteria.*

(1) All freestanding WCFs between 60 and 120 feet in height shall be engineered and constructed to accommodate no fewer than four antenna arrays. All WCFs between 121 feet and 150 feet shall be engineered and constructed to accommodate no fewer than five antenna arrays. All WCFs between 151 feet and taller shall be engineered and

constructed to accommodate no fewer than six antenna arrays.

(2) All utilities for a WCF site shall be installed underground and in compliance with all ordinances, rules and regulations of the City and Borough, including, but not limited to, the National Electrical Code where appropriate. The director may waive or vary the requirements of underground installation of utilities whenever, in the opinion of the director, such waiver shall not be detrimental to the health, safety, or general welfare of the community or the environment, or the visual and scenic characteristics of the area.

(3) All appurtenant or associated facilities of a WCF shall maximize use of building materials, colors and textures designed to blend with the structure to which it may be affixed, or to harmonize with the natural surroundings or built environment, which shall include the utilization of concealed or concealment technology for facilities appurtenant to concealed WCFs. If located in or abutting a Residential, Commercial or Mixed-Use district, the appurtenant or associated facility shall either be placed inside an enclosed structure, fenced, or screened with sight-obscuring foliage, which will be as tall as the appurtenant or associated facility.

(4) Use of guy wires is prohibited for all WCF.

(f) *Setbacks.* Freestanding towers and appurtenant structures shall be subject to the setbacks described below:

(1) If the tower is not constructed using breakpoint design technology, the minimum setback distance from the nearest property line shall be equal to the height of the proposed tower.

(2) If tower has been constructed using breakpoint design technology, the minimum setback distance shall be equal to 110 percent (110%) of the distance from the top of the structure to the breakpoint level of the structure, or the minimum yard setback requirements, whichever is greater. For example, on a 100-foot tall freestanding tower with

a breakpoint at 80 feet, the minimum setback distance would be 22 feet (110 percent of 20 feet, the distance from the top of the tower to the breakpoint) plus the minimum side or rear yard setback requirements for that zoning district. Certification by a professional engineer registered in the State of Alaska, of the breakpoint design and the design's fall radius must be provided with the application.

(3) Any appurtenant structure shall be located so as to comply with the applicable minimum setback requirements for the property on which it is situated.

(g) WCF shall not significantly affect Natural Areas or land designated as Natural Area Park or Scenic Corridor/Viewshed as identified in the Comprehensive Plan.

(h) *Master Plan.* WCFs shall be consistent with the City and Borough's Wireless Telecommunications Master Plan.

(i) *Visibility*.

(A) WCF shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties and shall be maintained in accordance with the requirements of this article.

(B) WCFs shall be designed to either resemble the surrounding landscape and other natural features where located in proximity to natural surroundings, or be compatible with the urban, built environment, through matching or complementing existing structures and specific design considerations such as architectural designs, height, scale, color, and texture.

(j) *Structural assessment*. The owner of a freestanding WCF tower shall have a structural assessment of the tower conducted by a professional engineer, licensed in the State of Alaska, if the tower is within the distance from the top of the structure to the breakpoint level of the structure from a dwelling, parking lot, playground, or right-of way. If the towers was not constructed using breakpoint design technology, a structural assessment

is required if the tower is at a distance equal to the tower's height from a dwelling, parking lot, playground, or right-of way. The owner shall submit the structural assessment report, signed by the engineer who conducted the assessment, to the director by July 1 every fifth year from the date of issuance of the building permit.

49.65.940 Permit application process for all WCFs.

(a) Applications, on a form specified by the director, and site plans for all WCFs shall be submitted to the director.

(b) At the time that a person submits an application for a permit for any type of WCF, such person shall pay a nonrefundable application fee to the CBJ, as set forth in Chapter 49.85.100. In addition to the application fee, the director may require a technical review by a third party expert, the actual costs of which shall be borne by the applicant. Based on the results of the technical review, the director may require changes or additional documentation before the application will be considered complete. The technical expert review may address some or all of the following, at the discretion of the director:

(1) The accuracy and completeness of the items submitted with the application;

(2) The applicability of analysis and techniques and methodologies proposed by the applicant;

(3) The validity of conclusions reached by the applicant;

(4) Whether the proposed WCF complies with applicable approval criteria set forth in this article; and

(5) Other matters deemed to be relevant to determining whether a proposed WCF complies with the provisions of this article.

49.65.950 Administrative permits.

(a) A WCF described in Table 1 shall be approved or denied by the director, unless lighting would be required by the FAA or FCC. A special use permit shall be required of all lighted WCF or any WCF requiring air navigation lighting.

TABLE 1

WCF Type	**Zoning Districts**	**Maximum Height**	**Min. Distance**
Eligible Collocation, Removal or Replacement of Transmission Equipment as provided in CBJ 49.65.950(b)	All	Not more than 10% of existing structure or 20 feet (unless the increased height requires an existing unlit WCF to become lit)	N/A
Concealed Attached	All	≤ 20 Feet[1]	N/A
Non-concealed Attached	D-1 – D-18	≤ 5 Feet [1]	N/A
Non-concealed Attached	Non-Residential and Mixed Use	≤ 20 Feet [1]	N/A
New Concealed Tower	WI, WC, GC, LC	≤ 20 Feet above Max. Height of Zoning District	N/A
New Concealed Tower	RR	≤ 100 Feet	> 500 Feet of Nearest Dwelling
New Concealed Tower	I	≤ 120 Feet	> 500 Feet of D-1 – D-18 Districts
New Concealed Tower	D-1 – D-18	Compliant with Max Height of Zoning District	N/A
New Non-Concealed Tower	RR	≤ 120 Feet	>1000 Feet of Nearest Dwelling
New Non-Concealed Tower	I	≤ 60 Feet	>500 Feet of D-1 – D-18 Districts

Note: (fn. 1) Rooftop and attachment heights are identified as above the highest point of the existing structure.

(b) *Collocations and other modifications to existing facilities pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012.* Eligible collocations and modifications for the removal or replacement of transmission equipment on an existing wireless tower or base station that do not substantially change the physical dimensions of the existing tower or base station shall be eligible for an administrative permit. For the purposes of this section, "substantial change" means:

(1) The mounting of the proposed antenna would increase the existing height of the WCF by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this subsection if necessary to avoid interference with existing antenna or unless the increased height requires an existing unlit WCF to become lit;

(2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter;

(3) The mounting of the proposed antenna would involve adding an appurtenance to the body of an existing WCF that would protrude from the edge of the existing WCF more than twenty feet, or more than the width of the WCF at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this subsection if necessary to shelter the antenna from inclement weather or to connect the antenna to the structure via a cable; or

(4) The mounting of the proposed antenna would involve excavation outside the existing WCF site, defined as the current boundaries of the leased or owned property surrounding the WCF and any access or utility easements currently related to the site.

(c) *Director's decision.* Except for applications requiring a special use permit, applications shall be approved or denied, in writing, by the director.

(1) The director shall review the submitted application for completeness and shall notify the applicant within 30 days of receipt of the initial submission whether the application is deemed complete. If rejected as incomplete, the director shall identify the deficiencies in the application, which if cured, would make the application complete.

(2) The director shall review all completed applications for compliance with the requirements of section 49.65.930. The director may notify an applicant of a failure to comply with section 49.65.930 and may allow the applicant to resubmit a revised application. Any period of time from when the director notifies the applicant to the date the revised application is received shall not count for the purposes of calculating the 90 calendar day deadline in subsection (3).

(3) Applications not meeting the requirements of this article shall be rejected. The director's decision to approve or deny an application shall be in writing and supported by substantial evidence. The director's decision shall be postmarked to the applicant by the 90th calendar day from the date of receipt of the final and complete application.

49.65.960 General application submittal requirements for all WCFs.

(a) An application for a WCF shall be signed on behalf of the applicant by the person preparing the same and with knowledge of the contents and representations made therein and attesting to the truth and completeness of the information. The landowner, if different than the applicant, shall also sign the application. All information submitted in an application shall be provided by a person qualified to provide the information. All applications for the construction or installation of a new WCF shall be accompanied by the

following documentation, except applications for eligible collocation or modification under section 49.65.950(b) are exempt from providing the documentation required by subsection (r):

(b) In addition to the information required by 49.65.920(b), an affidavit demonstrating compliance with 49.65.920. If a lower ranking alternative is proposed the affidavit must address why higher ranked options are technically infeasible or commercially impracticable given the proposed location of the wireless communications facility;

(c) A narrative describing compliance with the 49.65.930.

(d) A signed statement from a qualified person, together with a statement of that person's professional qualifications, certifying that radio frequency emissions from the antenna array(s), both individually and cumulatively considering any other WCF located on or immediately adjacent to the proposed WCF, will comply with FCC standards;

(e) Name, address, email address, and phone number of all persons preparing the application and any required submittals;

(f) Name, address and phone number of the property owner, applicant, and facility owner, if applicable;

(g) Postal address and tax map parcel number of the property;

(h) Zoning designation of the property on which the proposed WCF will be situated;

(i) Size of the property stated both in square feet and lot line dimensions, and a diagram showing the location of all lot lines;

(j) Locations of any dwellings within a radius equal to the height of the proposed tower from its base;

(k) Location, size and height of all structures on the property which is the subject of the application;

(l) Location, size and height of all proposed and existing antennas and all appurtenant structures;

(m) Type, locations and dimensions of all proposed and existing landscaping and fencing;

(n) The number, type and design of the WCFs proposed and the basis for the calculations of the WCFs capacity to accommodate multiple collocations;

(o) A detailed description of the proposed WCF and all related fixtures, structures, appurtenances and apparatus, including height above preexisting grade, materials, color and lighting;

(p) Certification that the application is in compliance with all applicable laws pertaining to the type of service offered;

(q) Applicant shall disclose in writing any agreement that would limit or preclude the ability of the applicant to share any new WCF that it constructs;

(r) Applicant shall furnish written certification by a professional engineer, licensed in the State of Alaska, that the WCF, foundation and appurtenant attachments are designed to meet relevant site and subsurface conditions, and will be constructed to meet EIA/TIA 222 G (as amended) and local building code structural requirements for loads, including wind, snow and ice loads for the specified number of collocations required in section 49.65.930(c)(1).

(s) Certification by a professional engineer licensed in the State of Alaska that the WCF was constructed, repaired, modified or restored in strict compliance with all current applicable technical, safety and safety-related laws adopted by the City and Borough, state, or federal government, and in compliance with accepted and responsible workmanlike industry practices and recommended practices of the National Association of Tower Erectors; and

(t) Proof of compliance with FAA regulations in 14 CFR Part 77, if applicable.

49.65.970 Special use permit applications.

(a) As of the effective date of this article, no person shall be permitted to site, place, build, construct, modify, or prepare any site for the placement or use of WCF, except for those WCF identified in section 49.65.940, Table 1, without having first obtained a special use permit. All applicants for a special use permit and any modification of such facility shall comply with the requirements set forth in this section.

(b) *Pre-application meeting.* Prior to submission of an application, the applicant shall meet with the director for the purpose of discussing the site and development proposal, and to address any issues that will help to expedite the review and permitting process, including the scope of the visual assessment the applicant will be required to provide as part of the special use permit process. A pre-application meeting may also include a site visit, as determined by the director. No statement by either the applicant or director shall be regarding as binding or authoritative for purposes of this section.

(c) *Additional required application submittals.*

(1) In addition to the fee required in 49.65.940(b), the applicant shall pay an additional special use permit application fee as set forth in 49.85.100.

(2) In addition to the documentation required by section 49.65.960, the following documentation must be submitted with any special use permit application:

(A) *Design Criteria.* A narrative describing compliance with the design criteria listed in section 49.65.930;

(B) *Visual impact assessment*. The scope of the required assessment will be reviewed at the pre-application meeting, but the planning commission may require

submission of a more detailed visual analysis after submittal of the following required information. The visual impact assessment must include:

(i) A "zone of visibility map" which shall be provided in order to determine locations from which the tower may be seen;

(ii) An analysis demonstrating that the WCF will be sited so as to have the least adverse visual impact on the environment and its character, on existing vegetation, and on the properties in the area, while still meeting the applicant's network objectives;

(iii) A pictorial representations of "before and after" views from key viewpoints as may be appropriate, including but not limited to roadways, parks, public lands, historic districts, and any other location where the site is visible to a large number of visitors, travelers or residents. Guidance will be provided concerning the appropriate key viewpoints at the pre-application meeting;

(iv) A description of the visual impact of the tower base and accessory buildings from abutting properties and streets;

(v) The applicant shall demonstrate in writing and/or by drawing how it shall effectively screen from view the base of its proposed WCF tower and all appurtenant facilities and structures; and

(vi) If the tower is to be lit, a description of the specific type of lighting applicant proposes using and a description of how the applicant will comply with the directive in 49.65.930(d), requiring that lighting be oriented so as to not project directly on to surrounding property (for example, by the use of buffers, louvers, etc.).

(C) The applicant shall provide evidence that the proposed facility is designed to meet the minimum height requirement necessary for effective functioning of the provider's network.

(D) *Balloon test.* In order to better inform the public in the case of a new freestanding WCF, the applicant shall, prior to the public hearing on the application, hold a "balloon test." The applicant shall arrange to fly, or raise upon a temporary mast, a minimum of a three (3) foot in diameter brightly colored balloon at the maximum height of the proposed new tower. The applicant shall inform the director, in writing, of the dates and times of the test, at least two days in advance. The balloon shall be flown for at least 72 consecutive hours, with one 24 hour period occurring on a Saturday or Sunday. The applicant shall submit photos of the test and a narrative describing the date, time and duration of the test.

(E) A propagation study for the proposed WCF.

(d) *Director's Review*.

(1) The director shall review the application for completeness.

(2) Incomplete applications shall be rejected and the applicant notified in writing within 30 days of receipt of the initial submission. If rejected, the director's decision shall identify the deficiencies in the application, which, if cured, would make the application complete.

(3) Once an application is deemed complete, the director shall schedule it for a hearing before the planning commission, and shall give notice to the applicant and the public in accordance with subsection (d).

(e) *Public notice*. Public notice of planning commission consideration of a special use permit, at a minimum, shall be provided as follows:

(1) Permit consideration shall be included as an item in the posted agenda.

(2) Notice of the hearing and the agenda item shall be published in a newspaper of general circulation in the City and Borough a minimum of ten days prior to the date of the meeting. The cost of publication shall be paid by the applicant.

(3) The applicant shall post three signs on the site at least 14 days prior to the hearing at locations determined by the director. The sign shall be between four square feet and 32 square feet in area, shall have a red background, and shall indicate in white lettering, 216-point or larger, that a special use permit for a WCF has been sought for the site, the date of the hearing thereon, and that further information is available from the director. The applicant shall maintain the sign and shall remove it within 14 days after final action on the application.

(4) The director shall mail notice of the application and the public hearing to the owners of record of all property located within three miles of the site. The actual cost of mailing shall be paid by the applicant.

(f) *Planning Commission determination.* The planning commission is authorized to review, analyze, evaluate and make decisions with respect to reviewing special use permits for WCFs.

(1) The planning commission may impose any conditions on a special use permit:

(A) Required to ensure compliance with the design criteria specified in section 49.65.930; and

(B) That are consistent with the purposes of this article, which may include conditions related to the aesthetic effect of the WCF and compatibility with the surrounding area. Factors relevant to aesthetic effects are: the protection of the view in sensitive or particularly scenic areas, Scenic Corridors/Viewsheds identified in the Comprehensive Plan of the City and Borough of Juneau, and in the Historic District; the

concentration of WCFs in the proposed area; and whether the height, design, placement or other characteristics of the proposed facility could be modified to have a less intrusive visual impact.

(2) The planning commission may deny an application for any of the following reasons.

(A) Conflict with safety and safety-related codes and requirements;

(B) Conflict with the purpose of a specific zoning, overlay, or land use designation;

(C) Presence of another approved WCF or WCF application within the geographic search area, which is available to the applicant;

(D) The proposed site is on, or eligible to be on, the National Register of Historic Places;

(E) For a proposed freestanding tower, the applicant fails to demonstrate that no existing structure or tower can accommodate the applicant's proposed use without increasing the height of the existing tower or structure or otherwise creating a greater visual impact; or that use of such existing facilities is technically infeasible or commercially impracticable; and

(F) Conflicts with the provisions of this article.

(3) The planning commission shall deny any application for WCF in the following locations:

(A) State or local wildlife refuges;

(B) In any area designated as a public park, unless screened so as to minimize visual and noise impacts, and as long as public use will not be disrupted; and

(C) In any area designated as a Scenic Corridor/Viewshed identified in the Comprehensive Plan of the City and Borough of Juneau.

(D) In any area that obstructs the view of the Mendenhall Glacier from the waterfront roadway from the North Douglas boat launch facility to False Outer Point.

(4) The planning commission shall condition a permit on a requirement to construct the WCF within a reasonable period of time, which may not exceed 18 months.

(g) Any and all representations made by the applicant to the planning commission on the record during the application process, whether written or verbal, shall be deemed a part of the application and may be relied upon in good faith by the commission.

(h) A holder of a special use permit granted under this article shall obtain, at its own expense, all permits and licenses required by applicable law, rule, regulation or code, and must maintain the same, in full force and effect, for as long as required by the City and Borough or other governmental entity or agency having jurisdiction over the applicant.

(i) The planning commission's decision shall be in writing and mailed to the applicant, postmarked by the 150th day of receipt of a final and completed application. A decision to grant or deny a request to place, construct or modify a WCF shall be supported by substantial evidence.

(j) If the planning commission denies a request to place, construct or modify a WCF, the applicant may, within 20 days from the postmarked date of the decision, appeal the planning commission's decision in accordance with section 49.20.110.

49.65.980 Extent and parameters of special use permits.

(a) Special use permits may, following a hearing upon prior notice to the applicant, be revoked, canceled, or terminated for a violation of the conditions and provisions of the special use permit for WCFs or for a material violation of this article after prior written notice to the applicant and the holder of the special use permit.

(b) The holder of a special use permit shall notify the City and Borough of any intended modification of a WCF and shall apply to the director to modify, relocate or rebuild any WCF.

(c) A special use permit shall become void 18 months after its effective date if no substantial construction progress has been made. A new application must be submitted for a voided permit, including the payment of any required fees, and a new permit obtained. No permit shall be renewed more than once, the maximum duration of which shall be 18 months.

(d) Upon an application submitted at least 30 days before the expiration of an existing special use permit, the commission shall hold a hearing to consider whether the permit should be extended. At least ten days prior to the hearing, notice thereof shall be mailed to the property owners of record within three miles of the proposed site identified in the application and at least two days prior to the hearing a general notice thereof shall be printed in a newspaper of general circulation in the municipality. At the hearing, the burden of proof for the justification for a permit extension shall rest with the applicant. Upon written findings that such burden has been met, the commission may grant an extension not to exceed 18 months, but shall not delete from, amend or add to the conditions contained in the permit. Upon written findings that the applicant's burden has not been met, or that the conditions contained in the permit should be changed, or both, the commission shall deny the application whereupon the permit shall be voided. Upon application and consideration pursuant to this section, the commission may grant no more than one additional extension, the maximum duration of which shall be 18 months.

49.65.990 Interference with public safety equipment.

In order to facilitate the regulation, placement, and construction of antenna, and to ensure that all parties are complying to the fullest extent possible with the rules, regulations, and/or guidelines of the FCC, each applicant or owner applicant shall agree in a written statement to the following:

(a) Compliance with "good engineering practices" as defined by the FCC in its rules and regulations;

(b) Compliance with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI);

(c) In the case of an application for collocated telecommunications facilities, the applicant, together with the owner of the subject site, shall use their best efforts to provide a composite analysis of all users of the site to determine that the applicant's proposed facilities will not cause radio frequency interference with the City and Borough's public safety communications equipment and will implement appropriate technical measures, as described in antenna element replacements, to attempt to prevent such interference; and

(d) Whenever the City and Borough has encountered radio frequency interference with its public safety communications equipment, and it believes that such interference has been or is being caused by one or more antenna arrays, the following steps may be taken:

(1) The City and Borough shall provide notification to all wireless service providers operating in the City and Borough of possible interference with the public safety communications equipment, and upon such notifications, the owners shall use their best efforts to cooperate and coordinate with the City and Borough among themselves to

investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety "Enhanced Best Practices Guide," released by the FCC in Appendix D of FCC 04-168 (released August 6, 2004), including the "Good Engineering Practices," as may be amended or revised by the FCC from time to time in any successor regulations.

(2) If any equipment owner fails to cooperate with the City and Borough in complying with the owner's obligations under this section or if the FCC makes a determination of radio frequency interference with the City and Borough public safety communications equipment, the owner who failed to cooperate and/or the owner of the equipment which caused the interference shall be responsible, upon FCC determination of radio frequency interference, for reimbursing the City and Borough for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the City and Borough to determine the source of the interference. For the purposes of this subsection, failure to cooperate shall include failure to initiate any response or action as described in the "Enhanced Best Practices Guide" within 24 hours of the City and Borough's notification.

49.65.1000 Transfers and assignments.

(a) Permits obtained pursuant to this chapter may not be assigned or transferred without providing prior notice to the City and Borough, on a form acceptable to the director.

(b) In the event a WCF provider or owner transfers ownership of a WCF to a different provider or owner, the previous and new service provider or owner shall notify the director no less than 10 days from the date of transfer. The new provider or owner shall include the name, address and phone number of the person to be responsible for the WCF.

49.65.1010 Non-use and abandonment.

(a) Notwithstanding section 49.10.600, the director may require removal of a WCF under the following circumstances, which are deemed detrimental to the health, safety, and welfare interests of the City and Borough:

(1) WCFs with a permit that have not been used as a WCF for a period exceeding 90 consecutive days or a total of 180 days in any 365-day-period, except for periods caused by force majeure or acts of God, in which case, repair or removal shall commence within 90 days or within such other reasonable time approved by the director.

(2) Permitted WCFs that have fallen into such a state of disrepair that create a public health or safety hazard, which shall be deemed a nuisance per se.

(3) WCFs that have been located, constructed, or modified without first obtaining all permits required by law, or that have been located, constructed or modified in a manner inconsistent with the applicable permit requirements, which shall be deemed a nuisance per se.

(b) If the director makes such a determination as noted in subsection (a) of this section, the director shall notify the permittee in writing that said WCF is to be removed.

(c) Within 90 days of the postmarked date of the director's notice, the permittee, or its successors or assigns, shall dismantle and remove such WCF, and all associated structures and facilities, from the site and restore the site as close to its original condition as is possible, such restoration being limited only by physical or commercial impracticability proven to the satisfaction of the director.

(d) If the WCF is not removed or substantial progress has not been made to remove the WCF within 90 days after the permit holder has received notice, the City and Borough may remove or cause to be removed the WCF at the sole expense of the owner or permit holder.

(e) If, the City and Borough removes or causes to be removed a WCF and the owner of the WCF does not claim and remove it from the site to a lawful location within ten days, then the City and Borough may take steps to declare the WCF abandoned, and sell it and its components.

(f) Notwithstanding anything in this section to the contrary, the director may approve a temporary use permit/agreement for the WCF, for no more than 90 days, during which time a suitable plan for removal, conversion, or relocation of the affected WCF shall be developed by permit holder or owner, subject to the approval of the director. If such a plan is not developed, approved and executed within the 90-day time-period, then the City and Borough may take possession of and dispose of the affected WCF in the manner provided in this section.

49.65.1020 Conflict with other ordinances.

Where this article differs or conflicts with other ordinances, unless the right to do so is preempted or prohibited by the state or federal law, the more restrictive or protective of the City and Borough and the public shall apply.

49.65.1030 Violations.

Violations of this article or any special use permit obtained pursuant to this article shall be subject to the provisions of section 49.10.600 through 49.10.660.

Section 3. Amendment of Section. CBJ 49.80.120 Definitions, is amended by the addition of the following definitions to be incorporated in alphabetical order:

Amateur Radio Antenna means any tower used for amateur radio (ham) transmissions consistent with FCC regulations.

Antenna means communications equipment that transmits and receives electromagnetic radio signals used in the provision of all types of wireless communications services.

Antenna array means A single or group of antenna elements and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment device such as a mounting frame or mounting support structure for the sole purpose of transmitting or receiving electromagnetic waves.

Appurtenant or associated facilities means an accessory facility or structure serving or being used in conjunction with (WCF), and located on the same property or lot as the (WCF), including but not limited to, utility or transmission equipment storage shelters or cabinets.

Base station means a facility consisting of radio transceivers, antenna, coaxial cable, a regular and back-up power supply, and other electronics associated with the operation of a WCF.

Breakpoint Technology means the engineering design of a monopole wherein a specified point on the monopole is designed to be at least five percent more susceptible to failure than any other point along the monopole so that in the event of structural failure, the failure will occur at the breakpoint rather than at the base plate, anchor bolts, or any other point on the monopole.

Collocation means the placement of an antenna on an existing WCF for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

Commercially impracticable means the inability to perform an act on terms that are reasonable in commerce. The inability to achieve a satisfactory financial return on investment or profit, standing alone, shall not be considered "commercial impracticability" and shall not render an act or the terms of an agreement commercially impracticable.

Equipment cabinet or shelter means a small structure shelter, cabinet or vault used to house and protect the electronic equipment necessary for processing wireless communication signals. Associated equipment may include air conditioning and emergency generators.

FAA means the Federal Aviation Administration or its duly designated and authorized successor agency.

FCC means the Federal Communications Commission or its duly designated and authorized successor agency.

Feed lines means cables used as the interconnecting media between the transmission/receiving base station and the antenna.

Flush mounted means any antenna or antenna array attached directly to the face of the support structure or building in a manner that permits mechanical beam tilting if necessary but such that no portion of the antenna extends above the height of the support structure or building.

Geographic Search Area means an area designated by a wireless provider or operator for a new base station or WCF, produced in accordance with generally accepted principles of wireless engineering.

Guy wire means any wire or cable that provides structural support between a tower and the ground.

Monopole WCF means a style of free-standing WTF consisting of a single shaft usually composed of two or more hollow sections that are in turn attached to a foundation. This type of WTF is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a foundation that rests on or in the ground or on a building's roof.

Non-concealed means a WCF that has not been treated, camouflaged, or disguised to blend with its surroundings and is readily identifiable.

Radio frequency emissions means any electro-magnetic radiation or other communication signal emitted from an antenna that is regulated by the FCC.

Satellite earth station means a parabolic or dish antenna that is mounted to a structure, which may include associated equipment cabinets, necessary for the transmission or reception of wireless communication signals with satellites.

Tower means a structure that is built for the sole or primary purpose of supporting equipment for the transmission and/or reception of radio frequency signals or other wireless communications or meteorological purposes, and usually consisting of an antenna or antenna array, transmission cables, equipment cabinets, and their associated facilities.

Tower base means the foundation, usually concrete, on which the tower and other support equipment is situated. For measurement calculations, the tower base is that point on the foundation reached by dropping a perpendicular from the geometric center of the tower.

Wireless Communication Facility (WCF) means any manned or unmanned location for the transmission and/or reception of radio frequency signals or other wireless communications, and usually consisting of an antenna or group of antennas, transmission cables, and equipment cabinets, and may include an antenna support structure. The following developments shall be considered a WCF: developments containing new, mitigated, or existing antenna support structures, public antenna support structures, replacement antenna support structures, collocation on existing antenna support structures, attached wireless communications facilities, concealed wireless communication facilities, and non-concealed wireless communication facilities. Excluded from the definition are: noncommercial amateur radio, amateur ham radio and citizen band antennas, satellite earth stations and antenna support structures, and antennas and/or antenna arrays for AM/FM/TV/HDTV broadcasting transmission facilities.

Specific types of WCFs include:

Attached WCF means an antenna or antenna array that is secured to an existing building or structure with any accompanying pole or device which attaches it to the building or structure, together with transmission cables, and an equipment cabinet, which may be located either on the roof or inside/outside of the building or structure. An attached wireless communications facility is considered to be an accessory use to the existing principal use on a site.

Concealed WCF, sometimes referred to as a concealed or camouflaged facility, means a WCF, ancillary structure, or WCF equipment compound that is not readily identifiable as such, and is designed to be aesthetically compatible with existing and proposed building(s), vegetation, natural features, and uses on a site. There are two types of concealed WCFs: 1) attached and 2) freestanding. 1) Examples of concealed attached WCF include, but are not limited to, those designed to integrate or blend with the building or structure upon which the facility is attached by the use of paint, faux windows, dormers or other architectural features. 2) Freestanding concealed WCFs usually have a secondary, obvious function which may be, but is not limited to the following: church steeple, windmill, bell tower, clock tower, cupola, light standard, flagpole with or without a flag, or faux tree.

Freestanding WCF means any manned or unmanned location for the transmission and/or reception of radio frequency signals, or other wireless communications, and usually consisting of an antenna or group of antennas, feed lines, and equipment cabinets, and may include an antenna support structure. A freestanding WCF includes, but is not limited to the following: guyed, lattice, or monopole support structures.

Non-concealed WCF means a wireless communication facility that is readily identifiable as such and can be either freestanding or attached.

Section 4. Amendment of Section. CBJ 49.85.100 is amended to add a subsection (1) to read:

(18) Wireless Communication Facility Application Fees.

(A)	Application fees required by 49.65.940(b):	$350
(B)	Additional fee required for special use permit applications required by 49.65.970(b)(1):	$500

(C) Any actual costs incurred for technical expert review, publication and mailings.

Section 5. Amendment of Section. CBJ 49.05.200 is amended to add a subsection (1) to read:

(L) Wireless Telecommunication Master Plan, dated May 2014.

Section 6. Amendment of Table. Category 18.000 of section CBJ 49.25.300 Table of Permissible Uses, is amended is amended to add a superscript "AA" to 18.100, 18.200, and 18.300.

Section 7. Amendment of Table. Category 18.000 of section CBJ 49.25.300 Table of Permissible Uses is amended to add a subcategory, 18.500 WCF Wireless Communications Facilities, to read as follows:

18.500	Wireless Communication Facilities	See CBJ 49.65, Wireless Communication Facilities

Section 8. Amendment of Table. Section 49.25.300 Table of Permissible Uses, is amended by adding to the Notes section the following:

AA. Does not apply to Wireless Communication Facilities.

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Section 9. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this _____ day of _____, 2014.

_____
Merrill Sanford, Mayor

Attest:

_____
Laurie J. Sica, Municipal Clerk

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

PLANNING COMMISSION
NOTICE OF RECOMMENDATION
Date: March 29, 2014
File No.: TXT2009-00007

City and Borough of Juneau
City and Borough Assembly
155 South Seward Street
Juneau, AK 99801

Application For:	Planning Commission recommendation to the Assembly to adopt a Wireless Communication Facility Ordinance and related Master Plan (Ordinance # 2014-32).
Legal Description:	Boroughwide
Parcel Code No.:	N/A
Hearing Date:	May 27, 2014

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandums dated May 20th and 27th, 2014, with additional modifications and recommended that the City and Borough Assembly adopt staff's recommendation for codifying a Wireless Communication Facility Ordinance and related Master Plan.

Attachments: May 20th & 27th, 2014 memorandums from Eric Feldt, Community Development Department, to the CBJ Planning Commission regarding TXT2009-00007.

This Notice of Recommendation constitutes a recommendation of the CBJ Planning Commission to the City and Borough Assembly. Decisions to recommend an action are not appealable, even if the recommendation is procedurally required as a prerequisite to some other decision, according to the provisions of CBJ §01.50.020 (b).

Project Planner: _____
Eric Feldt, Planner
Community Development Department

_____
Michael Satre, Chair
Planning Commission

_____ 6/2/14
Filed With City Clerk Date

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this recommended text amendment. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Contact an ADA - trained architect or other ADA trained personnel with questions about the ADA: Department of Justice (202) 272-5434, or fax (202) 272-5447, NW Disability Business Technical Center (800) 949-4232, or fax (360) 438-3208.

MEMORANDUM

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

DATE: May 20, 2014

TO: Planning Commission

FROM: Eric Feldt, Planner
Community Development Department

FILE NO.: TXT2009-00007

RE: New Wireless Communication Facility Ordinance + Master Plan

ATTACHMENTS

Attachment	A	Master Plan (5/16/14)
Attachment	B	WCF Ordinance (5/19/14)

During the last Planning Commission meeting on this issue (Thursday, May 8, 2014), the Commissioners identified fourteen issues that wanted to be revised prior to the proposed WCF Ordinance being forwarded to the Assembly. Those issues have been addressed in the revised Ordinance and summarized as follows:

1. Increase Public Notice
   - Increase public notice: 1) 3 Public Notice Signs, and 2) Expand mailings from 500 feet to 3 miles from the site in question (FAA uses 3 miles for light impacts, per CBJ Law.) The two newspaper advertisements will stay the same.
   - Draft Ordinance section: 49.65.970 (e)
2. Define Strobe lighting; can we prohibit lit towers?
   - Per CBJ Law Dept., FAA doesn't define Strobe Light. Although different levels of intensity are defined by FAA, they do not necessarily correlate to Strobe Light.
   - The Law Dept. indicated that it is likely illegal to have a prohibition on lit towers because local communities are preempted by Federal law.
   - Lighting is address in the following sections of the draft ordinance: 49.65.900(d)(e),49.65.920(a)(6), 49.65.930(d), 49.65.950 (a), 49.65.950(b)(1), and 49.65.960 (o),
3. Can we prohibit towers in flight paths?
   - The Law Dept. indicated that it is likely illegal to have a prohibition on towers in flight paths because local communities are preempted by Federal law.

4. Address bird migratory:
    - Although the US Fish & Wildlife *Service Interim Guidelines for Recommendations for Communications Tower Siting, Construction, Operation, and Decommissioning* was not entirely put into the draft ordinance, many of its recommended guidelines have been incorporated.
    - Draft Ordinance sections: 49.65.900©, 49.65.920(a)(1) &(6), 49.65.930(d) & (e)(1 &4), 49.65.950(a) & (b), 49.65.960(a), 49.65.970(f)(3), and 49.65.1010
5. Further scrutinize tower proposals in RR & D-1 districts.
    - Regarding Table 1 (Building permit only):
        - New Concealed Towers in the RR district may be up to 70 feet tall so long as it located more than 500 feet away from the nearest Residential district. Section 49.65.950 (a).
        - New Non-concealed Towers in the RR district may be up to 60 feet tall so long as it is located more than 1,000 feet away from nearest Residential district. Section 49.65.950 (a).
        - New Concealed Towers in the D-1 district may be up to 35 feet in height (Max. height of district) regardless of how close to other Residential districts. Section 49.65.950 (a).
        - New Non-Concealed Towers in the D-1 district are not listed in Table 1, and therefore, require a Special Use Permit approved by the Planning Commission.
6. How to bring existing towers into conformance.
    - Certain modifications to existing towers may require the whole tower to come into conformance with this draft ordinance.
    - Draft ordinance section: 49.65.910 (a) & (d).
7. Better address Scenic Viewshed Corridors
    - The Planning Commission shall deny a WCF requiring a Special Use Permit in the mapped Viewshed Corridors of the Comprehensive Plan, as well as those that obstructs the view from the North Douglas boat launch – False Outer Point to the Mendenhall Glacier.
    - Draft ordinance sections: 49.65.900(e), 49.65.930(g), 49.65.970(f)(1)(b) & (3)(c & d)
8. Clarify Setbacks (esp. break-point in tower construction)
    - Break point technology has been added and defined.
    - Draft ordinance sections: 49.65.930 (f)
9. Better address Guy Wires (relate to bird migration – make more visible)
    - This is addressed above under # 4.
10. Have post-construction RF testing
    - A pre-construction RF compliance with FAA submittal is currently required. Post-construction RF testing would be redundant since the development must comply with all Federal laws.
    - Pre-construction RF compliance letter is required under section 49.65.960(d).
11. Change section 49.65.930 (i)(B)
    - This section is meant to have the developer design the WCF to blend with existing landscape without a full concealment treatment.
    - Additional direction by the Commission may be needed if revised or removed.

12. Make Table 1 more lenient for concealment WCFs
    - Many collocations and attached WCFs may be up to 20 feet taller than the structure/ buildings thereto attached.
    - New Concealed Towers in the Industrial district may be up to 120 feet in height so long as it is more than 500 feet away from nearest Residential district.
13. Create a Bonus provision that would encourage existing towers to come into conformity
    - CBJ Law & CDD didn't receive much direction from the Planning Commission to make new language.
    - A bonus provision would need to be reviewed so as not to create a new non-conforming WCF.
14. Explain why balloon testing was removed from the Ordinance
    - This is added; see section 49.65.970©(2)(D).

STAFF RECOMMENDATION

Staff recommends that the Planning Commission adopt the Director's analysis, and findings and recommend that the Assembly approve the draft Master Plan and Wireless Communication Facility Ordinance.

City and Borough of Juneau, AK

DRAFT Wireless Telecommunications Master Plan

May 15, 2014

Prepared for:
The City and Borough of Juneau
155 South Seward Street
Juneau, AK 99081

Prepared by:
CityScape Consultants, Inc.
7050 W Palmetto Park Rd #15-652
Boca Raton, Florida 33433
www.cityscapegov.com

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Chapter 1 Wireless Telecommunications Master Plan

Purpose

The Wireless Telecommunications Master Plan (WMP) serves as a planning tool for the City & Borough of Juneau (CBJ) that guides the future development of wireless telecommunication facilities. This plan provides a short history of wireless communication technology, explanation of current technology, service area maps, and an inventory of telecommunication sites in the borough. The WMP meets the goals and objectives of the 2013 CBJ Comprehensive Plan. Specific land use permitting requirements for wireless communication facilities are provided in the CBJ Land Use Code, Title 49. These permitting requirements are consistent with the policies provided in the WMP.

Background

Wireless communication technology has been rapidly evolving during the past 20 years with the increase in cell phone and internet use and the advent of smart phones. Demand for data (internet) service coverage has grown tremendously due to the popularity of smart phones. This high demand for data service has strained existing telecommunication facilities and resulted in a surge of new infrastructure, such as towers and antenna arrays.

Due to the remote location of Juneau and its regional and state importance, the use of wireless technologies is critical and heavily relied upon. In the past 10 years, Juneau has seen an increase in new towers and antenna arrays. Juneau experiences a summer seasonal spike in cellular and data usage from the more than one million cruise ship tourists who visit annually. Also, high marine use places another unique service demand: the need for cell and data service over waterways. Further, the mountainous terrain presents another challenge in service coverage.

Since 2005, the public has shown a growing concern in new towers, health effects from radio frequency emissions, and trends in wireless infrastructure. New towers have become most controversial in residential neighborhoods. The permitting process for new wireless infrastructure may be unclear and unpredictable for developers and general public. To better understand wireless technology and improve the permitting process, the CBJ and Cityscape Consultants, Inc. (CityScape) partnered to create the *Wireless Telecommunications Master Plan* and associated *Personal Wireless Service Facility Development Standards*.

The need for CBJ to manage the development of wireless telecommunication infrastructure is indicated by the following policies of the 2013 Comprehensive Plan:

POLICY 12.11. TO PLAN FOR AND TO ESTABLISH LAND USE CONTROLS ON WIRELESS COMMUNICATIONS FACILITIES IN A MANNER THAT IS APPROPRIATE FOR THE COMMUNITY AND WITHIN THE PARAMETERS ESTABLISHED BY FEDERAL LAW.

- 12.11 - SOP1 Facilitate the provision of high quality, consistent wireless communication services to residents, business, and visitors.

- 12.11 - SOP2 Avoid potential injury to persons and properties from tower failure and windstorm hazards through structural standards and setback requirements.

- 12.11 - SOP3 Accommodate the growing need and demand for wireless communication services.

- 12.11 - SOP4 Encourage coordination between suppliers and providers of wireless communication services.

- 12.11 - SOP5 Minimize the potential for WCFs to cause interference to other radio services.

- 12.11 - DG1 Encourage developers and tenants of WCF to locate them, to the extent possible, in areas where the adverse impact on the community is minimal.

- 12.11 - DG2 Encourage the location and co-location of WCF on existing structures to minimize the need for additional structures.

- 12.11 - IA1 Conduct a planning process and adopt a CBJ *Wireless Master Plan*.

- 12.11 - IA2 Adopt new Specified Use Provisions in the Land Use Code that provide a uniform and comprehensive framework for evaluating proposals for WCF.

- 12.11 - IA3 Establish standards for location, structural integrity, and compatibility with surrounding neighborhoods to minimize the impacts of WCFs on surrounding land uses.

- 12.11 - IA4 Establish predictable and balanced codes governing the construction and location of WCF.

- 12.11 - IA5 Ensure that any new local regulation or restriction on WCFs responds to the policies embodied in federal law.

- 12.11 - IA6 Include provisions that encourage the use of locations identified in the CBJ *Wireless Master Plan* as preferred locations for wireless communications infrastructure in any ordinance that regulates WCFs.

- 12.11 - IA7 Use zoning restrictions to encourage concealment technologies for new wireless communication infrastructure to lessen adverse effects to surrounding neighborhoods.

The *Wireless Telecommunications Master Plan* and *Personal Wireless Service Facility Development Standards* help achieve conformance with those policies and consistency with the 2013 Comprehensive Plan.

Wireless Telecommunications Master Plan Policies

The policies and implementing actions shown below shall guide the development of Wireless Communication Facilities (WCF).

Public Health & Safety

Ensuring the safety and health of the public with the development of wireless communication facilities is critical. Many antenna array are placed on tall towers near buildings and roads. Having towers and antenna array meet local building codes will minimize tower failure during high wind and snow/ ice conditions. Further, antenna arrays send radio waves when distributing cell and data signal. This emits levels of electromagnetic frequencies that, if not controlled, can be harmful. The Federal Communication Commission (FCC) establishes a maximum emission level to preserve human health and safety. Also, with the construction of new and improved towers reaching above the treeline, it is important that the Federal Aviation Administration (FAA) and the Juneau International Airport (JIA) are notified to ensure aviation safety and compliance with aviation regulations.

POLICY 1. TO ENSURE THE PROTECTION OF THE HEALTH AND SAFETY OF THE PUBLIC WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

POLICY 2. TO PROTECT AVIATION SAFETY BY COORDINATING WITH FEDERAL AVIATION ADMINISTRATION (FAA) WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

Implementing Actions:

1. Require permits for all wireless communication facilities to ensure building and land use code compliance.
2. Adopt standards that establish a minimum setback distance that towers must be located away from adjacent property lines or buildings (i.e., fall zones).
3. Require compliance with minimum FCC radio frequency emission standards.
4. Adopt standards that allow for the development of wireless communication facilities in remote areas for emergency communication.

Natural Environment

Wireless communication facilities shall be located and designed in a way that avoids harming sensitive environments. Best Management Practices shall be used to lessen impacts. The placement of wireless communication facilities shall avoid highly sensitive wetlands, riparian vegetation, eagle nests, and other protected areas. Coordination with State and Federal agencies that manage sensitive environments shall be ensured with the development of wireless communication facilities.

POLICY 3. TO PROTECT THE NATURAL ENVIRONMENT WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

Implementing Actions:

1. Ensure that new wireless communication facilities are located away from, or built using BMPs to minimize impacts to, sensitive environments such as wetlands, anadromous streams, eagle nests, etc.
2. Coordinate with State and Federal jurisdictions when wireless communication facilities may impact sensitive environments.
3. Ensure that wireless communication facilities are located away from geophysical hazards, such as flood zones, or are built to withstand such forces.

Neighborhood Harmony

Property value and neighborhood harmony shall be preserved with the development of wireless communication facilities. The fabric and overall feel of residential neighborhoods shall be preserved with new and improved wireless communication facilities through the adoption of design standards. The permitting process shall include incentives to support preferred development methods. Having a clear permitting process for the public to follow and participate in will improve decision making. Encourage the development of camouflaging wireless communication facilities to reduce impacts to residential neighborhoods.

POLICY 4. TO PROTECT THE PUBLIC INTEREST, PROPERTY VALUE, AND NEIGHBORHOOD HARMONY WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

Implementing Action

- The CBJ shall adopt regulations that are predictable for the public to ensure fair and timely participation.
- The CBJ shall adopt regulations that require new wireless communication facilities in residential zones to be designed in a manner that minimizes impacts to residences.
- In residential neighborhoods, the CBJ shall seek experts in the industry for determining effects to property value from new wireless communications facilities, where necessary.

- The CBJ shall provide permitting incentives for new towers that encourage designs and locations that have minimal intrusions toward residential property.
- The CBJ shall encourage the use of public lands, buildings, and structures as locations for future wireless communications infrastructure to minimize impacts to private property.
- The CBJ shall adopt regulations that encourage wireless communication facilities to be designed to blend in with the surrounding environment.
- The CBJ shall encourage concealed technologies for new or rebuilt wireless communication facilities.

Land Use Efficiency

Due to the shortage of buildable land, especially residential, the CBJ shall encourage developers to utilize existing structures for future collocations or attachments of antenna array. This will reduce the need for new towers and increase the efficiency of land use. Existing towers shall be reinforced to allow for future collocations.

POLICY 5. PROMOTE LAND USE EFFICIENCY WITH THE COLLOCATION OF WIRELESS COMMUNICATION FACILITIES TO EXISTING STRUCTURES.

Implementing Action

- The CBJ shall incentivize the collocation of antenna arrays onto existing towers and structures to reduce the need for new towers.
- The CBJ shall establish incentives for reconstructing existing structures to accommodate future antenna arrays.

Scenic Corridors/ Viewsheds

Unique scenic corridors and viewshed in the borough have been mapped in the 2013 Comprehensive Plan. These areas capture the quintessential feeling of Juneau and Alaska and, therefore, shall be preserved.

POLICY 6. TO PRESERVE THE SCENIC VIEWSHEDS AND CORRIDORS LISTED IN THE 2013 COMPREHENSIVE PLAN WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

Implementing Action:

- Wireless communication infrastructure shall be located outside of, or blend in with existing vegetation, the mapped scenic viewsheds and corridors of the 2013 Comprehensive Plan.

Intergovernmental Coordination

Due to the various uses of wireless communication facilities, the CBJ shall coordinate with other State and Federal agencies, such as the FAA and FCC, for assuring safe locations and designs.

POLICY 7. TO COORDINATE WITH STATE AND FEDERAL GOVERNMENT ENTITIES WITH THE DEVELOPMENT OF WIRELESS COMMUNICATION FACILITIES.

Amendment and Updating

The Assembly shall update the Wireless Telecommunications Master Plan every ten years or more frequently depending on the growth of wireless communication infrastructure. This update shall include the re-modeling of the service coverage maps (as provided in Chapter 3 of the WMP) and constitute as a substantial change to the Master Plan.

Amending the WMP, or minor change, shall be done on an as-needed basis at the Director's discretion. An amendment shall not have the effect of changing any policies or substantially revise any service coverage maps within the Master Plan.

Chapter 2 The Telecommunications Industry

Introduction

Telecommunications is the transmission, emission and/or reception of radio signals, whether it is in the form of voice communications, digital images, sound bytes or other information, via wires and cables; or via space, through radio frequencies, satellites, microwaves, or other electromagnetic systems. Telecommunications includes the transmission of voice, video, data, broadband, wireless and satellite technologies and others.

Traditional landline telephone service utilizes an extensive network of copper interconnecting lines to transmit and receive a phone call between parties. Fiber optic and T-1 data lines increase the capabilities by delivering not only traditional telephone, but also high-speed internet and, in some situations cable television, and are capable of substantially more. This technology involves an extensive network of fiber optic lines situated either above or below ground locations.

Wireless telephony, also known as wireless communications, includes mobile phones, pagers, and two-way enhanced radio systems and relies on the combination of landlines, cable and an extensive network of elevated antennas most typically found on communication towers to transmit voice and data information. The evolution of this technology is known as first, second, third, fourth and fifth generation (1G through 5G) of wireless deployment.

Wireless handsets

1G 1984 Mobria Cell Phone
Image: J. Bundy

During the early 1980's, the first generation (1G) of 800 megahertz (MHz) band cellular systems was launched nationwide. The 1G portable cell phones were boxy in shape and operated much like an AM and FM radio station. The 800 MHz frequency allows the radio signal from the base station to travel between three and five miles depending on topography and line of site between the base stations. Customers using a cell phone knew when they traveled outside of the service area because a static sound on the phone similar to the sound of a weak AM or FM radio station was heard through the handset. The signal either faded or remained crackling until the subscriber was within range of a transmitting base station.

Originally, the 800 MHz band only supported an analog radio signal. Later technological advancements allowed 800 MHz systems to also support digital customers which allows for an increased number of subscriber transmissions per base station.

The 1990's marked the deployment of the 1900 MHz band Personal Communication Systems (PCS). This second generation (2G) of wireless technology primarily supported a digital signal, which audibly was clearer than the analog signal. The handsets were a fraction of the size of the 1G cell phones and the first handsets provided expanded services such as paging and the ability

to send text messaging through the handheld unit. However 2G had some network functionality trade-offs. The technology of 2G included a static free signal but with a higher rate of disconnects or dropped calls thus the deployment of 2G required significantly more base stations for several reasons. First, the propagation signal in 1900 MHz is limited to a 2-4 mile range so the number of required base stations almost tripled just to provide basic 2G coverage in the same geographic area as a 1G service area. Second, the industry was reluctant to share tower space with a competitor and many service providers resisted collocating on the same tower. Third, subscriber base and usage grew rapidly and the industry needed more sites to improve network coverage demands by their customers.

2G Motorola Phone
Image: amazon.com

2G Nokia Phone
Image: htcevoforum.net

2G Motorola Phone
Image: superstock.com

Third and fourth generation (3G and 4G) wireless handsets offer a wide variety of tools and services including access to e-mail, news, music and videos; built in cameras and videos; global positioning services (GPS); internet commerce; and thousands of applications from games to flashlights for downloading onto the handset. These applications require large amounts of bandwidth and service providers continue to upgrade existing base stations and add additional base stations to improve and increase network capacity. To improve network functionality service providers purchased licenses to operate in the 1700-1800, and 2100-2400 MHz frequencies.

2G Phone (left)
4G Phone (right)
Image: answers.com

The operating footprint is similar to the 1900 MHz footprint and helped to increase bandwidth in smaller geographic areas. With the advances of 4G the service providers are purchasing licenses in the 700 MHz frequencies. The 700 MHz platform has a service area similar to 800 MHz and will allow the service providers to broadcast a larger propagation footprint. The need for additional infrastructure for 3G and 4G is significant nationwide and continuous deployment of new base stations will be necessary as the industry transitions to fifth and sixth generation (5G and 6G) utilizing the 700, 800, 1700-1900, and 2100-2400 MHz frequencies. LTE is used as a marketing name and is not reflective of the actual download speed as defined as 3G and 4G.

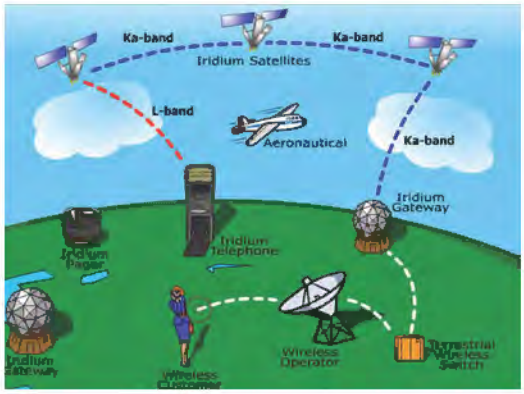
Unlike 1G and 2G (initial launch of cellular and PCS wireless service with the goal and objective of providing initial wireless coverage); 3G through 5G deployments will be focused on compressing more data in existing and future bandwidths. Fourth generation network technology (the platform for smartphones) emphasizes improving network capacity and

maximizing the use of bandwidth for faster and more efficient transfers of data. Fifth generation wireless will bring faster data transfers and additional wireless services such as using your phone for credit card transactions and other similar functions. Like all previous generations of wireless deployment, 5G will require more sites.

Satellite technologies

Satellite growth has surpassed the highest expectations of only a few years ago. The reason is simple - cost. Previously, relaying information, data, and other related materials were cumbersome and required many relay stations in very specific locations and relatively close together. Initially satellite use was expensive because of the rarity and limited amount of available airtime needed. Satellite airtime has become more affordable with the deployment of additional satellites and advanced technologies that allow more usage of the same amount of bandwidth. Competition always holds down cost, and that is what has occurred. In addition, satellite services are in the early stages of designing more localized networks; contributing to the already rapid growth.

Satellite technology has its limitations, which are all based on the Laws of Physics. Some licensees of satellite services such as SiriusXM Radio and satellite telephone services petitioned the Federal Communications Commission (FCC) and have been allowed additional deployment of land-based supplemental transmission relay stations for the ability to compete more aggressively with existing ground base services, and overcome obstacles typical to satellite technology. Subscribers found the delay in talk times unacceptable along with fade and signal dropout. The FCC is looking favorably upon this request, even though the existing land-based services are strongly objecting for various reasons. SiriusXM Radio was successful in obtaining ground base supplemental transmitters, and is rapidly becoming one of the largest users of ground base transmitters. This will place more demands on governmental agencies as another service begins to construct a land-based infrastructure.



Iridium Satellite Routing System
Image: wcclp.com

Wireless facilities

Wireless communication facilities are comprised of four main apparatuses: 1) an electronic base station; 2) feed lines; 3) antenna or antenna array; and 4) an antenna support facility.

Base station and feed lines

Base stations are the wireless service provider's specific electronic equipment used to transmit and receive radio signals, and is usually mounted within a facility including, but not limited to: cabinets, shelters, pedestals or other similar enclosures generally used to contain electronic equipment for said purpose. Feed lines are the coaxial copper cables used as the interconnecting media between the transmission/receiving base station and the antenna. The base station and

feed lines shown in Figure 1 is a typical model for providers operating in the 1900 MHz frequencies and ground space for this equipment cabinet is around eight (8) square feet.

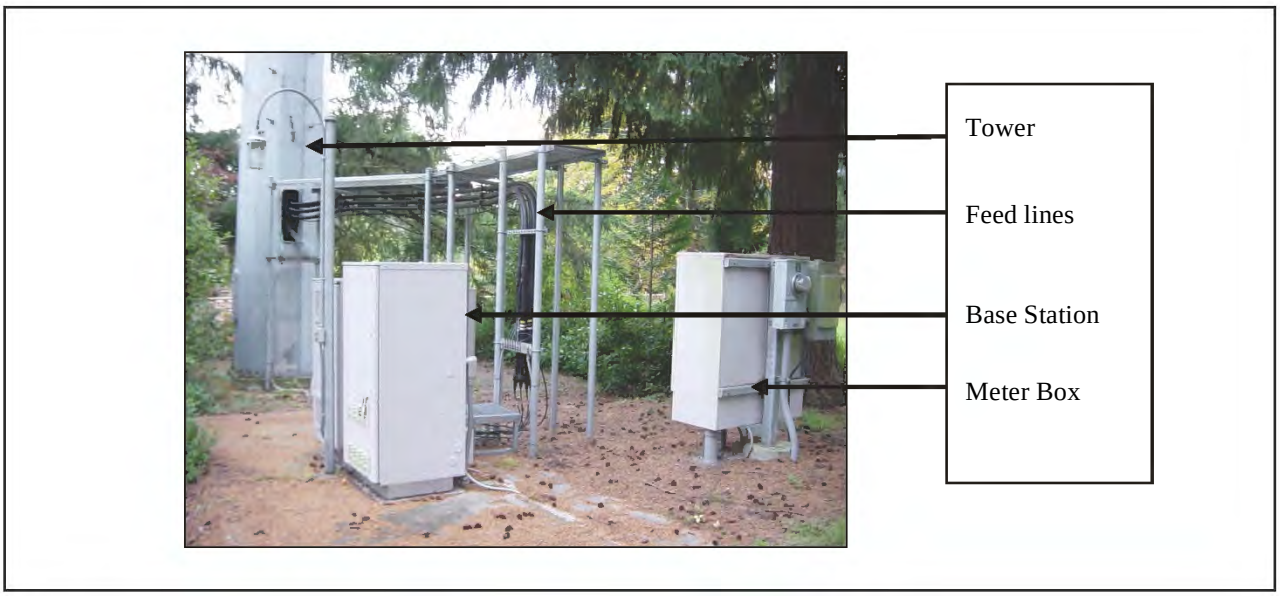


Figure 1: Example of 1900 MHz Wireless Infrastructure Ground Equipment

The electronics operating the 800 MHz wireless systems within the base station can generate substantial heat, therefore the base stations for providers operating in the 800 MHz frequencies are much larger and generally need an equipment cabinet a minimum of four hundred (400) square feet to house the equipment. The only noise that might be produced from the vicinity of any base station would be from an air conditioner or a backup generator that might be necessary in instances of no power or power failure. Figure 2 is a picture of an 800 MHz base station.

Figure 2: Example of 800 MHz Base Station

Antennas and antenna arrays for wireless telecommunications

Antennas can be a receiving and/or transmitting facility. Examples and purposes of antennas include: a single omni-directional (whip) antenna or grouped sectorized (also known as panel antennas). These antennas are used to transmit and/or receive two-way radio, Enhanced Specialized Mobile Radio (ESMR), cellular, Personal Communications Service (PCS), or Specialized Mobile Radio (SMR) signals. The single sectionalized or sectionalized panel antenna array is also used for transmitting and receiving cellular, PCS or ESMR wireless telecommunication signals.

Omni-Directional
Whip Type Antenna

Sectorized (panel)
Antenna Array

Figure 3: Examples of Directional and Panel Antennas

The antenna can also be concealed. Concealment techniques include: faux dormers; faux chimneys or elevator shafts encasing the antenna feed lines and/or equipment cabinet; and painted antenna and feed lines to match the color of a building or structure. A concealed attached facility is not readily identifiable as a wireless facility. Various examples of antennas attached to buildings and structures are shown in the following pictures.

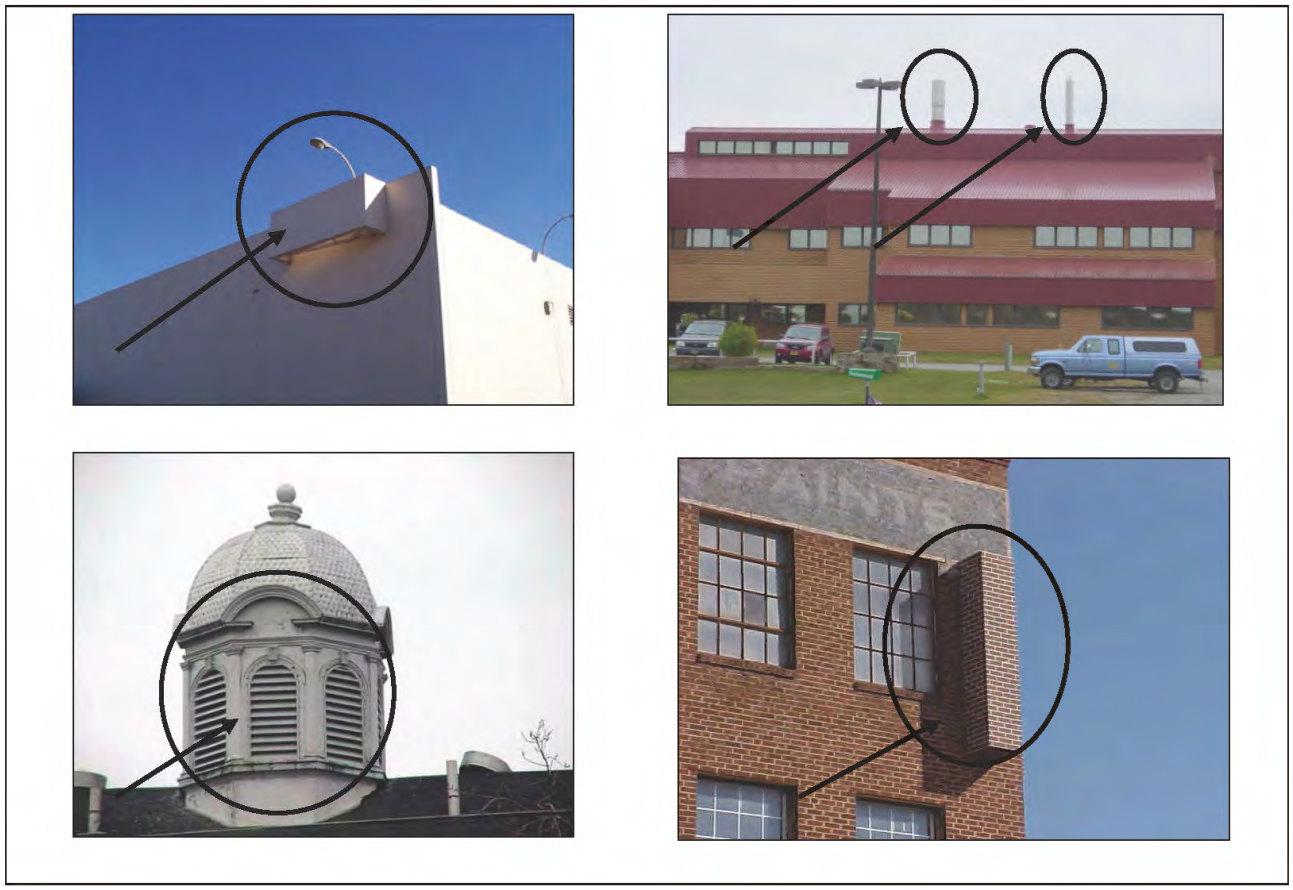


Figure 4: Examples of Concealment Techniques

Support facilities for the antenna

A variety of structures can be used for mounting the antenna(s) such as towers, buildings, water tanks, existing 911 tower facilities, tall signage and light poles; provided that, 1) the structure is structurally capable of supporting the antenna and the feed lines; and, 2) there is sufficient ground space to accommodate the base station and accessory equipment used in operating the network. Antenna support structures can also be concealed in some circumstances to visually blend-in with the surrounding area.

Figure 5 on the following page provides examples of several antenna support structures. The flagpole and light standard are concealed towers. The antennas are flush-mounted onto a monopole and a fiberglass cylinder is fitted over the antenna concealing them from view. The bell tower is a concealed lattice tower. The antennas are hidden above the bells and behind the artwork at the top of the structure.

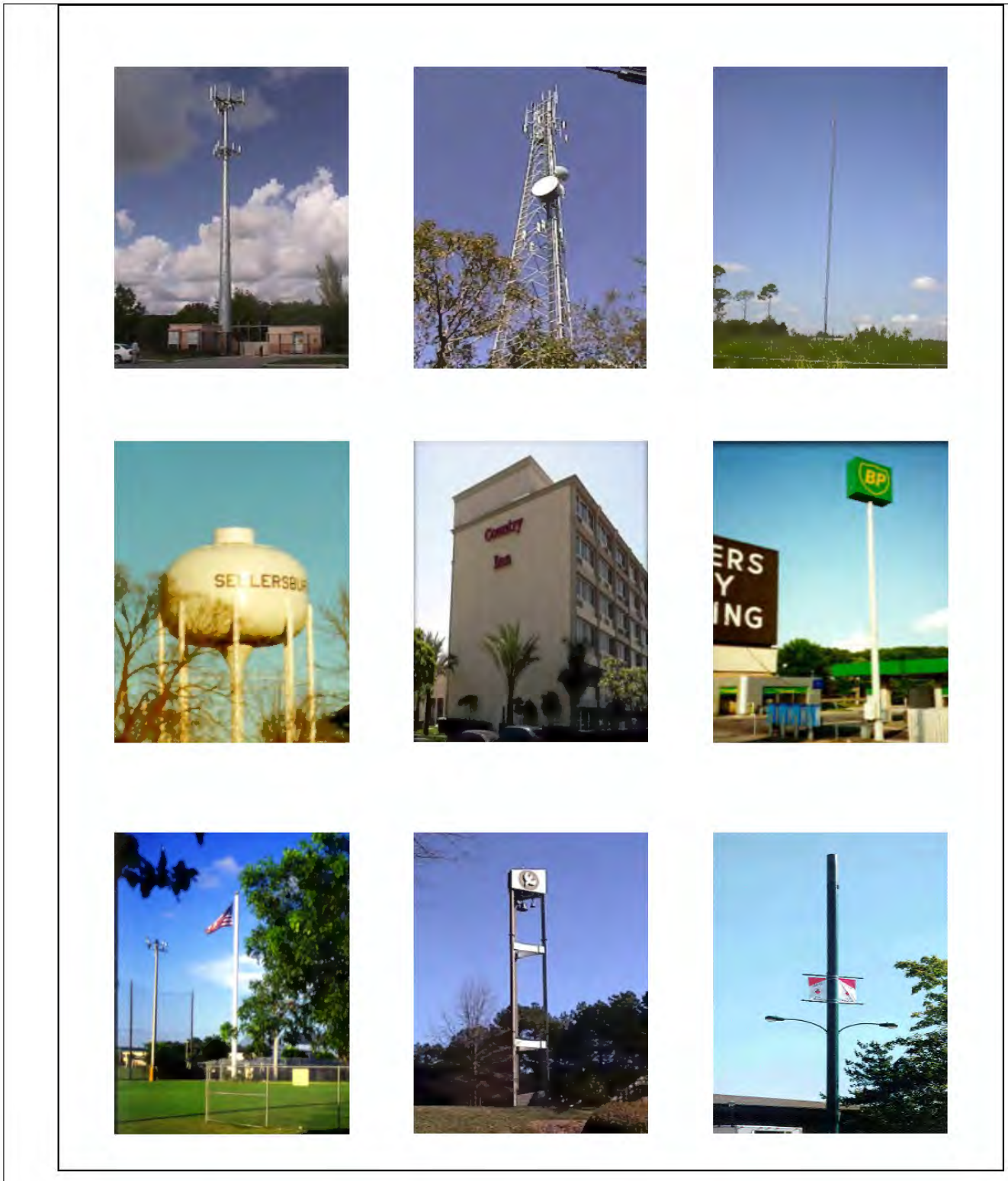
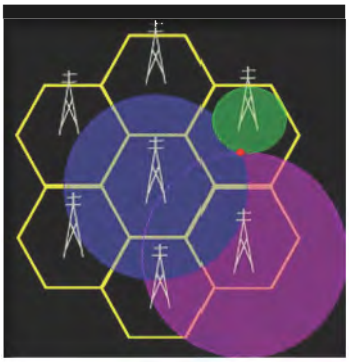


Figure 5: Examples of Antenna Support Facilities

Wireless infrastructure

To design the wireless networks, radio frequency (RF) engineers overlay hexagonal cells representing circles on a map creating a grid system. These hexagons represent an area equal to the proposed base station coverage area. The center of the hexagon pinpoints the theoretical "perfect location" for a base station (antenna support facility). Next, coverage predictions are shown from the base station within the hexagon. The propagation pattern is generally circular and the size of the coverage area is affected by many variables such as antenna mounting elevation, topography, land cover, and size of the immediate subscriber base. The illustration to the left shows a smaller coverage area in green and the largest coverage area in pink. The difference in coverage areas could be relative to the antenna mounting elevations (a lower antenna mounting elevation on the tower in the green circle and a higher antenna mounting elevation on the tower in the pink shaded circle); or differences in network capacity or topography. The grid systems are unique to each service provider and maintained by each individual wireless provider's engineering department.



Hexagonal Grid with Circular Coverage from Base Stations
Image: 5freshminutes.IT

Antenna network capacity

The number of base station sites in a grid network not only determines the limits of geographic coverage, but the number of subscribers (customers) the system can support at any given time. Each provider is different but a single carrier can only process or turn over a certain number of calls per minute, and at any particular time only a certain number of calls can occur simultaneously. This process is referred to as network capacity. As population, tourists and local wireless customers increase, excessive demand is put on the existing system's network capacity. When the network capacity reaches its limit, a customer will frequently hear a rapid busy signal, or get a message indicating all circuits are busy, or commonly a call goes directly to voicemail without the phone ring on the receiving end of the call.

As the wireless network reaches design network capacity, it causes the service area to shrink, further complicating coverage objectives. Network capacity can be increased several ways. The service provider can shift channels from an adjacent site, or the provider can add additional base stations with additional infrastructure.

A capacity base station has provisions for additional calling resources that enhance the network's ability to serve more wireless phone customers within a specific geographic area as its primary objective. An assumption behind the capacity base station concept is that an area already has plenty of radio signals from existing coverage base stations, and the signals are clear. But there are too many calls being sent through the existing base stations resulting in capacity blockages at the base stations and leading to no service indications for subscribers when attempting to place a call.

According to data from SNL Kagan, the federal penetration rates of subscribers with wireless telephone service for the United States indicate a level of around eighty-four percent (84%) and it is predicted to be at one hundred percent (100%) by the end of 2013. This does not mean that every person will have a cell phone; rather, many people will have more than one phone creating the effect of one cell phone per person.

Thus, subscriber density for 3G and 4G is what controls the separation distance between base stations. The existing network design, based on local wireless penetration rates and usage, has each site facilitating the use of between 1750 and 2500 separate devices. As wireless devices increase in number *and* usage (particularly more intensive bandwidth usage like e-mail, Facebook, and mobile TV), each site will need to *decrease* its geographic area and serve a smaller number of subscribers in order to avoid overloading its systems.

Wireless broadband

Wireless broadband is analogous to the communications of voice via wireless phones but for the transmission of high speed wireless data along with standard voice communications. Wireless broadband is the transfer of data (wireless broadband) via radio waves between computers, hand held wireless phones and other wireless devices. First generation wireless deployments launched the analog hand held phones operating in the 800 MHz frequency. Second generation wireless deployments launched the digital wireless voice network in the 800 and 1900 MHz frequencies. Third and fourth generation wireless deployments add the capability of wireless data networks, now including the 2400 and 700 MHz frequencies, although many carriers are using their designated voice channels for broadband.

Traditional service providers such as AT&T, Verizon, and Sprint/Nextel have added wireless broadband to their platforms. Newer wireless handsets (smartphones) can communicate via voice (phone) and access the wireless broadband (internet). Additionally there are service providers such as Clearwire and other smaller regional services whose business plan is to provide wireless data/internet (broadband) (but not traditional voice service) to its subscriber base as an alternative to local cable and dial up internet service providers.

The infrastructure for wireless broadband is similar to that in use for wireless phones; i.e. an elevated antenna with a base station for each service provider. The service area can be reduced in order to maintain an acceptable download speed which will lead to the need for more infrastructure. For example, during maximum usage periods in order to cover a geographic area of approximately five square miles the following would be anticipated:

- 1G – Analog - 1 cell site
- 2G – Cell phone - Digital TDM – 6 cell sites
- 3G – Smartphone - Digital CDMA – 14 sites
- 4G – Universal personal communicator device - Digital CFDM or LTE - 36 sites

Complete fourth generation broadband network deployment is anticipated to begin in 2013 beginning in the urban markets.

Summary

Wireless handsets used for personal wireless services have changed significantly from the initial launch of the cellular phones in the 1980's. The infrastructure that is the backbone of these handsets has not changed as much from a visual perspective. The wireless networks still need elevated antennas above tree lines and rooftops to transmit and receive the communication information between wired and wireless devices. Moisture contained within leaves and pine needles absorb and refract the signal and create an unpredictable propagation variable. There are no antennas currently on the market that can manipulate nature and the laws of physics to eliminate the changes in the propagation characteristics from antennas placed within the tree line. Wireless antennas can function below the tree line but not at the same performance level as compared to antennas placed in the same location above the tree line. For this reason, the industry will continue to prefer placement of their antenna arrays above the tree line to achieve optimal propagation from the infrastructure and maximize their investment in the communities they are servicing. The antenna sizes used have changed minimally over the years. Recent inclusion of remote radio heads in the antenna will generally mean larger and more complex antennas as compared to the earlier 2G installations.

The structures on which the antennas mount have changed very little, other than generally becoming shorter in geographic areas where taller towers are permitted. The monopole and lattice towers remain the most widely used tower infrastructure nationwide for deployment practices. It is likely that diameters of monopoles will need to increase to allow additional space inside for more coaxial lines to accommodate additional antenna and antenna types. Concealment techniques continue to be used to mitigate the visual impact in areas of concern as identified by local governments.

Mergers and acquisitions (Sprint and Nextel for example) will bring about a temporary downsizing and consolidation of infrastructure for the companies involved but overall the industry will continue to need more and more infrastructure with transitions to 3G, 4G, 5G and beyond. The antenna elements will need to be closer together and above tree lines and rooftops.

Chapter 3 Engineering Analysis

Base station network design is founded on the principles of a grid system that is maintained by each wireless provider's engineering department. The hexagonal cells on the grid represent the radius equal to the proposed cells' coverage area. Common points of adjoining hexagons pinpoint the theoretical perfect location for a prospective new base station. For these reasons, deviation from these specified locations can significantly affect the wireless provider's deployment network.

Search area within proposed coverage areas

The search area for new wireless infrastructure is ideally specified in a document provided to site search consultants in pursuit of a lease for property on which to place their facilities, whether a new tower, a rooftop or some other existing structure that could accommodate wireless antennas. From an engineering perspective, any location within the proposed search area is considered to be acceptable for the provider, with certain considerations based on terrain and sometimes population balance.

Search Area Radii

Search areas for the 800 MHz frequencies and 1900 MHz (PCS) frequencies are computed in Tables 1 and 2. The tables utilize the "Okumura-Hata" propagation path loss formula for 800 MHz, and the "COST-231" formula for 1900 MHz. Maximum coverage radii for typical in-vehicle coverage is calculated for various tower heights, and is de-rated by twenty percent to account for a reasonable handoff zone, then divided by four to obtain a search area radius for each tower height. Thus, 800 MHz antenna mounted at the 100-foot elevation would have a search area radius of 0.72 miles, and 0.36 miles for 1900 MHz.

Okumura-Hata Coverage Predictions

Antenna mounting height	50'	80'	100'	115'	150'
Radius, miles	2.53	3.20	3.60	3.88	3.91
Allow for handoff	2.03	2.56	2.88	3.10	3.60
Search area, miles	0.51	0.64	0.72	0.78	0.90

Table 1: Okumura-Hata Coverage Predictions for 800 MHz

COST 231 Coverage Predictions

Antenna mounting height	50'	80'	100'	115'	150'
Radius, miles	1.33	1.64	1.82	1.95	2.32
Allow for handoff	1.07	1.31	1.46	1.56	1.79
Search area, miles	0.27	0.33	0.36	0.39	0.45

Table 2: COST 231 Coverage Predictions for 1900 MHz

Wireless search areas are usually circles of approximately one-quarter the radius of the proposed cell. In practice it is fairly simple to determine whether the search area radius is reasonable. The distance from the closest existing site is determined, halved, and a handoff overlap of about twenty percent is added. One fourth of this distance is the search area radius. CityScape provides the Coverage Prediction tables for antenna mounting elevations between 50 and 150 feet to allow communities the opportunity to evaluate this variable. Generally in areas where initial coverage is the objective taller towers allow the antenna to service a larger geographic coverage area and additional collocations by other service providers. Shorter tower limit the geographic coverage area and reduce the number of collocations resulting in a greater number of towers within each search area.

Tower height and antenna mounting elevation considerations

Taller structures (towers, rooftops, and water tanks) may offer more opportunity for collocation, which could theoretically decrease the number of additional towers and antennas required in an area, but capacity issues could circumvent any advantage of taller towers. The extent to which height may increase collocation opportunities must be verified by an RF engineering review on a case-by-case basis. In geographic areas where there is a larger wireless phone subscriber base or terrain concerns, build-out plans may require lower antenna mounting elevations, especially in densely populated areas. Antennas located at higher elevations on the antenna support facility are indicative of rural areas. In some cases, the wireless providers seek to limit the height in more populous geographic areas because they may need differing heights on a single tower to reduce the potential for interference between the same provider and/or a competing wireless provider.

Master plan design process

This chapter evaluates wireless coverage for the most populated areas of the City and Borough of Juneau (CBJ) and is accomplished by:

- Researching the inventory of existing antenna locations on support structures and buildings and evaluating the possible 800 MHz and 1900 MHz coverage from those sites; and

- Designing an engineered search radii template based on the average existing antenna mounting elevations and applying it over the jurisdictional boundary of the CBJ to evaluate theoretical build-out conditions; and

- Forecasting future infrastructure needs based on the status of the existing deployments and locations of the subscriber base.

Basic coverage predictions and wireless coverage handoff

CityScape provides a series of maps to help visualize the number of antenna locations that would be necessary to provide wireless communications coverage throughout the more urbanized areas of the CBJ. To accomplish this task, CityScape has created a series of root mean square (RMS)

theoretical coverage and handoff maps by randomly selecting existing antenna locations throughout the defined geographical boundary. This hypothetical network demonstrates the minimum number of base station locations required for one provider to provide complete coverage throughout the study area. In order to complete this analysis an antenna mounting elevation must be determined. CityScape has reviewed the existing tower inventory for the CBJ and determined the average tower height used for wireless telecommunications purposes to be around 88 feet. Thus, 88 feet was chosen for the mounting elevation for the theoretical RMS maps.

According to the Okumura-Hata propagation path loss formula in Table 1 coverage for 800 MHz, a reasonable coverage area for an antenna mounted at 80 feet for cellular deployment on flat terrain is about 3.20 miles. This means a single antenna mounted at 80 feet with flat terrain and minimal subscribers would provide a wireless signal to a 3.20 mile geographic radius. Using these three variables (flat terrain, 800 MHz and 80-foot antenna mounting elevations) CityScape has created a wireless network grid covering the CBJ. Figure 6 illustrates that it requires fifteen towers centrally located within the study area to provide complete 800 MHz cellular coverage. These sites represent a theoretical build-out for antennas mounted at the 88-foot elevation at equal dispersion, in a perfect radio frequency environment, with no consideration of topographic and population variables. The black dot within the circle indicates the antenna location. The smaller circle shown within the larger circle represents the limits of the search area for locating the tower. The fifteen cells would theoretically provide wireless service throughout the study area for one provider to address coverage objectives and not capacity objectives.

Referring to the "COST-231" formula for 1900 MHz a reasonable coverage area for an antenna mounted at 80 feet for a PCS site on flat terrain is approximately 1.82 miles. The coverage reduction from 3.2 miles to 1.64 miles reflects the variable change from 800 MHz to 1900 megahertz. Figure 7 illustrates it would take up to forty-nine antenna locations to cover the same geographic area as in Figure 6. These 1900 MHz PCS sites represent a theoretical build-out of one antenna mounted at the 88-foot elevation at equal dispersion for one PCS provider; *with no consideration of terrain or demographic variables.*

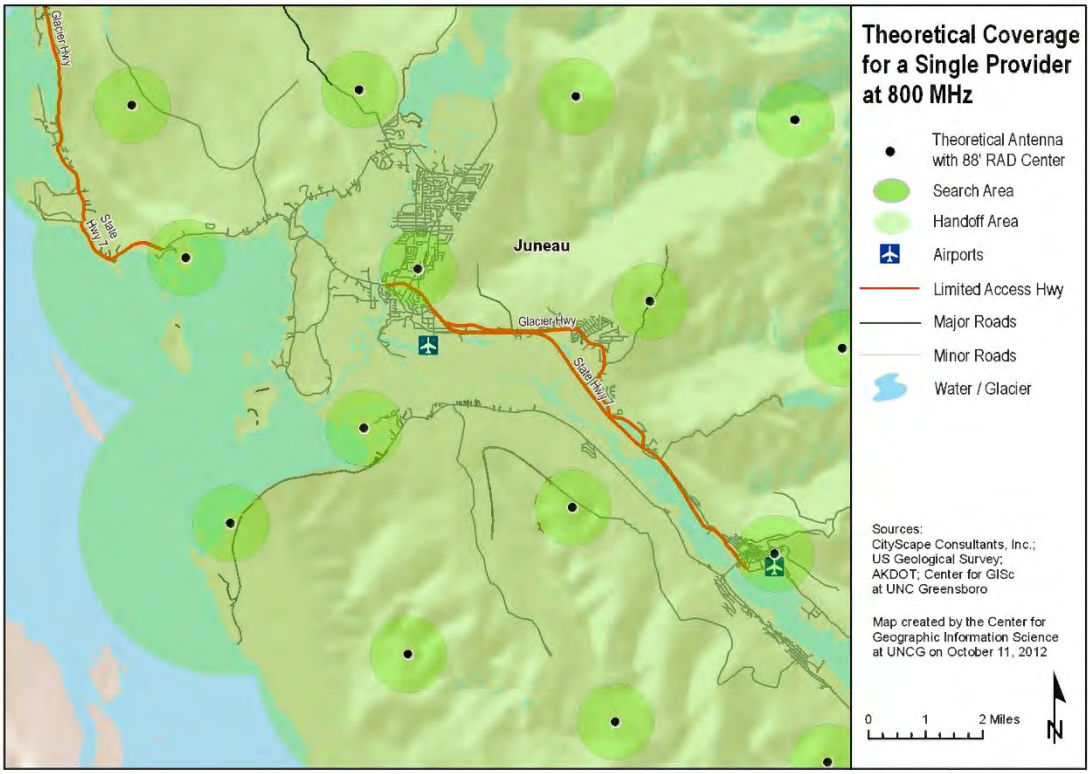


Figure 6: RMS 800 MHz Handoff and Search Areas at 88' Antenna Mounting Elevations

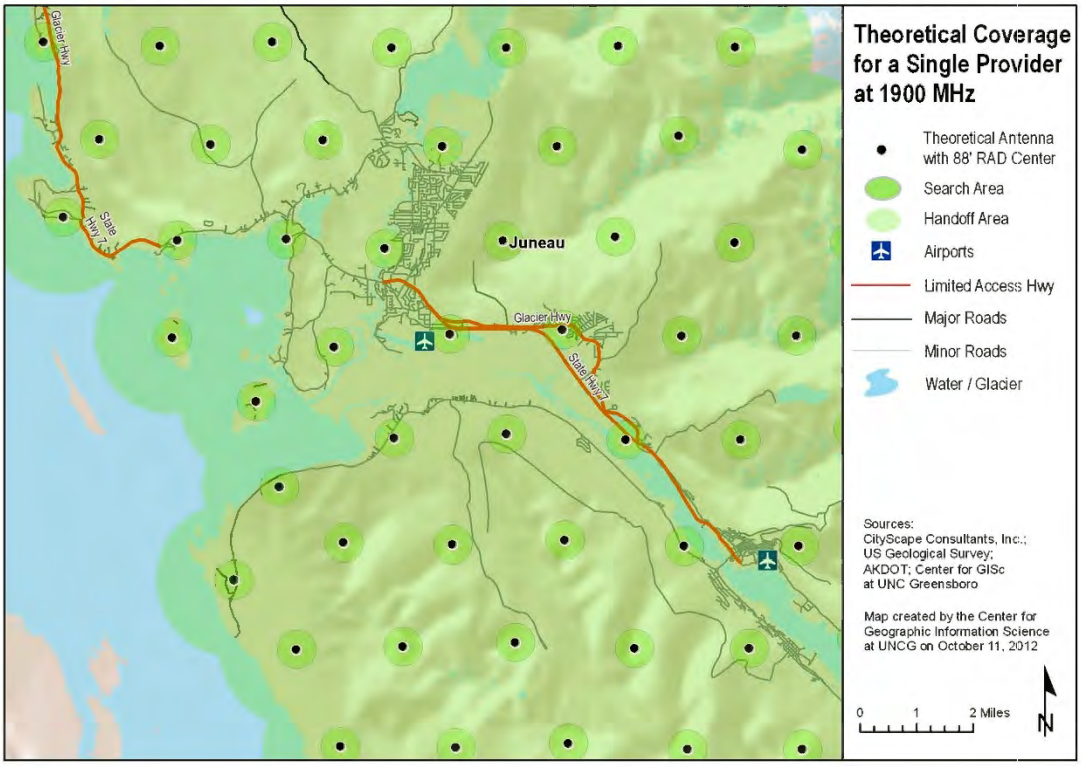


Figure 7: RMS 1900 MHz Handoff and Search Areas at 88' Antenna Mounting Elevations

Topographic variable on theoretical coverage

As previously described in flat terrain and sparsely populated areas, base station prediction is an easier art. The impact terrain has on a service area can be the most dramatic. Radio frequency propagation is line-of-sight technology. Line of sight works best with an unobstructed path between the base station and the handset. There are some variations of this principle. The analogy of a light bulb works well to explain how a wireless signal gets from point A to point B.

In this manner communication signals perform very similar to light. The areas closest to the light are illuminated the brightest. Adding a lampshade over the light bulb dims the light. Walls, closed doors, and other opaque object obscure the light. Similarly for best results in wireless communications there should be nothing in the transmission line of sight path between antenna point A and antenna point B, but that is usually impossible. Reflected or refracted signal will fill in some geographic areas but at a reduced power level.

Therefore, on flat terrain service areas with minimal vegetation, the coverage network from each antenna propagates in an even circular pattern. In areas with varying terrain conditions, the line of-sight coverage will be altered by higher and lower ground elevations. The CBJ has significant topographical variations so terrain greatly alters the theoretical maps.

Using the same random grid antenna locations identified in Figure 6 and Figure 7; Figures 8 and 9 illustrate how wireless service coverage is affected when the topographic variables are added to the propagation formulas. The areas in tan identify geographic area that would have no coverage due to the topography.

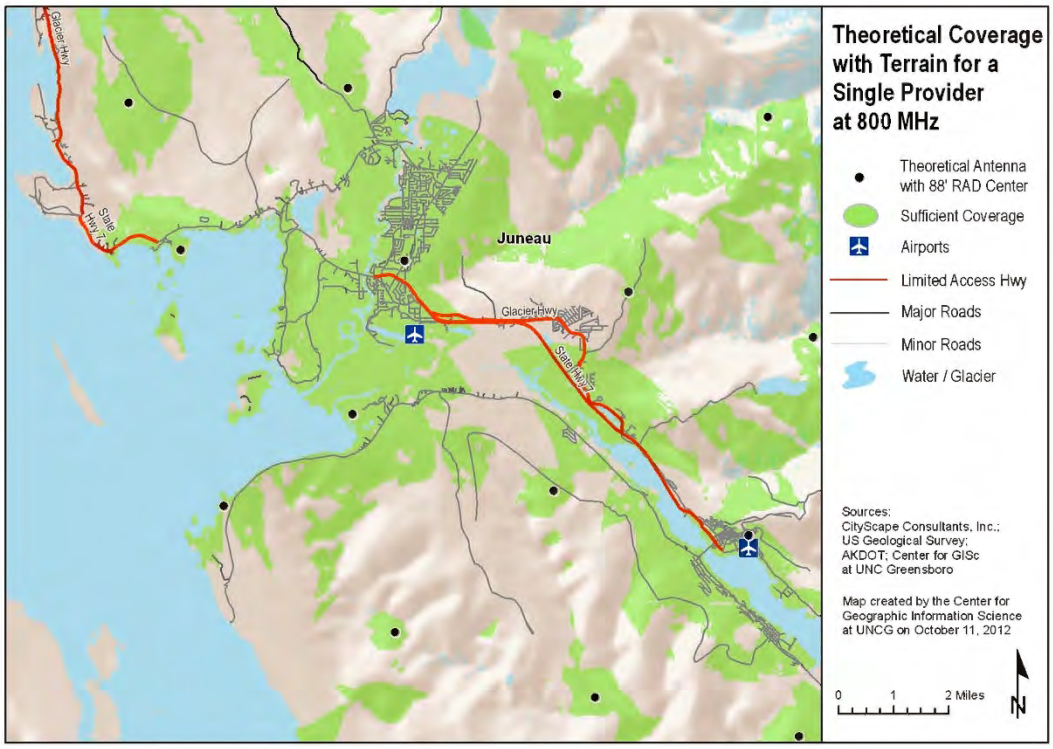


Figure 8: 800 MHz Handoff at 88' Antenna Mounting Elevations with Terrain

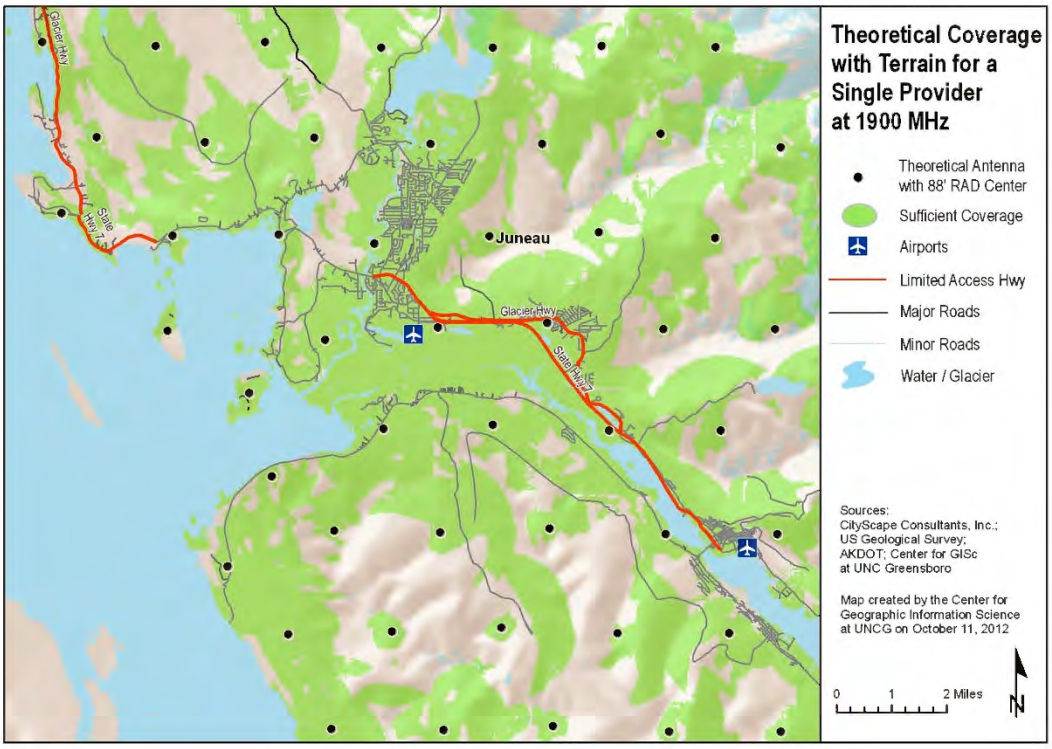


Figure 9: 1900 MHz Handoff with 88' Antenna Mounting Elevations with Terrain

Signal strength on theoretical coverage

Signal strength

The theoretical maps to this point in the master plan illustrate general coverage area from identified sites. Propagation mapping is a process that illustrates the level of coverage from an individual antenna site. Signal strength, in this application, is a term used to describe the level of operability of a handheld portable phone. The stronger the signal between the elevated antenna and the handheld wireless phone, the more likely the phone and all the built-in features will work. A reduced signal decreases the opportunity for satisfactory service caused by dropped calls or failed calls on the wireless device. Distance between the wireless handset and the elevated antennas, in addition to existing obstructions such as topography, buildings, and the physical location of the person using the handset (indoors or outdoors) are variables that affect signal strength.

The level of propagation signal strength is shown through the gradation of colors from yellow to blue. The geographic areas in yellow identify superior signal strength; green equates to areas with average signal strength; shades of blue symbolize acceptable signal strength; and tan shades show marginal or no signal strength. Generally, the closer the proximity to the antenna, the brighter shades of yellow within the geographic service area; which means the better quality of wireless service between the elevated antenna and the wireless handset. As distance increases between the handset and the antenna the green, blue, and tan shades appear indicating geographic service areas with good, marginal, sporadic, or no signal strength, respectively. Table 3 below provides further explanation of the color-coding relative to propagation signals.

Signal Strength Color	Signal Strength Title	Signal Strength Description
Yellow	Superior	Signal strength strong enough to receive signal in many buildings
Green	Average	Signal strength strong enough to receive signal in a car, but not inside most buildings
Blue	Acceptable	Signal strength strong enough to receive signal outside for many handsets, but no expectation of receiving a signal in a car or building

Table 3: Signal Strength

Seasonal variables

Vegetative land cover also affects radio frequency propagation. For example, pine needles absorb radio frequency emissions that distort the propagation from the antenna. Leaf foliage has a similar effect on propagation. Geographic land areas predominately covered by deciduous vegetation will have improved network coverage in the winter when the leaves are off the trees.

Using the same random antenna locations identified in Figure 6 and Figure 7; Figures 10 and 11 illustrate the various levels of signal coverage from the theoretical antenna locations including the foliage (clutter) variable. While the industry standards identify green and blue shades as "average" and "acceptable" coverage; customers tend to indicate otherwise. Most early twenty-first century wireless subscribers are demanding superior signal strength (yellow) in their residences, schools, offices, outdoor spaces and places frequented for shopping and entertainment. As consumers continue the trend of terminating traditional land line phone services and using the wireless handset as the primary mode of communication having signal strength inside buildings is paramount to meeting these expectations. The industries "average" and "acceptable" coverage variables do not meet customer demands and expectations. Figures 10 and 11 show many geographic areas with yellow/superior signal strength throughout most of the valley indicating generally a good level of coverage form these random locations.

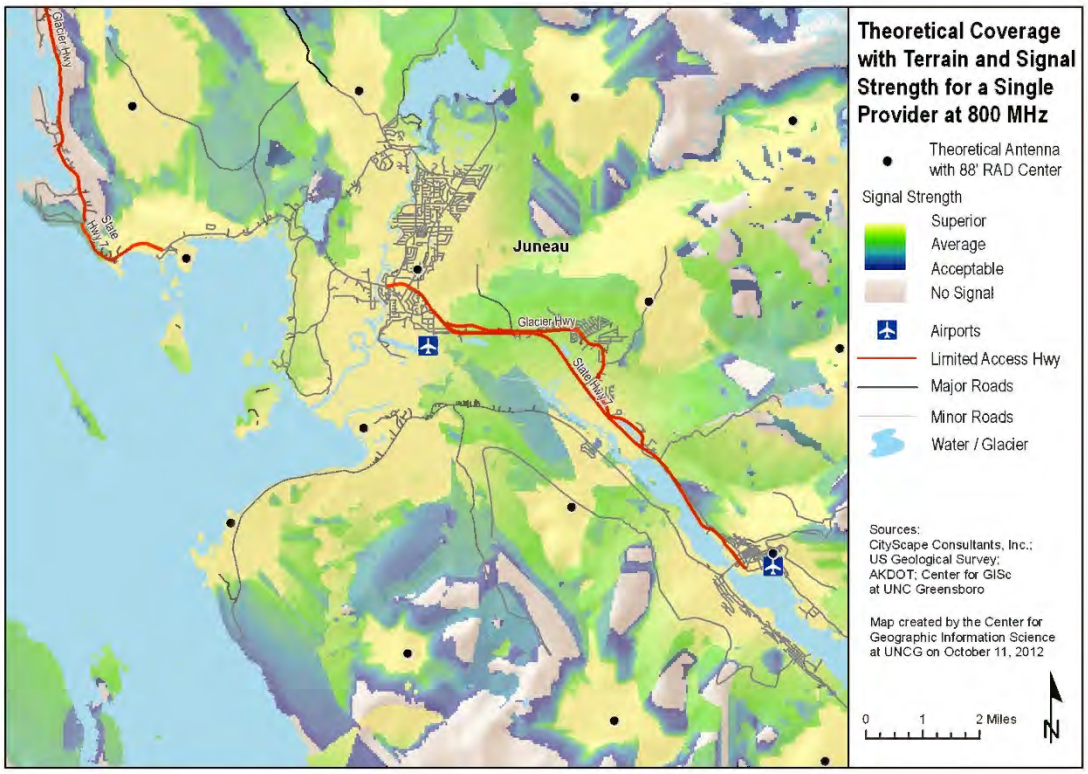


Figure 10: RMS Coverage and Signal Strength for a Single Theoretical 800 MHz Wireless Provider

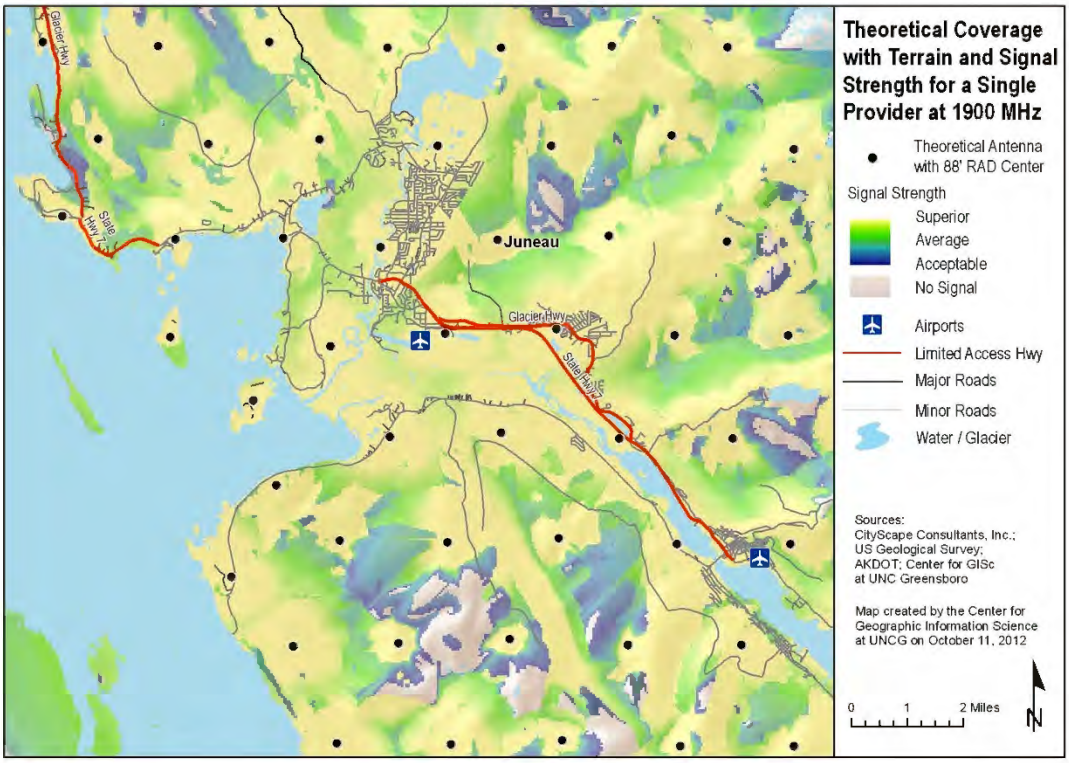


Figure 11: RMS Coverage and Signal Strength for a Single Theoretical 1900 MHz Wireless Provider

The industry and infrastructure

Prior to the granting of the cellular licenses in 1980 for the first phase of deployment, the United States was divided into 51 regions by Rand McNally and Company. These regions are described as Metropolitan Trading Areas (MTA). The spectrum auction conducted by the Federal Government for the 1900 MHz bands for 2G (PCS), further divided the United States into 493 geographic areas called Basic Trading Areas (BTA). The CBJ is located in the "Alaska" MTA (a.k.a. MTA 49) and the "Juneau-Ketchikan, AK" BTA (a.k.a. BTA 221).

Presently throughout the CBJ AT&T and Alaska Communications Systems are licensed to operate in the A and B blocks of cellular services allocated in the 800 MHz band.

Personal Communications Services (PCS) licensees and service providers for wireless phone and broadband operating in the 1700 - 2200 MHz bands include: AT&T Wireless; Alaska Communication Systems; MTA Wireless; T-Mobile; GCI and Sprint Nextel.

The recent transition to digital broadcasting (DTV) from the 700 MHz frequency has enabled the FCC to reassign the 700 MHz band for public safety radio communications and licensed wireless service providers. Public safety entities include police, fire, ambulance, rescue, and other emergency responders will use the spectrum to improve public safety networks. Licensed service providers and local and regional providers of wireless voice and/or data services will use 700 MHz to improve in-building network coverage.

The following service providers have purchased licenses to offer more advanced services in the 700 MHz frequencies: AT&T Wireless; Access 700, LLC; Echostar; Triad 700; and Verizon Wireless.

Per Section 704 of the Telecommunications Act of 1996, all service providers will require uninterrupted and continuous handoff service throughout the CBJ.

Combined there are ten known service providers that will each want to compete for the subscriber base in Juneau. Each of these wireless voice and data providers will need towers and/ or above ground antenna mounting locations to improve network coverage and capacity equating to an ongoing need to deploy more infrastructure, especially in areas of greater residential density.

Existing antenna locations

Mapping the existing antenna sites creates a base map from which observations and analysis are derived relative to current and future deployment patterns. The CBJ provided existing facility locations to CityScape and other locations were attained from tower owners and the FCC database. Multiple facilities were found through various antenna locater search engines or found in the field during the site assessment process. Once these sites were mapped CityScape assessed each of the existing antenna locations throughout the CBJ study area to identify the following: 1) the location of existing telecommunications facilities currently within the CBJ; and 2) the availability of future potential collocations on the existing structures.

The assessment is achieved through actual site visits to each of the base station locations. The wireless infrastructure assessment for CBJ identifies 60 existing wireless communication facilities within the study area. Antennas mounted on towers and buildings are symbolized with a black dot. These antenna locations are identified in Figures 12 and 13. Figure 12 illustrates all the sites on a larger scale map and Figure 13 illustrates sites number 2-60 on a smaller scale map.

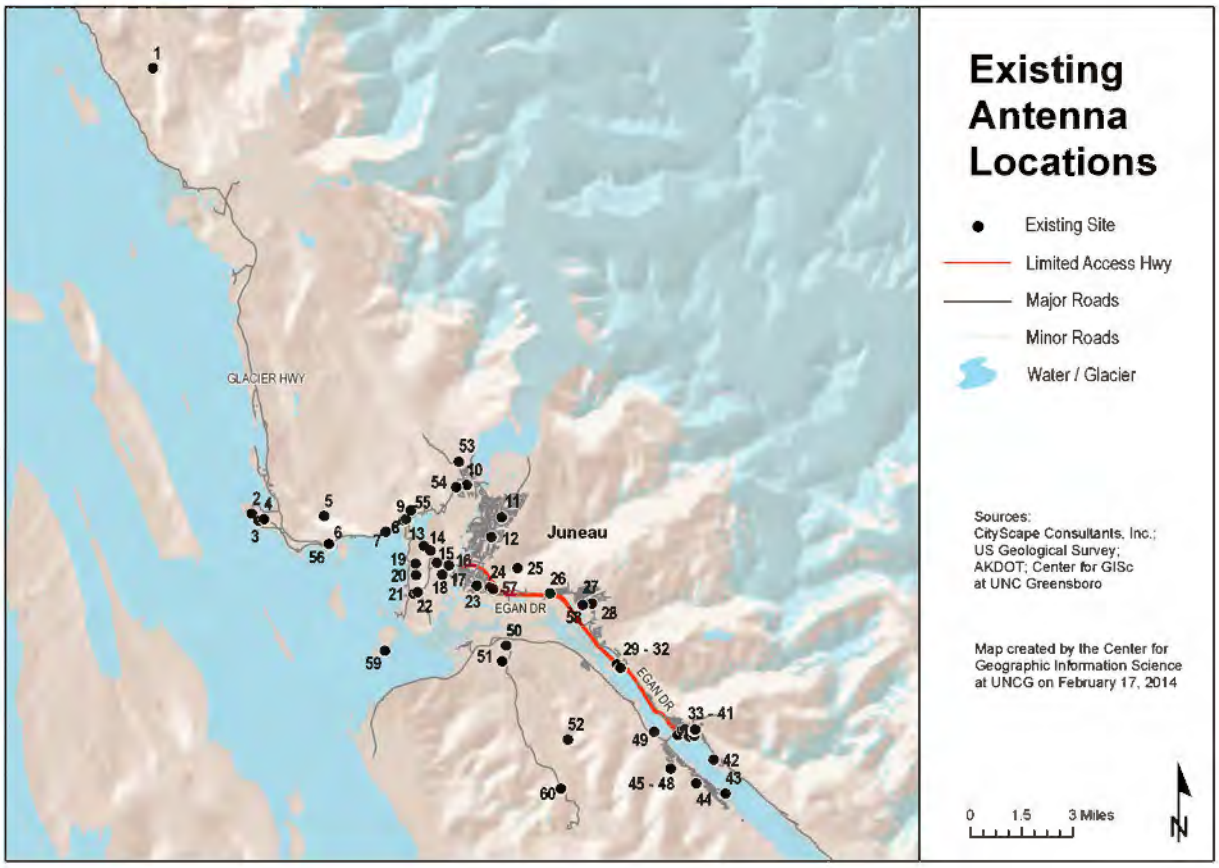


Figure 12: Existing Antenna Locations (large scale map)

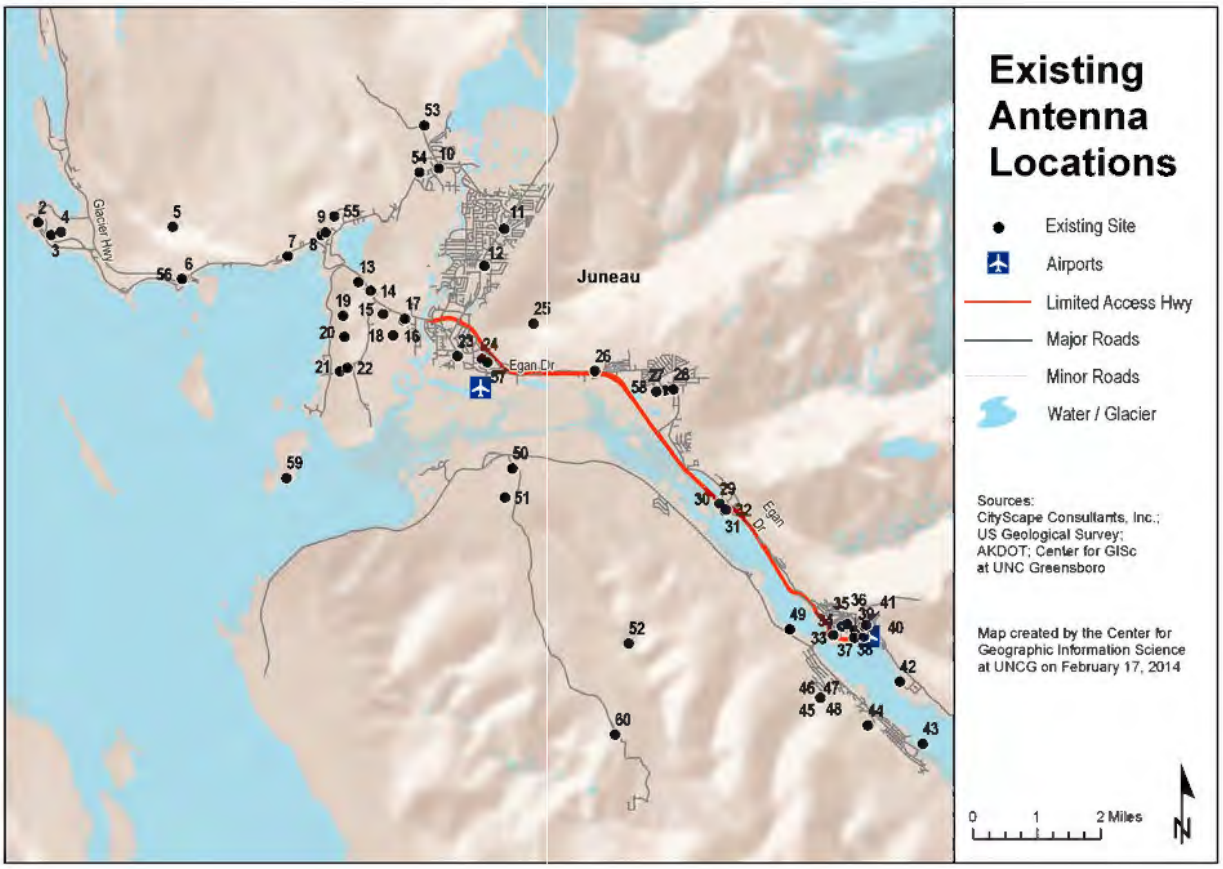


Figure 13: Existing Antenna Locations (small scale map)

Generally, the wireless infrastructure deployment patterns (antenna and tower locations) are concentrated in the downtown and airport areas with most of the remaining sites located parallel the major thoroughfares. Very few of the towers are located on the mountaintops. The FAA and other public safety agencies predominantly use the sites found in these locations.

Table 4 provides a summary of the total number of sites assessed within the CBJ study area by type, height, and ownership. CityScape and the CBJ have identified 60 total sites and some of these sites are home to multiple structures. While doing the research on each of these properties CityScape identified some discrepancies between the height approved for certain antenna structured by the FCC and the actual height approved by the CBJ. This is likely because the tower applicant requested the Antenna Structure Registration permit prior to applying for approval by the CBJ for the new facility. In most cases the tower height approved by the CBJ is lower than what was approved by the FCC. In these cases both approved heights are listed in the infrastructure inventory in Chapter four; however, only the approved tower height by the CBJ is used in the summary provided in Table 4.

60 Total Number of Existing Antenna Locations Identified within Study Area	**60 Total Facilities Identified Within CBJ Study Area**
Guy Towers	5
Monopoles	7
Lattice Towers	22
Wooden Pole Towers	8
Painted Monopoles	5
Rooftop Guy Towers	4
Rooftop Lattice Towers	2
Rooftop Attached Antenna	2
Other	1
Unknown	4
Total	**60**
Heights of Infrastructure Identified within Study Area	
> = 35’ < 82’	18
> = 90 < = 110'	14
> = 130' < 160'	9
> = 175' < 199'	3
> = 200' < 350+'	4
Unknown	12
Total	**60**
Ownership of Infrastructure Identified within Study Area	
ACS (service provider)	2
AlaskaCom (service provider)	4
AT&T (service provider)	2
Atlas Tower USA	2
Broadcast Companies	5
Cingular (service provider)	4
CBJ (public safety)	7
GCI (service provider)	1
Global Tower Partners (tower owner)	6
Government other then CBJ (Federal/State)	12
Other	3
SBA (tower owner)	1
Unknown	10
Total	**60**

Table 4: Summary of Identified Antenna Locations

Theoretical coverage from existing antenna locations

The next step in the evaluation process is to examine the coverage from all known existing antenna locations to determine if any area of the CBJ has unsatisfactory or no service at all. CityScape theorizes how existing antenna locations might be used by the wireless industry.

For example, CityScape asks the following questions. First, "would network coverage gaps be visible if a single Cellular (800 MHz) and PCS (1900 MHz) provider utilized the identified antenna locations?" And second, "does the CBJ have adequate existing infrastructure suitable for providers to meet complete network coverage objectives?"

Figures 14 and 15 are RMS maps that demonstrate the theoretical coverage for a single 800 MHz service provider with antenna mounted at the top mounting position of all known support structures currently used for 800 MHz. Figure 14 does not include the terrain variable and 15 does include the variable of topography.

Figures 16 and 17 are RMS maps that illustrate the propagation (level of signal strength) for a single 1900 MHz network service provider from the top mounting elevation of all known support structures currently used for 1900 MHz. Figure 16 is without the terrain variable and Figure 17 includes the terrain variable.

Figures 18 and 19 are propagation maps that illustrate the approximate quality of service coverage from the sites identified in Figures 14 and 15. These maps include topography, urban density (population and vegetative ground cover) and known tower height variables.

Please note, of the 60-antenna/tower locations only around 25 of the sites are utilized for wireless telecommunication purposes. Generally the public safety, government and broadcast towers do not have any of the wireless service providers equipment on them and it is unlikely that the public service agencies will allow future collocations by the industry. For this reason only the locations used by the wireless telecommunications industry are shown on this sequence of maps. Additionally, CityScape can generally determine the operating frequency of the service provider by the equipment at each site. The maps in this sequence also differentiate between the 700/800 MHz service providers and the 1700 - 2100 MHz service providers to give a more realistic perception of the generalize coverage.

The map sequence illustrate relatively good coverage from the existing towers for 800 MHz provided a single service provider had equipment at each of the sites identified; and it demonstrates that for 1900 MHz many areas throughout the valley have marginal network coverage and capacity. It is very important to keep in mind that no one single 800 MHz or 1900 MHz wireless provider has equipment at all of these sites. For this reason the coverage pattern by the individual wireless providers is not as widespread throughout much of the CBJ valley as shown on these map. However, the zoning policies in place presently appear to allow facilities in these locations and thus do not appear to be creating a barrier to entry.

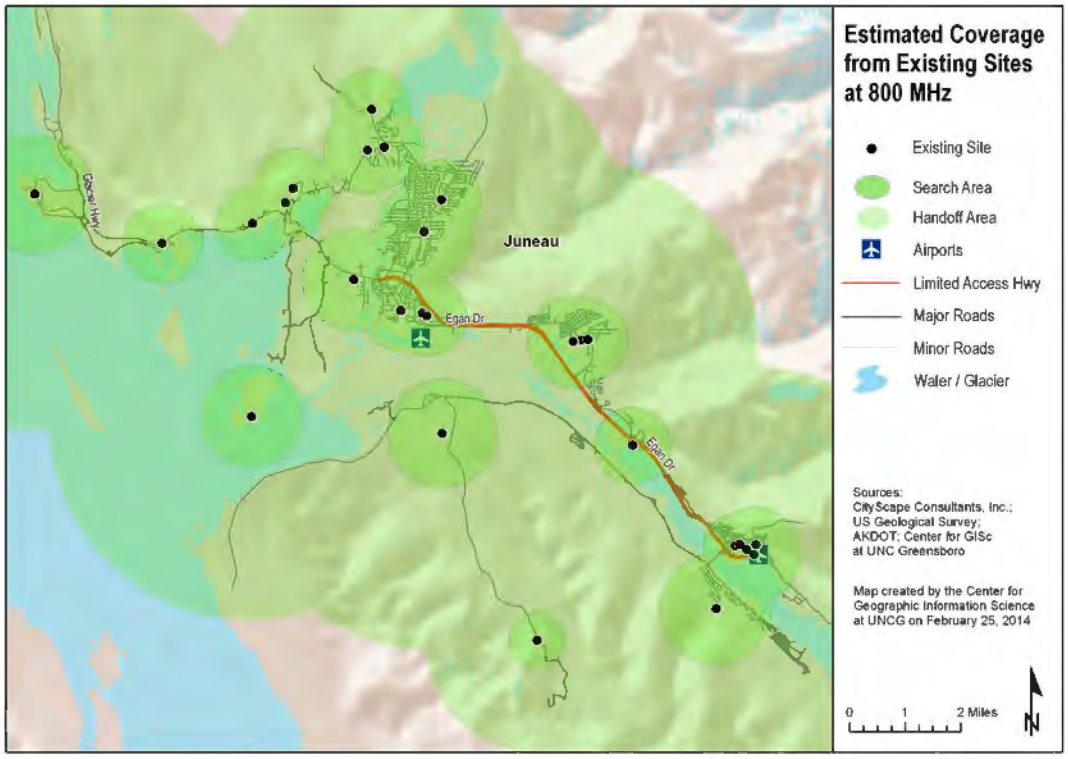


Figure 14: RMS Coverage for a Single Theoretical 800 MHz Wireless Provider without Terrain

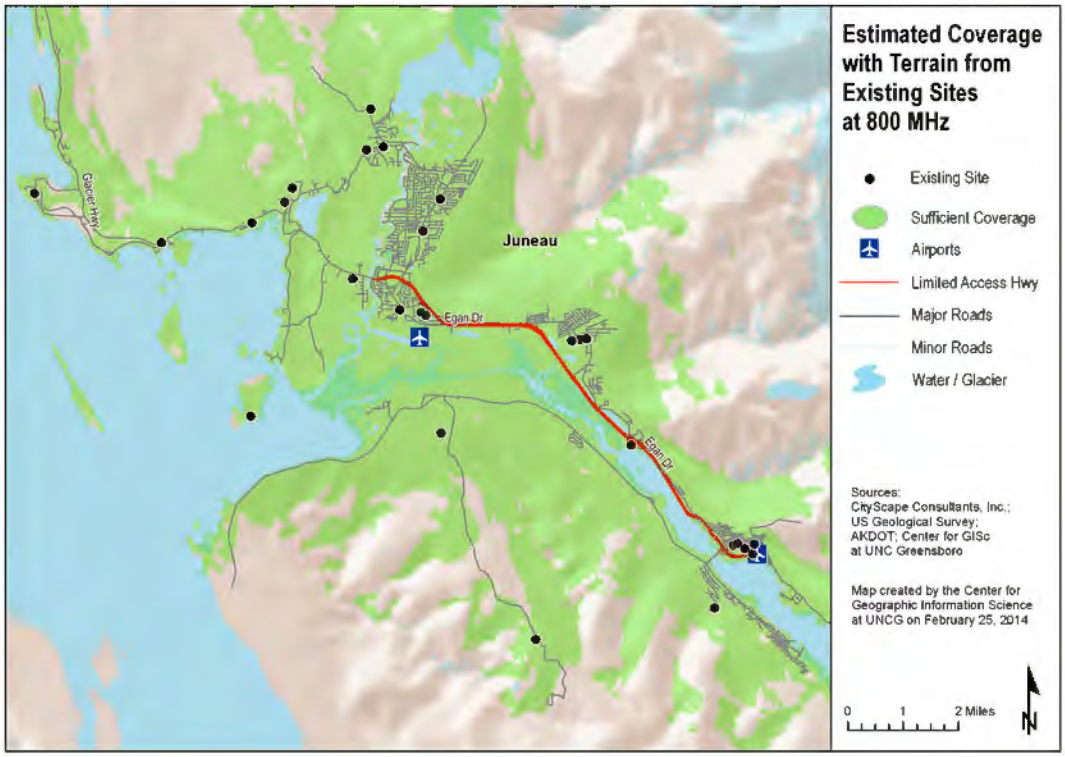


Figure 15: RMS Coverage for a Single Theoretical 800 MHz Wireless Provider with Terrain

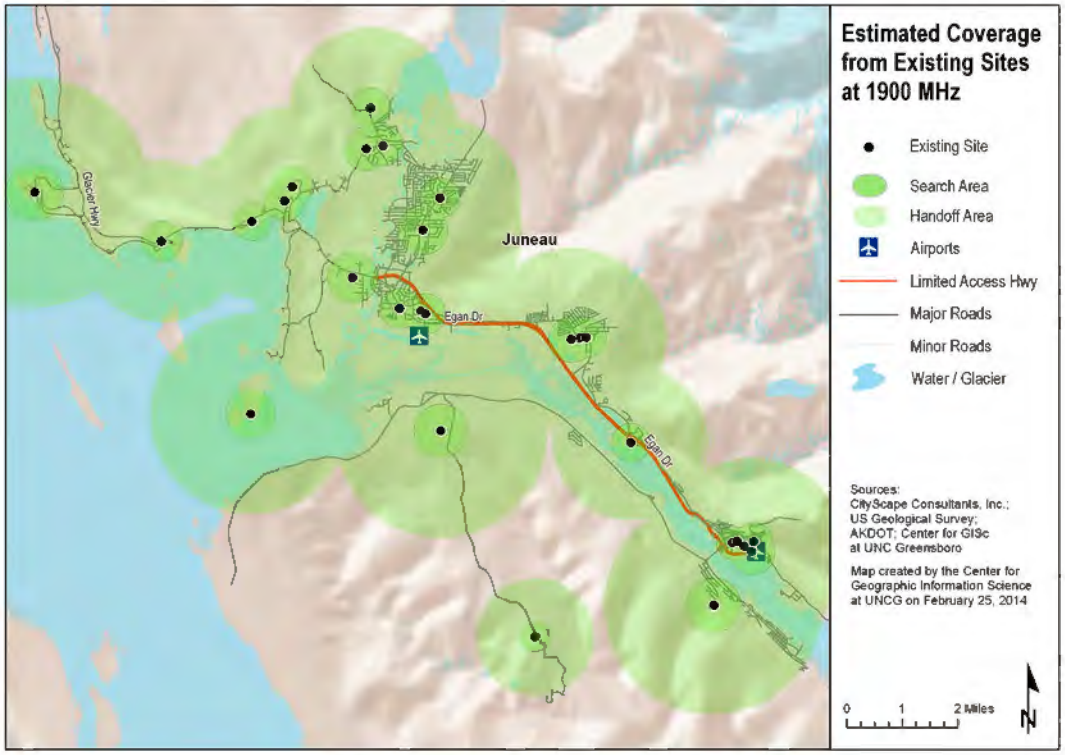


Figure 16: RMS Coverage for a Single Theoretical 1900 MHz Wireless Provider without Terrain

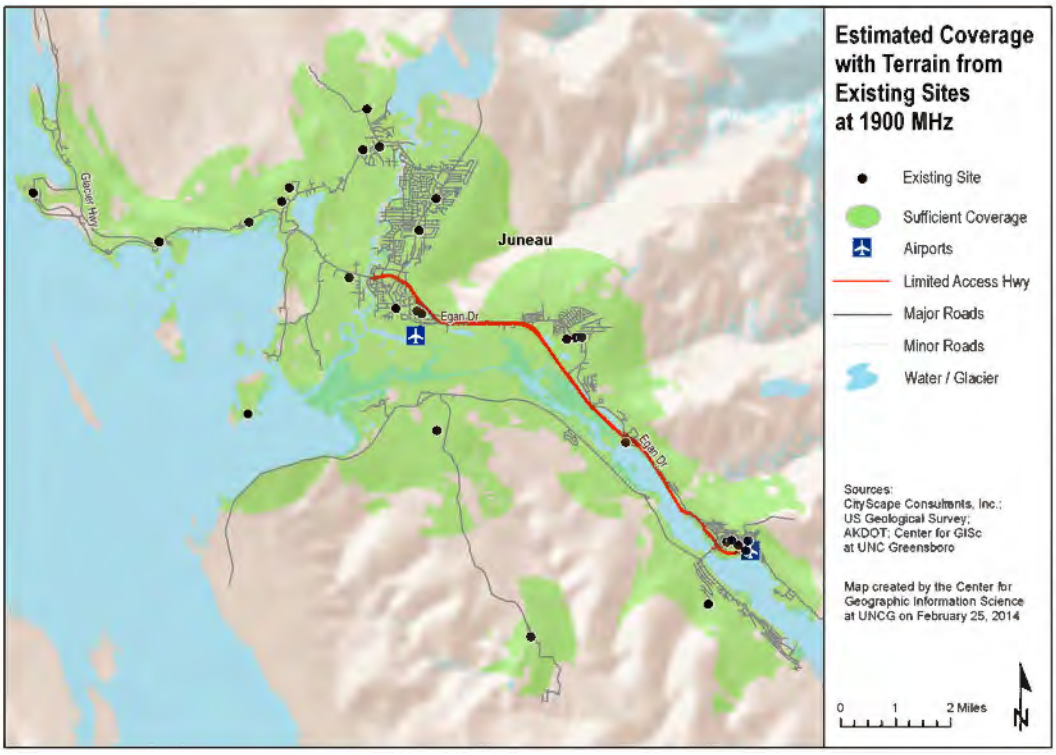


Figure 17: RMS Coverage for a Single Theoretical 1900 MHz Wireless Provider with Terrain

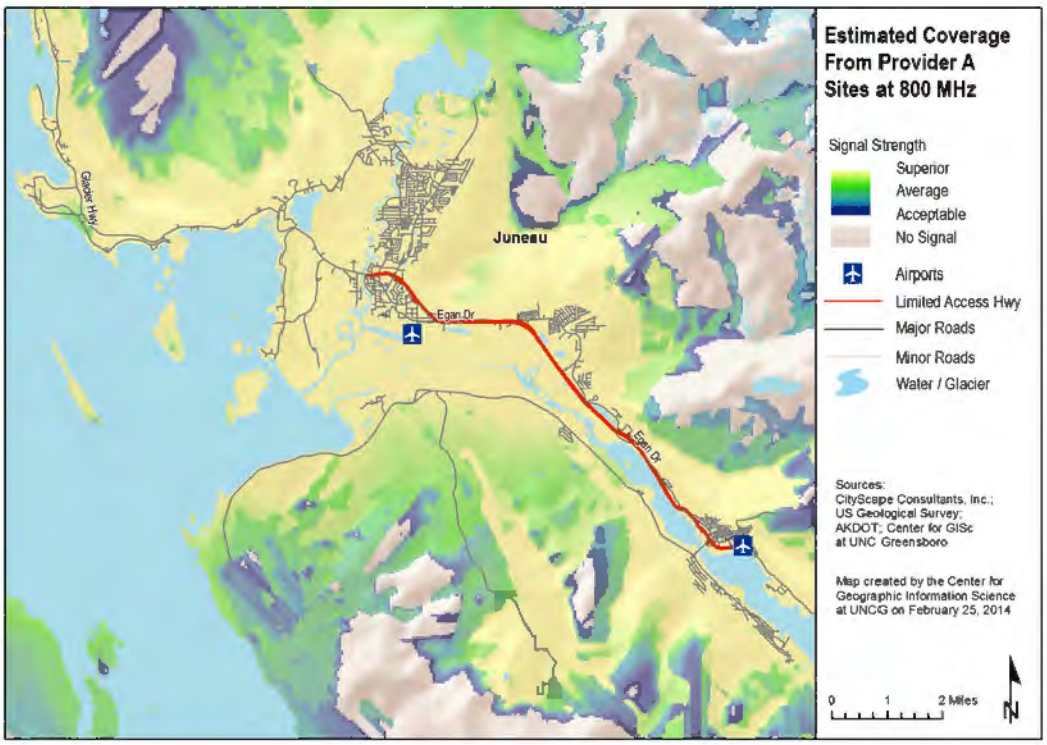


Figure 18: Coverage for a Single Wireless Provider from Existing Antenna Locations with Terrain and Signal strength and Urban Density for 800 MHz

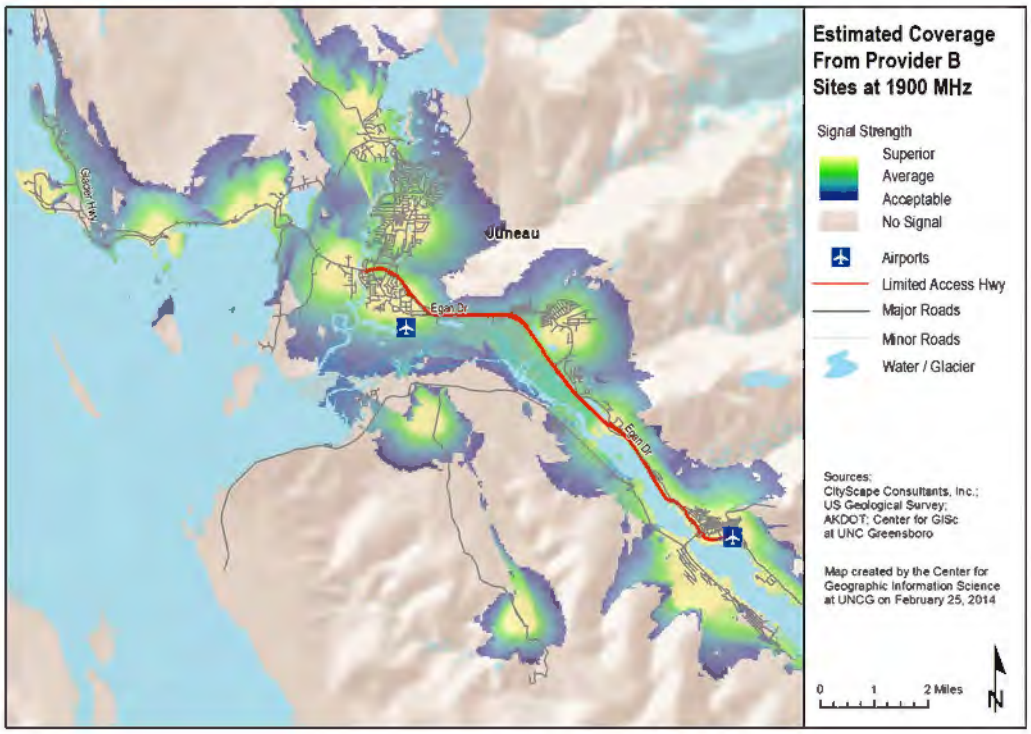


Figure 19: Coverage for a Single Wireless Provider from Existing Antenna Locations with Terrain and Signal Strength and Urban Density for 1900 MHz

Future tower site projections

Up to this point the Master Plan has focused on existing wireless base station coverage, however current network coverage is only one aspect of wireless service. The primary objective of the first phase of network development is to create coverage over a large service area. When network coverage is achieved wireless service providers begin to monitor the number of calls. Once the number of simultaneous calls reaches a predetermined maximum number, and the facility cannot support the subscriber base, the wireless network exceeds the capacity design of the system. Exceeding network capacity equates to overloading the network which results in lost service, dropped calls, rapid busy signals, and the inability to make calls. To overcome problems caused by over-capacity challenges, additional antenna and base stations are required.

According to 2009 data the federal penetration rates of subscribers with wireless telephone service for the United States indicate a level of around 77 percent. Cell phone service is projected to have increased to about 80 percent by the end of 2010, and may exceed that with the success of "smartphones."

Carriers use base population estimates for their network design. Population density is what controls the separation distance between base stations. The existing network design, based on local wireless penetration rates and usage, has each site facilitating the use of between 1750 and 2500 separate devices. As wireless devices increase in number AND usage (particularly more intensive bandwidth usage like email, facebook, and mobile tv), each site will need to *decrease* its geographic area and serve a smaller number of subscribers in order to avoid overloading its systems. In other words, the 1750 to 2500 users per site will shrink significantly over the next 10 years, with estimates ranging from 500 to 1200 devices per site, depending on the particular carrier, services offered, and number of overall subscribers. Concurrent with the shrinkage of number of users per site will be an increase in the total number of sites needed in order to provide service to subscribers.

Each wireless phone and/or broadband network has unique deployment needs, and might need antennas at varying heights. Just because one provider locates on a building, does not mean that building height will work for the next provider. Additionally, the rapid change in how people are using technology will continue to impact the existing network infrastructure. More and more devices on the market can transfer data via cell signals (Kindles, iPads, Nintendo DS, etc.) The addition of wireless objects such as these coupled with the ongoing popularity of text messaging will require new antenna locations not due to increased wireless network traffic, but the evolvement of high speed wireless broadband devices, even if the population is not growing at a similar rate.

As a result of the present growth models and the current wireless market penetration rate, and the rate of wireless network evolution from 3G to 5G, CityScape's prediction for future antenna deployment is based on network growth from the existing antenna locations. Currently in the CBJ there are about twenty-five antenna locations used for wireless telecommunication purposes. Each year in the future the number of new collocations, antenna attachments, and tower facilities will vary. Subscriber demand on the network will control future deployments.

To effectively and efficiently provide network coverage throughout the Valley over the next ten years CityScape anticipates it will require about twenty-nine new antenna locations *following conventional deployment practices* to provide a comprehensive network to fill in the service coverage and capacity gaps. Yearly increases cannot be anticipated to increase evenly as customer demand on the network will control future deployments. As a rule of thumb the CBJ could anticipate an average (of any combination) of approximately two new tower sites and/or two to four collocations and/or antenna attachments per year over the next ten years. This estimation is based on the mathematics of the population density; subscriber base and usage; transient movement through the CBJ and how many calls a base station can simultaneously serve at any given time.

This projection model is based on new tower heights at the 88-foot mounting elevation on a tower estimated to be around 130' to allow for maximum collocation opportunities and the reduction of multiple towers within the same geographic search areas. The geographic areas of where these new facilities will be needed are shown by a brown dot in Figure 20.

Unique to the CBJ is another deployment scenario that offers a very different approach to wireless deployment. After studying the geographic area, CityScape had determined the vast majority of the Valley could be served by deploying "rim shots". Rim shot are directional signals from the transmitting antenna aimed toward the valley floor from an elevation on a tower located in the surrounding hillside. The towers are not proposed to be located on or near the mountain tops; rather from the 200' - 500' elevations above mean sea level to blend into the hillside.

This pattern of deployment is presently evidenced at one tower site in the CBJ. On the Global Tower Company tower located at the water reservoir site the collocations are all mounted on one side of the tower to provide a directional signal to the downtown Juneau area. CityScape believes this pattern of rim shots can be duplicated throughout the CBJ and would be an effective deployment method resulting in less required infrastructure throughout the Valley. CityScape estimates it would take approximately eighteen new antenna locations utilizing this *alternative deployment pattern* to meet the same coverage objectives of the proposed twenty-nine facilities anticipated for a more conventional deployment. The rim shot deployment pattern is shown in Figure 21.

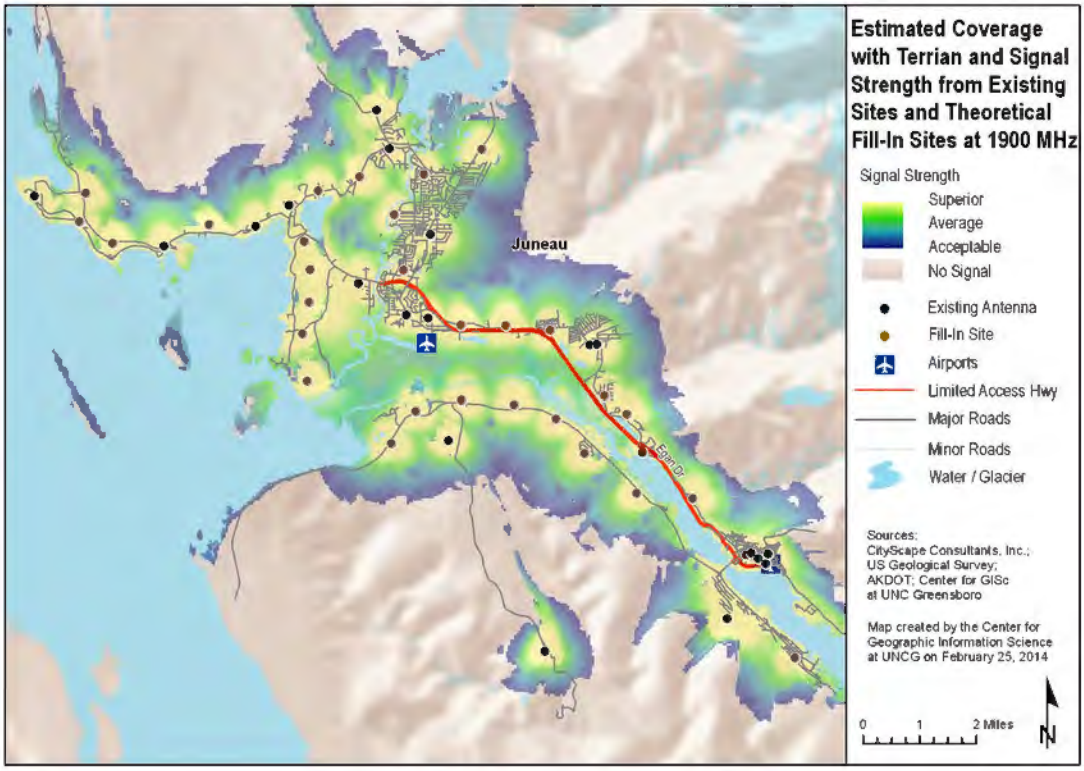


Figure 20: **Projected New Infrastructure Infill Sites for Conventional Deployment**

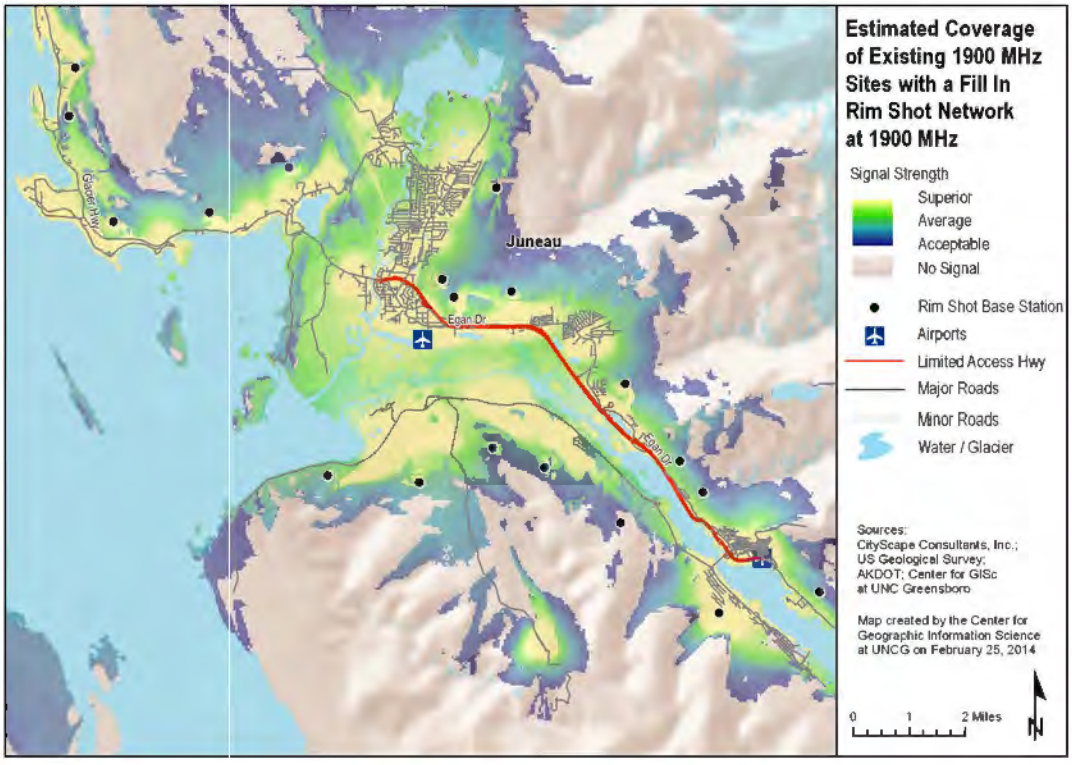


Figure 21: **Projected New Infrastructure Infill Sites for Rim Shot Deployment**

Chapter 4 Federal Telecommunications Act, Rulings and Policies

Wireless infrastructure and local zoning

With the deployment of first generation wireless, there were only two competing wireless cellular (800 MHz) providers. But with the deployment of 2G, and six competing PCS (1900 MHz) providers, the wireless marketplace became furiously competitive. "Speed to market" and "location, location, location" became the slogans for the competing 1G and 2G providers. The concept of collocation or sharing base stations was not part of the initial tower deployment strategy as each provider sought to have the fastest deployment and largest customer base resulting in a quick return on their cost of deployment. This resulted in an extraneous amount of new tower construction without the benefit of local land use management.

Coincidently, as local governments began to adopt development standards for the wireless communications industry, the industry strategy changed again. The cost associated with each provider developing an autonomous inventory of base stations put a financial strain on their ability to deploy their networks. As a result, most of the wireless providers divested their internal real estate departments and tower inventories. This change gave birth to a new industry of vertical real estate; and it includes a consortium of tower builders, tower owners, site acquisition and site management firms.

No longer was a tower being built for an individual wireless service provider, but for a multitude of potential new tenants who would share the facility without the individual cost of building, owning and maintaining the facility. Sharing antenna space on the tower between wireless providers is called collocation.

This industry change could have benefited local governments who adopted new tower ordinances requiring collocation as a way to reduce the number of new towers. But, *initially* it did not; because the vertical real estate business model for new towers is founded on tall tower structures intended to support as many wireless providers and other wireless services as possible. As a result, local landscapes became dotted with all types of towers and communities began to adopt regulations to restrict or even prohibit tall communication towers within their jurisdictional boundaries.

Wireless deployment came to a halt in many geographical areas as all involved in wireless deployment became equally frustrated with the situation. Second generation wireless providers had paid a large sum of money for the rights to provide wireless services. Collectively the 2G wireless providers paid over twenty-three billion dollars to the US Treasury (which at that time helped the Federal government pay off the annual deficit by 1998) for the licenses to build and operate these networks. Furthermore, the license agreements between the wireless providers and the FCC mandated the networks be deployed within a specific time period and at that time many local government agencies were prohibiting the deployments through new zoning standards.

Robert F. Roche of the Cellular Telecommunications Industry Association (CTIA) stated in The Unpredictable Certainty: White Papers (1997)

> "…the wireless paradigm has resulted in more than 200,000 new jobs, and almost $19 billion in private-sector investment…and in spite of these gains and the promise of another $50 billion in investment over the next 10 years, there are impediments to this success…Some local jurisdictions are preventing the deployment of antennas, either through outright bans, extensive delays, or application of unscientific "local technical standards" to radio frequency emissions…"

Roche further suggests the CTIA should:

> "…1) urge President Clinton to direct federal agencies to make available federal land and sites for telecommunications infrastructure; 2) urge the FCC to develop national standards on radio frequency emissions over local standards; and 3) urge the FCC to advocate the primacy of national telecommunications policy over local policies that are hostile to competition…"

This perplexing situation prompted the adoption of Section 704 of the Federal Telecommunication Act of 1996.

Federal Telecommunications Act of 1996

The Federal Communications Commission (FCC) policies impacting deployment of wireless facilities are, with certain exceptions, unchanged since the enactment of the 1996 Telecommunications Act. The overall concept as passed by Congress was to facilitate the creation of a wireless infrastructure to parallel the wired infrastructure that existed in the United States. The FCC's mandate has been to work towards accomplishing that goal, and the current Commission in particular has paid great attention to moving that task forward.

Section 704 of the Federal Telecommunications Act of 1996 retains local governments' zoning authority over the deployment of wireless telecommunication facilities subject to several specific requirements.

First, zoning regulations and decisions may not unreasonably discriminate among the wireless providers, and may not prohibit or have the effect of prohibiting the deployment of wireless infrastructure. For example, some communities adopted development standards restricting the distance between towers to three miles. In some geographic locations with sparse populations this may have been adequate for 1G deployment; however the Laws of Physics make it impossible for 2G wireless deployments to meet this spacing requirement. Unknowingly some communities inadvertently prohibited the deployment of 2G.

Second, local governments must act on applications for new wireless infrastructure within a "reasonable" amount of time

Third, the local government must provide in writing a reason for any denials and the decision must be supported by substantial evidence.

Fourth, local government cannot deny an application for a new wireless facility or the expansion of an existing facility on the grounds that radio frequency emissions are harmful to the environment or to human health (provided federal standards are met by the wireless provider).

Additionally, the FCC provided two Fact Sheets to further explain the goals and objectives of the Act. Included in Fact Sheet 1 is the suggestion for local government to the use of third party professional review of site applications. Specifically stated, "Local zoning authorities may wish to retain a consulting engineer to evaluate the proposals submitted by wireless communications licensees. The consulting engineer may be able to determine if there is some flexibility as to the geographic location of the tower."

The full text of Section 704 of the 1996 Telecommunication Act is provided in Appendix A.

Federal Communications Commission Declaratory Ruling November 18, 2009

In states where there is no specific state statutory obligation on local jurisdictions (which includes the Commonwealth of Virginia) the FCC's Declaratory Ruling will apply and impose upon local jurisdictions a timeline in which it must act upon wireless siting applications. The November 18, 2009 *Declaratory Ruling*[1] regarding timelines for local government to act upon a wireless siting application specifies a local government agency has thirty (30) days from receipt of an application for a new tower or collocation to determine if the application is complete or incomplete. Additionally the FCC provided the following deadlines for the local government decision process:

> Collocation – local government agencies have ninety (90) days from the date the application is filed to render a decision for approval or denial of the collocation.
>
> New towers – government agencies have one hundred fifty (150) days from the date the application is filed to provide a decision on the proposed request.

If a jurisdiction fails to act on an application within those timelines, an applicant will have the opportunity to file suit in federal court and seek judicial determination of the application. Several jurisdictions challenged the FCC's authority to impose a "shot clock" on such local zoning decisions. On January 23, 2012, the Fifth Circuit Court of Appeals decided *City of Arlington, Texas v. FCC*, 668 F.3d 229 (5th Cir. 2012), and found that the FCC was legally empowered to impose the "shot clock" on local governments in jurisdictions without state statutory provisions that are more restrictive. There have been some other federal district court cases that have addressed the "shot clock" issue tangentially but are not relevant for this discussion. Of note and importance because of recent Congressional action was the FCC's definition in the *Declaratory Ruling* of what constitutes a collocation application, which the FCC defined as "a substantial increase in the size of the tower" as set forth in the National Programmatic Agreement.[2]

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[1] *Declaratory Ruling*, FCC 09-99 (Released November 18, 2009)

[2] . A "[s]ubstantial increase in the size of the tower" occurs if:

> (1) [t]he mounting of the proposed antenna on the tower would increase the existing height of the tower by more than 10%, or by the height of one additional antenna array with separation from the

Having established a procedural timeline for action on wireless siting applications, the FCC has recently also enacted regulations that impose additional burdens on applicants seeking to construct new towers for wireless services. Effective **June 18, 2012**, new federal procedural obligations (unrelated to any local procedural obligations) imposed on any applicant who is:

(1) planning to build *any* new tower that would have to register through the FCC's Antenna Structure Registration (ASR) system (typically towers that exceed 200 feet in height, but sometimes less). The only exceptions are for (a) towers to be built on sites for which some other federal agency has responsibility for environmental review or (b) cases in which an emergency waiver has been granted; or

(2) modifying an existing registered tower by (a) increasing its overall height by more than 10% or 20 feet, or (b) adding lighting to a previously unlit structure, or (c) modifying existing lighting from a more preferred configuration to a less preferred configuration; or

(3) amending a pending application involving either of the foregoing situations and the amendment would (a) change the type of structure, or (b) change the structure's coordinates, or (c) increase the overall height of the structure or (d) change from a more preferred to a less preferred lighting configuration or (e) an Environmental Assessment is required.

If an applicant's proposed tower or tower modifications fall into one of these categories, an applicant must follow new processes and procedures with the FCC in order to obtain approval of its proposed facility, including:

(1) Filing a partially-completed Form 854 in the FCC's ASR system. This will consist of information previously required on Form 854, plus tower lighting information ***and*** specification of the date on which the applicant wants the FCC to post the application on the Commission's website for comments; and

---

nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to avoid interference with existing antennas; or (2) [t]he mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter; or (3) [t]he mounting of the proposed antenna would involve adding an appurtenance to the body of the tower that would protrude from the edge of the tower more than twenty feet, or more than the width of the tower structure at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this paragraph if necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable; or (4) [t]he mounting of the proposed antenna would involve excavation outside the current tower site, defined as the current boundaries of the leased or owned property surrounding the tower and any access or utility easements currently related to the site.

47 C.F.R. Part 1, App. B—Nationwide Programmatic Agreement for the Collocation of Wireless Antennas, Definitions, Subsection C.

(2) Publishing a notice ("in a local newspaper or by other means") regarding the application on or before the date the applicant has designated in its application for posting of the application on the FCC's website. The comment period will be open for 30 days, during which time members of the public can ask the FCC for further environmental review.

(3) If, after the comment period, FCC staff concludes that no additional environmental review is required, the applicant will then move on to Table 1, Step 1 of the process. In that step, the applicant will have to amend its application to reflect (a) the FAA's study number and issue date (if those haven't already been provided in the initial application), (b) the date of the local public notice, and (c) a certification that the proposed construction will have no significant environmental impact; OR,

(4) If, after considering the initial filing and any public comments, the FCC decides that more review is required, it will require the submission of an Environmental Assessment. If an Environmental Assessment is required, the FCC will first have to issue a Finding of No Significant Impact before the applicant can proceed to Step Two with the necessary amendment of its application.

All of the foregoing processes were adopted after FCC consideration of multiple petitions by parties concerned about the effect of tower construction on the environment, including the effect on migratory birds and tower strikes by such birds.

These new provisions will significantly extend the timeline for federal approval of new construction or modification of towers that meet the conditions above[3], which may have the effect in some instances of slowing the deployment of wireless facilities where the proposed facilities fall into one of the three (3) categories above.

Applicants may also seek local approval of their proposal at the same time the federal processes are underway on parallel paths, and thus it is unclear at this time what impact the federal processes may have on the processing and adjudication by local government of wireless siting applications.

In addition to the FCC's recent actions, Congress also recently involved itself in wireless siting issues by including language in recent legislation signed by the President on February 22, 2012 that impacts local governments' consideration of wireless siting applications.

The Middle Class Tax Relief & Job Creation Act of 2012 – HR 3630

In Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012, Congress further eroded local government's jurisdiction over wireless facilities through the following language:

(a) FACILITY MODIFICATIONS.—

[3] The new requirements are imposed on proposals for either new towers or modifications that, generally speaking, do constitute a "substantial change" as that term is defined by the FCC.

> (1) IN GENERAL.—Notwithstanding section 704 of the Telecommunications Act of 1996 (Public Law 104–104) or any other provision of law, a State or local government may not deny, and shall approve, any eligible facilities request for a modification of an existing wireless tower or base station that does not substantially change the physical dimensions of such tower or base station.
>
> (2) ELIGIBLE FACILITIES REQUEST.—For purposes of this subsection, the term "eligible facilities request" means any request for modification of an existing wireless tower or base station that involves—
> (A) collocation of new transmission equipment;
> (B) removal of transmission equipment; or
> (C) replacement of transmission equipment.
>
> (3) APPLICABILITY OF ENVIRONMENTAL LAWS.—Nothing in paragraph (1) shall be construed to relieve the Commission from the requirements of the National Historic Preservation Act or the National Environmental Policy Act of 1969.

Note that Section 6409 applies where an application for modification of an existing wireless facility does not involve a "substantial change" to the physical dimensions of such tower or base station.

Congress did not define "substantial change" in the legislation. In order to determine what constitutes "substantial change", the only currently available definition arises from the FCC's National Programmatic Agreement (see footnote 2), which is also the definition endorsed by the wireless industry.

Under this new Congressional requirement, local governments must approve any application for collocation, removal or replacement of wireless equipment if the proposed modifications to an existing facility do not involve a "substantial change" (and as noted above, the only currently available definition of "substantial change" is that defined by the FCC in the National Programmatic Agreement). This further degradation of local governmental authority over wireless facilities (and the willingness of wireless providers to suggest to local governments that this new statutory mandate provides a basis to immediately grant their application) is impacting wireless deployment by emboldening the wireless industry to increase deployment efforts despite local government concerns. Although this is recent legislation and there does not yet appear to be any reported decisions involving Section 6409, Cityscape is aware of at least one lawsuit being commenced citing Section 6409 as jurisdictional authority (despite the fact that the applicant who has sought judicial relief was *granted* authority by the local government to modify their facility with certain conditions).

Since the CBJ adopted the Personal Wireless Services Facility Development Standards the Federal government has adopted additional policies that should be integrated into the existing regulations in order to harmonize them with applicable federal law. For example, the timeline as described in the "shot clock" *Declaratory Ruling* should be integrated to indicate that collocation applications shall be reviewed and adjudicated by the CBJ within ninety days of completed submission, and an application for a new facility shall be reviewed and adjudicated by the CBJ within one hundred fifty days of complete application submission.

Furthermore, the CBJ's regulations should recognize the provisions of Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012 to permit equipment collocations, removals and replacements on existing eligible facilities that do not "substantially change" the physical dimensions of the tower structure, via well-defined collocation and related approval processes that meet the ninety (90) day shot clock standards.

Chapter 5 Inventory

Purpose of the inventory

Procedure

CityScape conducted an assessment of the existing antenna locations throughout the CBJ by driving to all locations. Data for the assessments was obtained from a number of sources including actual permits obtained from the CBJ for wireless infrastructure, research of FCC registered site locations, direct information from existing wireless service providers and tower owners active in the CBJ, the CBJ GIS, and through actual site visits to each location.

Inventory catalog existing antenna(s) and towers

Pictures of existing antennas mounted on towers and rooftops are included in the inventory catalog. Existing antenna site locations are identified numerically in Figure 21.

Structural evaluation

Based on a visual inspection of antenna arrays already on existing antenna support structures, CityScape has made a judgment as to whether each support structure is likely to physically accommodate more antennas. The number of estimated collocations is referenced as future antenna collocation possibilities. The suggested collocation is based on visual observations only. In this consideration, adding antennas equates to adding another wireless antenna platform consisting of several antennas and associated heavy coaxial cable. Prior to mounting new antennas and related equipment, the structure must be examined and analyzed by a structural engineer for its ability to support the proposed addition.

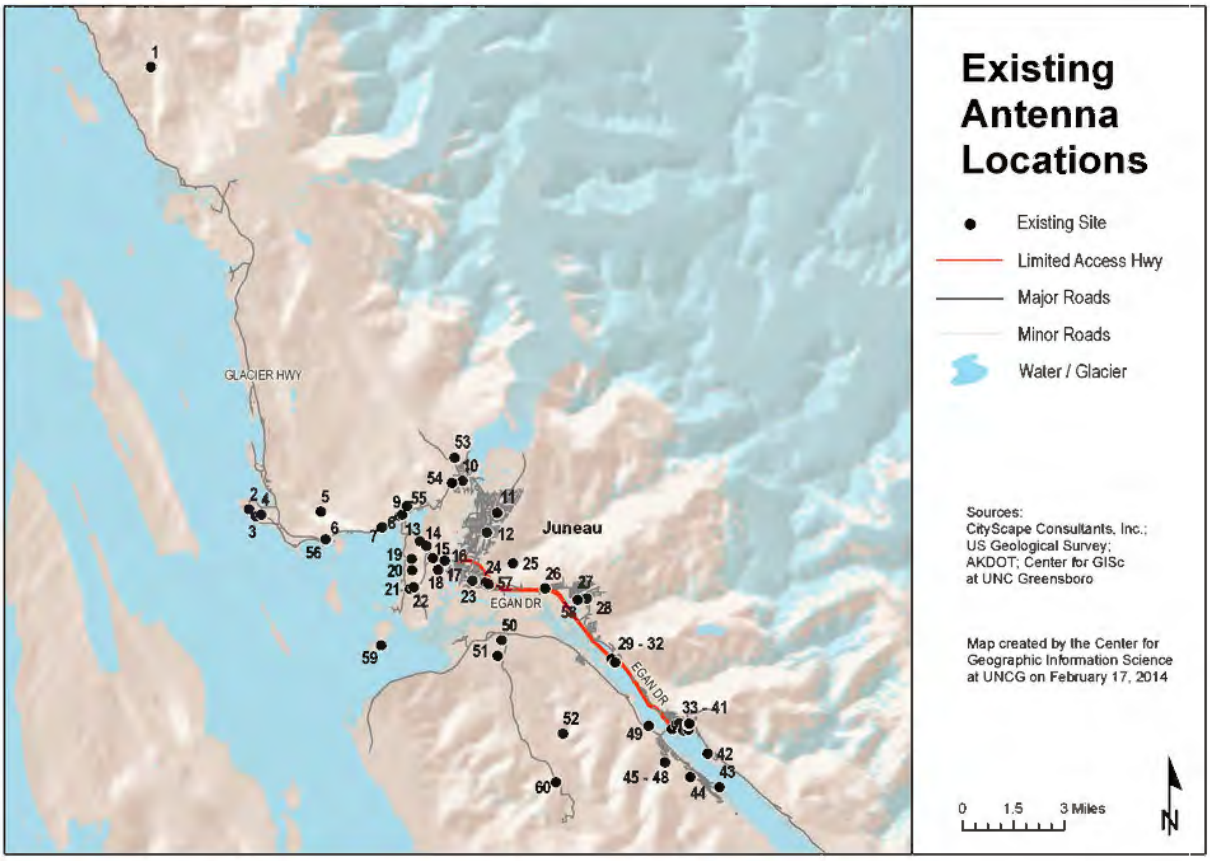
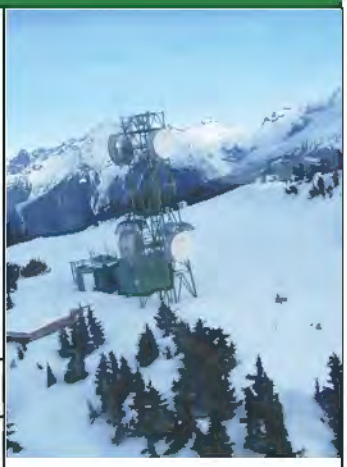
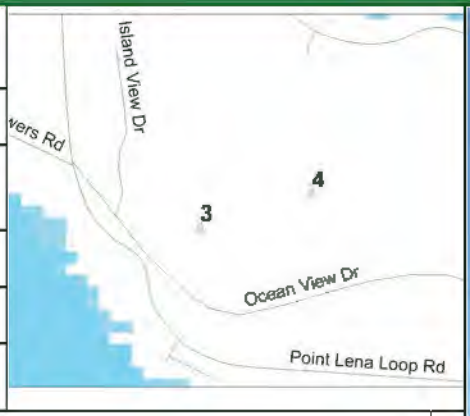


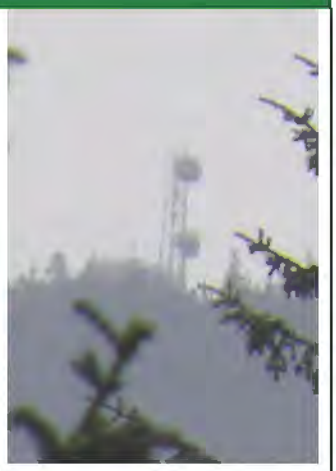
Figure 21: Existing Inventory

Site 1		Site Map	Site Photo
Owner:	AT&T/AlaskaCom		
Identification:	Bessie Mountain		
Address:	Unknown		
Latitude:	58-34-42.82 N		
Longitude:	-134-51-16.49 W		
Access:	Air		
Site Details			
Type:	Lattice used primarily for microwave backhaul.		
Height:	60' per the CBJ		
Collocations:	Existing: Yes, approximately 2	Future: 2	
Observations:	Site was not assessed by CityScape Consultants, Inc.		
Comments:	Photo provided by the CBJ.		

Site 2		Site Map	Site Photo
Owner:	AlaskaCom		
Identification:	FCC: 1005565		
Address:	17103 Lena Loop Rd.		
Latitude:	58-23-27.8 N		
Longitude:	-134-46-6.5 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used for microwave backhaul and collocations.		
Height:	FCC antenna structure registration indicates 220'.		
Collocations:	Existing: Yes, approximately 2	Future: 3	
Observations:	Ground space available for base stations; site secured by fence and locked gate.		
Comments:	Lattice tower will provide great opportunities for collocation.		

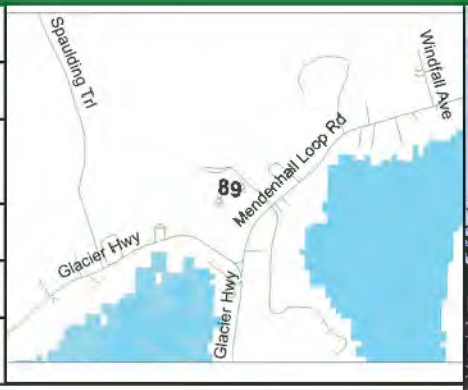
Site 3		Site Map	Site Photo
Owner:	City and Borough of Juneau		
Identification:	FCC: 1247302		
Address:	17099 Point Lena Loop Road		
Latitude:	58-23-17.5 N		
Longitude:	-134-45-45.8 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used primarily for microwave backhaul		
Height:	80' per the CBJ.		
Collocations:	Tower is not available for collocation.	Future 3	
Observations:	Site was not assessed by CityScape Consultants Inc. Photo provided by the CBJ.		
Comments:	The CBJ should establish a policy for use of this tower by the wireless industry.		

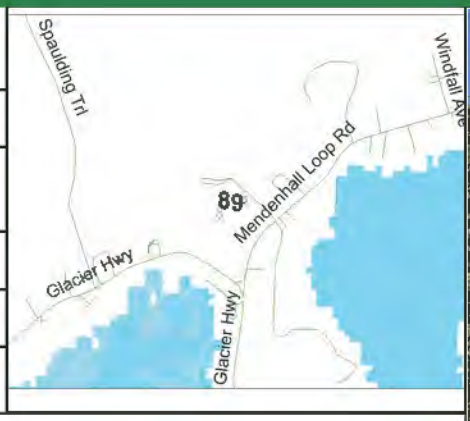
Site 4		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	FCC: 1241297		
Address:	Lena Point		
Latitude:	58-23-20 N		
Longitude:	-134-45-31 W		
Access:	Vehicle		
Site Details			
Type:	Guy		
Height:	185'		
Collocations:	No	Future 0	
Observations:	Site is not accessible to the public.		
Comments:	Tower is used for air traffic safety and not available for collocations.		

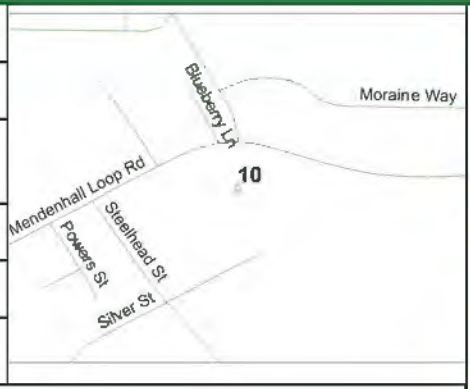
Site 5		Site Map	Site Photo
Owner:	Unknown		
Identification:	Auke Mountain		
Address:	Unknown		
Latitude:	58-23-25.98 N		
Longitude:	-134-42-37.01 W		
Access:	Unsure		
Site Details			
Type:	Not Available		
Height:	60’		
Collocations:	Existing: Unsure	Future: Unsure	
Observations:	Site was not found or assessed by CityScape Consultants Inc.		
Comments:	Site Provided to CityScape by the CBJ; very little information is available.		

Site 6		Site Map	Site Photo
Owner:	New Cingular Wireless		
Identification:	FCC: 1282723		
Address:	14080 Glacier Highway		
Latitude:	58-22-43.35 N		
Longitude:	-134-42-17.71 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	FCC indicates 98’; CBJ indicates 100’		
Collocations:	Existing: Yes, approximately 2	Future: 1-2	
Observations:	FCC identification on tower but no other tower ownership or contact information on site.		
Comments:	Site is clean with easy access directly off of Glacier Highway.		

Site 7		Site Map	Site Photo
Owner:	New Cingular Wireless PCS, LLC		
Identification:	FCC: 1282723		
Address:	12401 Glacier Highway		
Latitude:	58-23-3.2 N		
Longitude:	-134-39-37 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	90’ per the CBJ		
Collocations:	Existing: Yes, approximately 2	Future 2	
Observations:	No site ownership identification and no FAA ASR number posted.		
Comments:	Site is on a small hill and easily accessible from Glacier Highway.		

Site 8		Site Map	Site Photo
Owner:	First Student		
Identification:	Unknown		
Address:	12364 Glacier Highway		
Latitude:	58-23-20.94 N		
Longitude:	-134-38-45.52 W		
Access:	Vehicle		
Site Details			
Type:	Rooftop Tower		
Height:	100’ per the CBJ		
Collocations:	Existing: Yes, approximately 2	Future: none	
Observations:	The rooftop tower appears to be used for both dispatch and a wireless collocation		
Comments:	Ownership of the tower is assumed to be by the business owner.		

Site 9		Site Map	Site Photo
Owner:	GCI Communications Corp		
Identification:	FCC: 1263789		
Address:	12364 Glacier Highway		
Latitude:	58-23-23 N		
Longitude:	-134-38-39 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	100’ per the CBJ		
Collocations:	Existing: Yes, 2	Future: 1	
Observations:	Site has FAA and ownership information.		
Comments:	Tower has wires from the tower to a nearby tree and wrapping around the tree and leading to a nearby utility pole.		

Site 10		Site Map	Site Photo
Owner:	Unknown		
Identification:	Not posted on site		
Address:	9741 Mendenhall Loop Road		
Latitude:	54-24-16.51 N		
Longitude:	-134-35-44.21 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	100’ per the CBJ.		
Collocations:	Existing: 1 tenant	Future: 1	
Observations:	No tower ownership identification on the site and outside storage of non-tower related items are in the green shelter.		
Comments:	Site is easily accessible.		

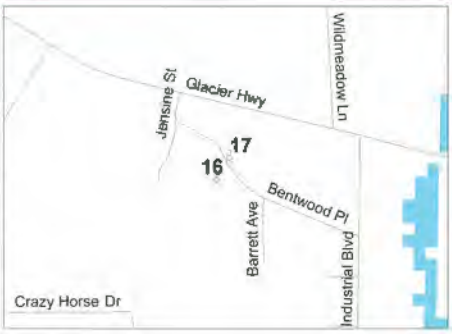
Site 11		Site Map	Site Photo
Owner:	ACS Wireless, Inc.		
Identification:	FCC: 1241641		
Address:	8503 Valley Boulevard		
Latitude:	58-23-29.5 N		
Longitude:	-134-33-53 W		
Access:	Vehicle		
Site Details			
Type:	Brown Monopole		
Height:	100’		
Collocations:	Existing: 1 Tenant	Future: 0 - 1	
Observations:	No tower ownership or FAA identification posted on site.		
Comments:	Site is secured with a fence and locking gate and is easily accessible by vehicle.		

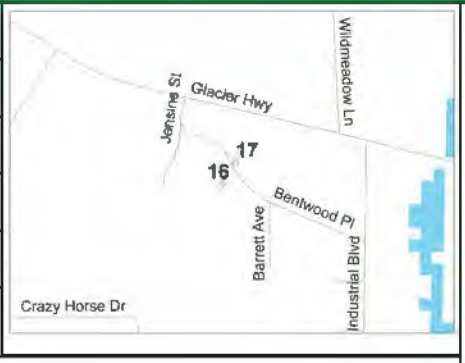
Site 12		Site Map	Site Photo
Owner:	Global Tower, LLC		
Identification:	FCC: 1242713		
Address:	8748 Trinity Drive		
Latitude:	58-22-55.8 N		
Longitude:	-134-34-26.3 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	163’ per the FCC antenna structure registration and the CBJ indicates 150’ tower height.		
Collocations:	Existing: Yes, 4	Future: none	
Observations:	Tower has reinforced metal strips to increase structural capacity of the tower.		
Comments:	Tower is used by multiple service providers indicating this is a good location for a site. It is likely another tower will be needed in the vicinity to accommodate future service providers.		

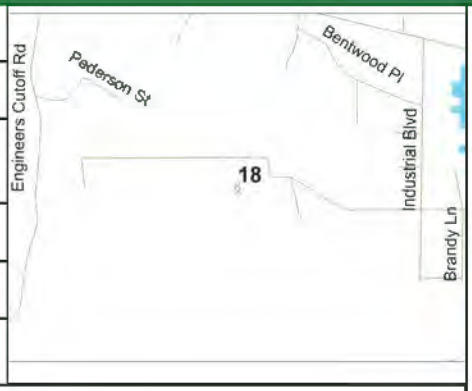
Site 13		Site Map	Site Photo
Owner:	City and Borough of Juneau		
Identification:	FCC: 1205353		
Address:	10745 Glacier Highway		
Latitude:	58-22-42.8 N		
Longitude:	-134-37-46.4 W		
Access:	Vehicle		
Site Details			
Type:	Guy tower used for public safety		
Height:	150' per the CBJ.		
Collocations:	Existing: No, public safety equipment only	Future: 1	
Observations:	FAA identification is posted on the tower.		
Comments:	The CBJ should to decide if they are going to lease space on tower for collocations.		

Site 14		Site Map	Site Photo
Owner:	Calvary Fellowship		
Identification:	FCC: 1250045		
Address:	Glacier Highway		
Latitude:	58-22-35.8 N		
Longitude:	-134-37-27.4 W		
Access:	Vehicle		
Site Details			
Type:	Tree with broadcast equipment		
Height:	FCC indicates approval for 82'; the CBJ indicates a height of 90'.		
Collocations:	Existing: No	Future: 0	
Observations:	Tree branches removed and equipment mounted onto tree		
Comments:	Regulations should be amended to prevent future similar installations.		

Site 15		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	FCC: 1003201		
Address:	2760 Sherwood Lane		
Latitude:	58-22-17 N		
Longitude:	-134-37-8 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used primarily for microwave backhaul		
Height:	142' per the FCC antenna structure registration.		
Collocations:	Existing: No	Future: 0	
Observations:	Tower is secured with a fence and locked gate. FAA identification not posted on tower.		
Comments:	Tower is located at the DMV and an unlikely candidate for collocations.		

Site 16		Site Map	Site Photo
Owner:	Alascom, Inc.		
Identification:	FCC: 1005560		
Address:	10087 Jensine Street		
Latitude:	58-21-11.8 N		
Longitude:	-134-36-35.4		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	158' per the FCC antenna structure registration.		
Collocations:	Existing: Yes, approximately 2	Future: 2	
Observations:	Site is secured with a fence and locked gate.		
Comments:	The lattice tower is a very good tower for future collocations.		

Site 17	Site Map	Site Photo
Owner:	AlaskaCom		
Identification:	Not available		
Address:	10087 Jensine Street		
Latitude:	58-22-12.23 N		
Longitude:	-134-36-33.77 W		
Access:	Vehicle		
Site Details			
Type:	Small Guy tower next to lattice tower		
Height:	60' per the CBJ (although it appears shorter)		
Collocations:	Existing: No	Future: 0	
Observations:	Shorter tower is to the right of the lattice tower identified as Site 16.		
Comments:	Height and type of tower structure made it not a good option for collocation.		

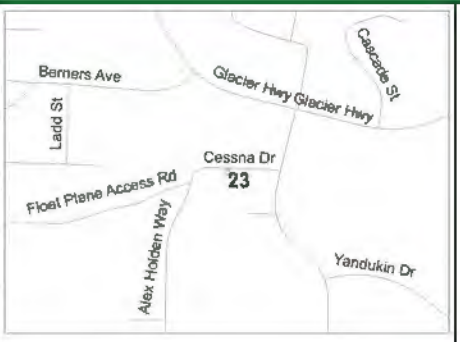
Site 18	Site Map	Site Photo
Owner:	Unsure		
Identification:	FAA Tower		
Address:	10020 Crazy Horse Drive		
Latitude:	58-21-59.71 N		
Longitude:	-134-36-51.78 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	60' per the CBJ.		
Collocations:	Existing: No	Future: 0	
Observations:	No tower ownership posted on tower.		
Comments:	Signage at the site indicates the tower is used for air traffic control purposes.		

Site 19		Site Map	Site Photo
Owner:	Unknown		Picture Unavailable
Identification:	Fritz Cove		
Address:	Fritz Cove Road		
Latitude:	58-22-15.19 N		
Longitude:	-134-38-9.75 W		
Access:	Unsure		
Site Details			
Type:	Unsure		
Height:	90' per the CBJ		
Collocations:	Existing: Unsure	Future: Unsure	
Observations:	CityScape Consultants, Inc. was not able to assess this site.		
Comments:	Site information provided by the CBJ. The ridgeline photo shows three towers but CityScape could not find access to this facility.		

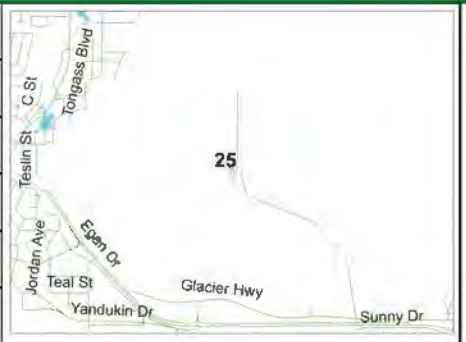
Site 20		Site Map	Site Photo
Owner:	City and Borough of Juneau		
Identification:	FCC: 1247301		
Address:	Pederson Hill		
Latitude:	58-21-58 N		
Longitude:	-134-38-7.5 W		
Access:	Vehicle		
Site Details			
Type:	Guy Tower		
Height:	40' per the CBJ		
Collocations:	Existing: No	Future: 0	
Observations:	The tower (a.k.a. "Mendenhall Peninsula) is used by the CBJ for public safety communications.		
Comments:	Site was not assessed by CityScape Consultants. The photo was provided by the CBJ.		

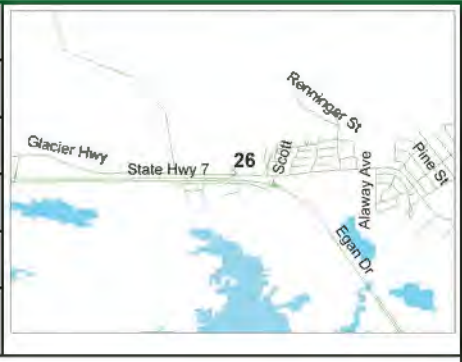
Site 21		Site Map	Site Photo
Owner:	Unsure		
Identification:	FAA Tower		
Address:	1600 Engineers Cut Off		
Latitude:	58-21-29.64 N		
Longitude:	-134-38-13.44 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	60' per the CBJ.		
Collocations:	Existing: No	Future: 0	
Observations:	Tower will likely be exclusively used by the FAA.		
Comments:	Signage at the site indicates the tower is used for air traffic control purposes.		

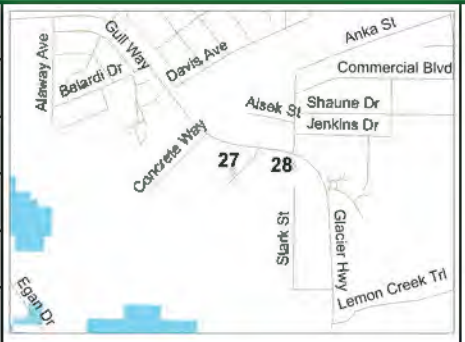
Site 22		Site Map	Site Photo
Owner:	Unsure		
Identification:	FAA Tower		
Address:	Engineers Cut Off		
Latitude:	58-21-32.51 N		
Longitude:	-134-38-2.22 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	FAA		
Collocations:	Existing: No	Future: 0	
Observations:	Tower is likely used exclusively by the FAA		
Comments:	Signage at the site indicates the tower is used for air traffic control purposes.		

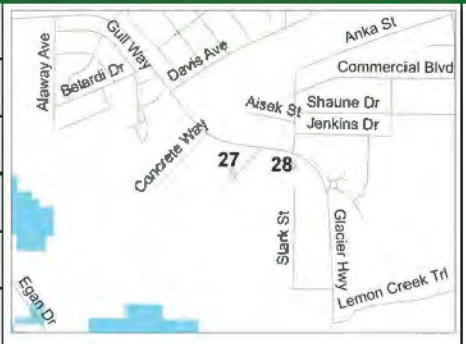
Site 23		Site Map	Site Photo
Owner:	ACS Wireless Inc.		
Identification:	FCC: 1275626		
Address:	9229 Cessna Drive		
Latitude:	58-21-43.4 N		
Longitude:	-134-35-10.7 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	100’ per FCC antenna structure registration.		
Collocations:	Existing: Yes, 2	Future: 2	
Observations:	Future collocations will likely require structural reinforcements of the tower.		
Comments:	Actually 2 wood poles side by side. The shorter pole hosts a microwave dish.		

Site 24		Site Map	Site Photo
Owner:	Global Tower, LLC		
Identification:	FCC: 1236722		
Address:	8725 Mallard Street		
Latitude:	58-21-41.08 N		
Longitude:	-134-34-32.7 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	FCC antenna structure registration indicates 80’; the CBJ indicates 70’.		
Collocations:	Existing: Yes, approximately 2	Future: 0-1	
Observations:	Future collocations will likely require structural reinforcements of the tower.		
Comments:	Equipment shelter(s) match principal building on site.		

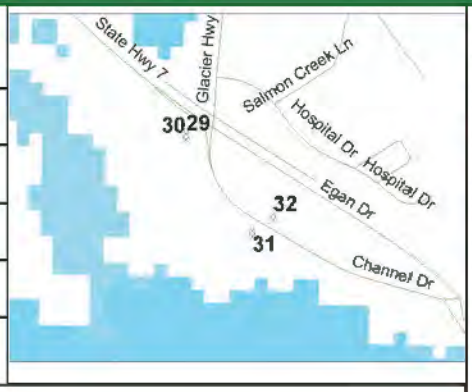
Site 25		Site Map	Site Photo
Owner:	Unknown		Picture Unavailable
Identification:	Heintzleman Ridge		
Address:	Unknown		
Latitude:	58-22-10.97 N		
Longitude:	-134-33-13.7 W		
Access:	Unknown		
Site Details			
Type:	Unknown		
Height:	Unknown		
Collocations:	Existing: Unknown	Future: Unknown	
Observations:	CityScape Consultants, Inc. did not assess this site.		
Comments:	Site location was provided by the CBJ and was not found by CityScape Consultants, Inc.		

Site 26		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	FCC: 1244555		
Address:	6860 Glacier Highway		
Latitude:	58-21-32.8 N		
Longitude:	-134-31-39.4 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used primarily for microwave backhaul		
Height:	70’ per the FCC antenna structure registration		
Collocations:	Existing: No	Future: 0	
Observations:	Tower is easily accessible from Glacier Highway and would likely have to be rebuilt to accommodate collocations.		
Comments:	Tower is owned by the State and used by the AK Marine Highway System.		

Site 27		Site Map	Site Photo
Owner:	Global Tower, LLC		
Identification:	FCC: 1242712		
Address:	5594 Tonsgard Court		
Latitude:	58-21-17.8 N		
Longitude:	-134-29-49.4 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	FCC antenna structure registration identifies tower height at 105'; the CBJ indicates 80'.		
Collocations:	Existing: Yes, 3	Future: 0-2	
Observations:	Tower property identified.		
Comments:	Future collocations will likely require structural reinforcements of the tower.		

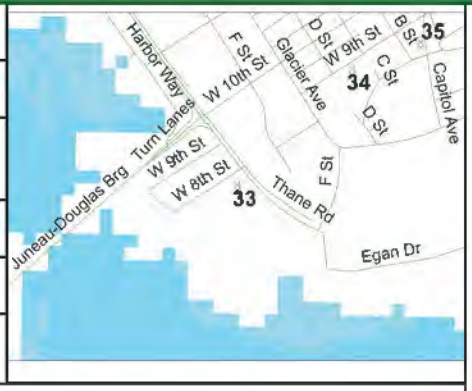
Site 28		Site Map	Site Photo
Owner:	Unknown		
Identification:	Unknown		
Address:	5541 Glacier Highway		
Latitude:	58-21-18.58 N		
Longitude:	-134-29-37 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	100' per the CBJ.		
Collocations:	Existing: Yes, 2	Future: 3	
Observations:	No tower ownership information provided on site.		
Comments:	Site is easily accessible off Glacier Highway.		

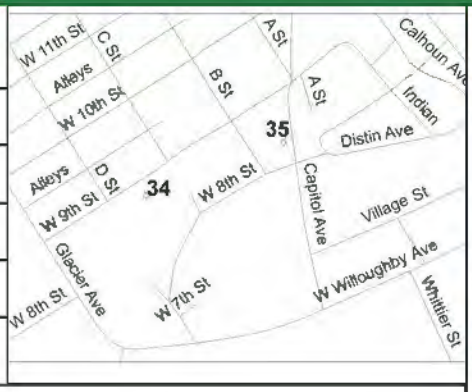
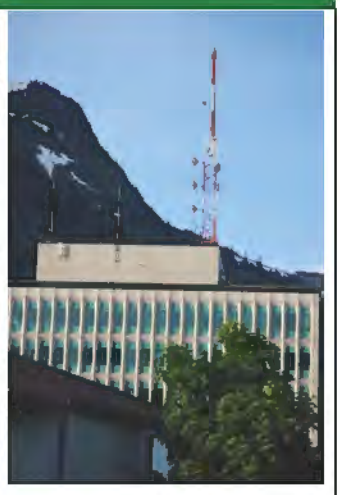
Site 29		Site Map	Site Photo
Owner:	Alaska Broadcast Communications, Inc.		
Identification:	FCC: 1029038		
Address:	3161 Channel Drive		
Latitude:	58-19-46 N		
Longitude:	-134-28-23 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used for radio broadcasting		
Height:	325' per the FCC antenna structure registration.		
Collocations:	Existing: No	Future: 3	
Observations:	A good site for future collocations.		
Comments:	Presently a broadcast tower for KINO		

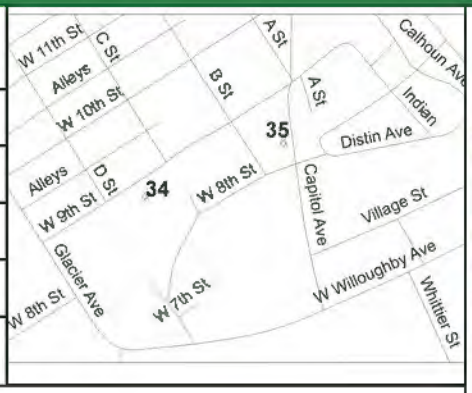
Site 30		Site Map	Site Photo
Owner:	Alaska Broadcast Communications, Inc.		
Identification:	Unknown		
Address:	3161 Channel Drive		
Latitude:	58-19-46 N		
Longitude:	-134-28-23 W		
Access:	Vehicle		
Site Details			
Type:	Short lattice tower next to Site 29		
Height:	80'		
Collocations:	Existing: No	Future: 0	
Observations:	Tower used for microwave backhaul to support broadcast signal.		
Comments:	Use of shorter tower for collocation is very unlikely.		

Site 31		Site Map	Site Photo
Owner:	New Cingular Wireless		
Identification:	FCC: 1283764		
Address:	3156 Channel Drive		
Latitude:	58-19-40 N		
Longitude:	-134-28-15 W		
Access:	Vehicle		
Site Details			
Type:	Monopole Tower		
Height:	FCC antenna structure registration indicates a height of 98; the CBJ indicates 92'.		
Collocations:	Existing: No	Future: 2	
Observations:	Tower ownership property identified.		
Comments:	This tower is a good facility for future collocations.		

Site 32		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	Unsure		
Address:	3132 Channel Drive		
Latitude:	58-19-41.04 N		
Longitude:	-134-28-12.54 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used primarily for microwave backhaul		
Height:	50' per the CBJ.		
Collocations:	Existing: No	Future: 0	
Observations:	The base station equipment for the is tower is located within the adjacent building.		
Comments:	Tower is owned by the AK DOT and Public Facilities and collocation is unlikely.		

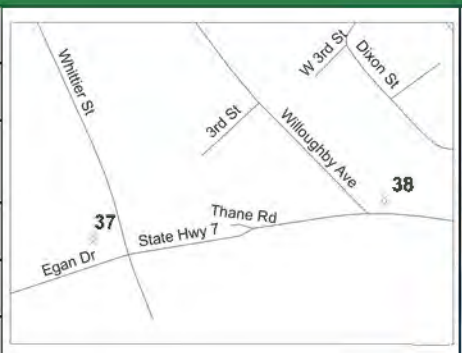
Site 33		Site Map	Site Photo
Owner:	Cycle Alaska		
Identification:	Unknown		
Address:	1107 Eighth Street		
Latitude:	58-17-59.5 N		
Longitude:	-134-25-24.49 W		
Access:	Vehicle		
Site Details			
Type:	Rooftop Guy Tower		
Height:	Unknown		
Collocations:	Existing: No	Future: None	
Observations:	Facility appears to be used for dispatch and surveillance devices by retailer.		
Comments:	Unlikely candidate for collocation unless tower is improved structurally.		

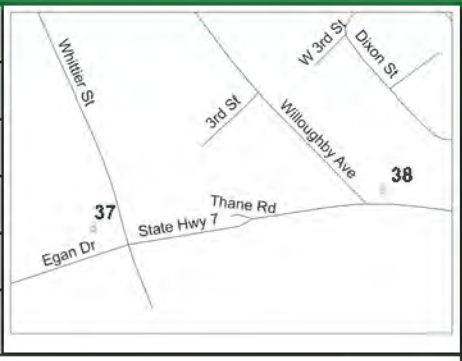
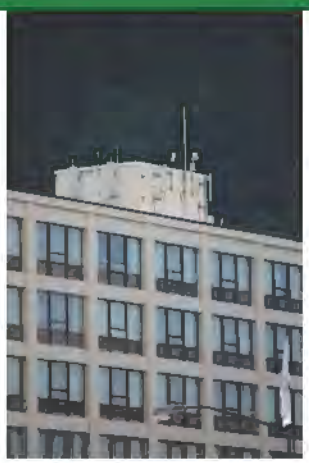
Site 34		Site Map	Site Photo
Owner:	US Federal Government		
Identification:	FCC: 1046332		
Address:	Ninth Street		
Latitude:	58-18-6.8 N		
Longitude:	-134-25-11 W		
Access:	Vehicle		
Site Details			
Type:	Rooftop Guy Tower; Rooftop Attachments		
Height:	220' per the FCC antenna structure registration.		
Collocations:	Existing on tower: No	Future Rooftop Attachments: Unlimited	
Observations:	Rooftop and sides are building are used presently by multiple entities and service providers.		
Comments:	Rooftop tower is owned by Capital Community Broadcasting Ind., DBA KTOO FM & TV		

Site 35		Site Map	Site Photo
Owner:	New Cingular Wireless		
Identification:	FCC: 1265743		
Address:	740 Capitol Ave		
Latitude:	58-18-8.5 N		
Longitude:	-134-25-2.9 W		
Access:	Vehicle		
Site Details			
Type:	Monopole Tower Painted Brown		
Height:	FCC antenna structure registration indicates 50'; CBJ indicates 40'.		
Collocations:	Existing: 1 Tenant	Future: 0-1	
Observations:	FAA identification not found on tower or on tower site.		
Comments:	Low tower height will not likely support additional collocations.		

Site 36		Site Map	Site Photo
Owner:	Unknown		
Identification:	Unknown		
Address:	410 W. Willoughby Avenue		
Latitude:	58-18-3.71 N		
Longitude:	-134-24-50.4 W		
Access:	Vehicle		
Site Details			
Type:	Potential Location for a Concealed Rooftop Attachment		
Height:	Unknown		
Collocations:	None	Future: Unlimited	
Observations:	The metal tubing along side the building going up to rooftop is similar to concealment rooftop infrastructure found in Wasilla, AK.		
Comments:	This type installation would be a good use of rooftop antenna concealment.		

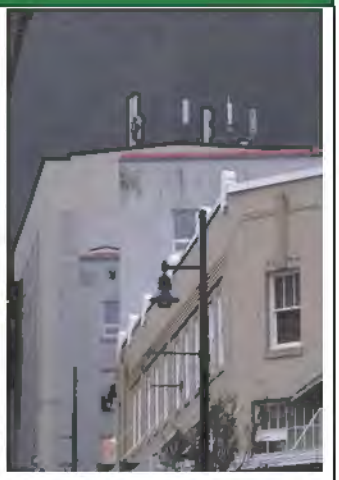
This is not a WCF Site.

Site 37		Site Map	Site Photo
Owner:	KTOO		
Identification:	Unknown		
Address:	360 Whittier Street		
Latitude:	58-17-57.7 N		
Longitude:	-134-24-51.49 W		
Access:	Vehicle		
Site Details			
Type:	Short Lattice Rooftop Tower; Rooftop Satellite Dishes		
Height:	Unknown		
Collocations:	Existing: Maybe 1 tenant	Future: 0	
Observations:	Short lattice rooftop tower (not shown in picture) appears to have 1 collocation.		
Comments:	Potential for collocation is minimal.		

Site 38		Site Map	Site Photo
Owner:	Goldbelt Hotel		
Identification:	Unknown		
Address:	51 Egan Drive		
Latitude:	58-17-59.01 N		
Longitude:	-134-24-46.31 W		
Access:	Vehicle		
Site Details			
Type:	Rooftop Attachments		
Height:	Unknown		
Collocations:	Existing: Yes, approximately 2	Future: Unlimited	
Observations:	Antenna attachments appear to be only on the parapet.		
Comments:	Rooftop could likely support a new structure on which additional attachments could be placed.		

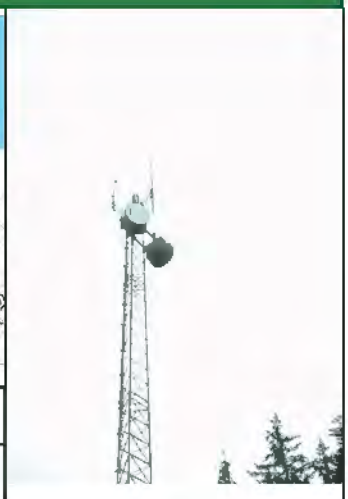
Site 39		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	Unknown		
Address:	120 E. 4th Street		
Latitude:	58-18-6.12 N		
Longitude:	-134-24-38.45 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Rooftop Tower with Small Dish		
Height:	Unknown		
Collocations:	Existing: No	Future: Unlimited	
Observations:	A good location for future collocations.		
Comments:	The existing rooftop tower could be concealed by a faux architectural feature.		

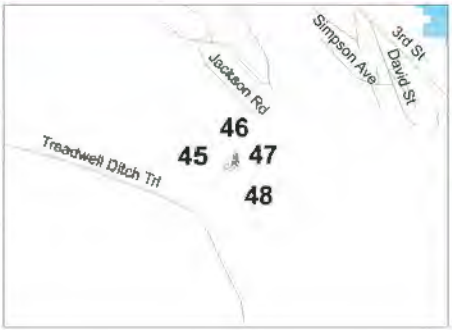
Site 40		Site Map	Site Photo
Owner:	Federal Government		
Identification:	District Courthouse		
Address:	Main Street & East 4th Street		
Latitude:	58-18-5.33 N		
Longitude:	-134-24-36.58 W		
Access:	Vehicle		
Site Details			
Type:	Guy Rooftop Mount		
Height:	Unknown		
Collocations:	Existing: No	Future: Unlimited rooftop attachments	
Observations:	A good location for future collocations.		
Comments:	The existing rooftop tower could be concealed by a faux architectural feature.		

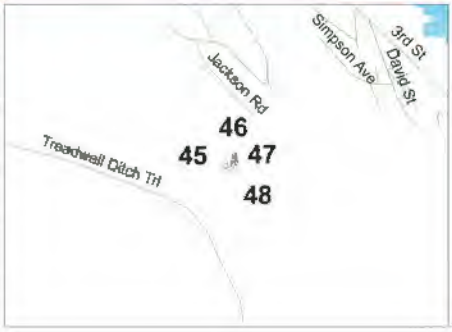
Site 41		Site Map	Site Photo
Owner:	Unknown		
Identification:	Thomas B. Stewart Legislative Building		
Address:	206 4th Street		
Latitude:	58-18-8.1 N		
Longitude:	-134-24-33.55 W		
Access:	Vehicle		
Site Details			
Type:	Rooftop Attachments		
Height:	Unknown		
Collocations:	Existing: Yes, approximately 2	Future: Unlimited	
Observations:	Antenna attachments not clearly visible for most angles of the street.		
Comments:	The existing rooftop attachments could be concealed by a faux architectural feature.		

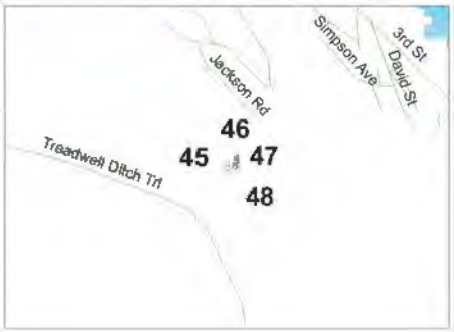
Site 42		Site Map	Site Photo
Owner:	SBA Towers III, LLC		
Identification:	FCC: 1278455		
Address:	1076 Jacobsen Drive		
Latitude:	58-17-22.2 N		
Longitude:	-134-23-40.1 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	130' per the FCC antenna structure registration.		
Collocations:	Existing: No	Future: 4	
Observations:	Tower appears vacant.		
Comments:	Typically if a tower is abandoned then the local government has policies in place to require the removal of the facility. This tower is in a good location for future collocations but visually a different type and lower height would benefit the viewshed.		

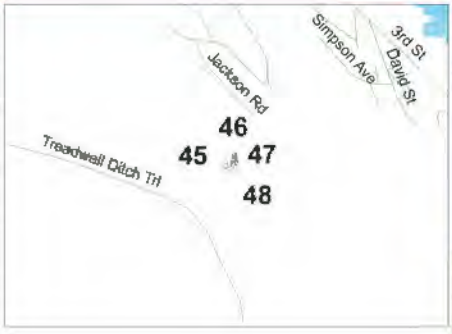
Site 43		Site Map	Site Photo
Owner:	US Coast Guard		
Identification:	Unknown		
Address:	Savikko Road		
Latitude:	58-16-31.44 N		
Longitude:	-134-23-3.91 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	Unknown		
Collocations:	Existing: No	Future: 0	
Observations:	A good location for collocation but the tower would need to rebuilt.		
Comments:	The US Coast Guard may not be willing to lease space on their tower.		

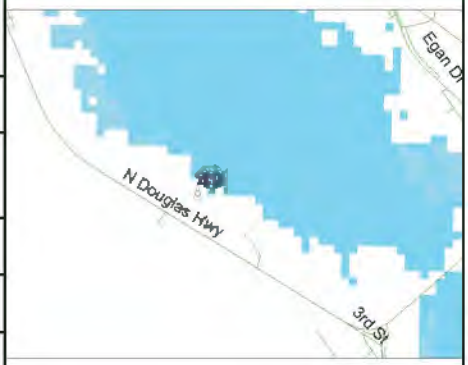
Site 44		Site Map	Site Photo
Owner:	City and Borough of Juneau		
Identification:	Crow Hill		
Address:	4000 Crow Hill Drive		
Latitude:	58-16-45.95 N		
Longitude:	-134-24-29.02 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	80' per the CBJ.		
Collocations:	Existing: No	Future: 2	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	The CBJ should establish a policy for use of this tower by the wireless industry.		

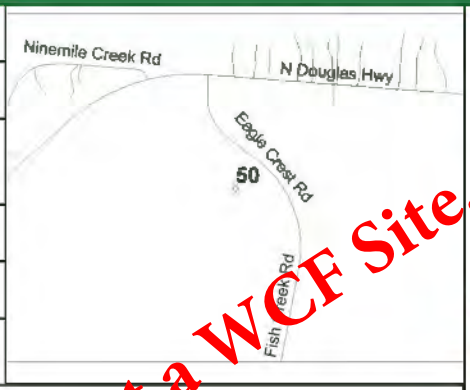
Site 45		Site Map	Site Photo
Owner:	Unknown		
Identification:	Water Reservoir		
Address:	3000 Jackson Road		
Latitude:	58-17-7.24 N		
Longitude:	-134-25-44.98 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	150' per the CBJ.		
Collocations:	Existing: Yes, approximately 2	Future: 3	
Observations:	A good opportunity for collocations.		
Comments:	Tower ownership is not provided on this site. The CBJ should require nameplate ownership signage.		

Site 46		Site Map	Site Photo
Owner:	Global Tower, LLC		
Identification:	FCC: 1282197		
Address:	3000 Jackson Road		
Latitude:	58-17-7.44 N		
Longitude:	-134-25-43.36 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	185' per the FCC antenna structure registration.		
Collocations:	Existing: Yes, 2	Future: 3	
Observations:	A good location for collocations. The antenna on this tower is mounted "directionally".		
Comments:	Directionally mounted antenna on towers at a similar ground elevation may be a solution to having fewer towers in the valley.		

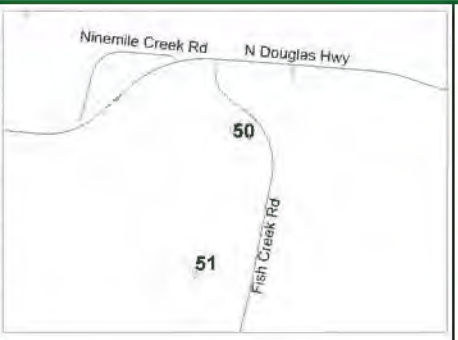
Site 47		Site Map	Site Photo
Owner:	Unknown		
Identification:	Water Reservoir		
Address:	3000 Jackson Road		
Latitude:	58-17-7.9 N		
Longitude:	-134-25-43.2 W		
Access:	Vehicle		
Site Details			
Type:	Monopole Tower		
Height:	90’ per the CBJ.		
Collocations:	Existing: No	Future: 0	
Observations:	This tower could be removed provided the equipment could be mounted on one of the other existing towers within the compound.		
Comments:	CBJ policy should promote collocation over multiple towers on the same zone lot with ample space available for collocations.		

Site 48		Site Map	Site Photo
Owner:	Unknown		
Identification:	Water Reservoir		
Address:	3000 Jackson Road		
Latitude:	58.17.8 N		
Longitude:	-134-25-43 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	50’ per the CBJ.		
Collocations:	Existing: No	Future: 0-1	
Observations:	This tower could be removed provided the equipment could be mounted on one of the other existing towers within the compound.		
Comments:	CBJ policy should promote collocation over multiple towers on the same zone lot with ample space available for collocations.		

Site 49		Site Map	Site Photo
Owner:	Alaska-Juneau Communications, Inc.		
Identification:	FCC: 1028325		
Address:	North Douglas Highway		
Latitude:	58-18-4 N		
Longitude:	-134-26-32 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	FCC antenna structure registration indicates height of 278'; the CBJ indicates 300'.		
Collocations:	Existing: No	Future: 5	
Observations:	The equipment within and around the tower compound needs improvement. Copper cables between the tower base and equipment shelter are in areas overgrown with vegetation.		
Comments:	Ongoing site maintenance should be required through the zoning ordinance.		

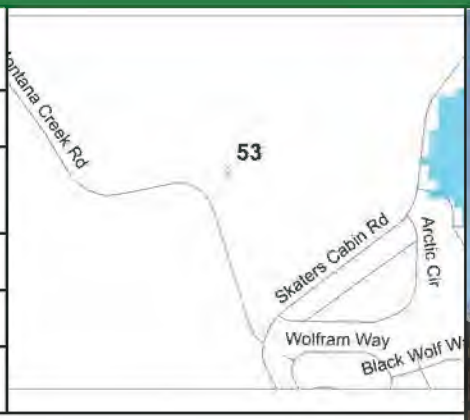
Site 50		Site Map	Site Photo
Owner:	United States		
Identification:	Unknown		
Address:	4000 Eagle Crest Road		
Latitude:	58-20-12.6 N		
Longitude:	134-33-43.4 W		
Access:	Vehicle & Foot		
Site Details			
Type:	Guy Tower		
Height:	Unknown		
Collocations:	Existing: No	Future: 0	
Observations:	Site is nicely developed with long boardwalks to preserve ground cover.		
Comments:	Facility is used for monitoring and recording weather conditions. Collocations are unlikely.		

This is not a WCF Site.

Site 51		Site Map	Site Photo
Owner:	Atlas Tower, LLC		
Identification:	FAA: 1284253		
Address:	Fish Creek Road		
Latitude:	58-19-50 N		
Longitude:	-134-33-54.9 W		
Access:	Vehicle		
Site Details			
Type:	Monopole painted green		
Height:	175' per the FAA.		
Collocations:	Existing: 1 tenant	Future: 3	
Observations:	The tower appears to be new.		
Comments:	Painted green tower appear to be visually effective in the natural setting. A light was added to this pole by the applicant at the request of local helicopter companies; this light conflicts with the issued Conditional Use permit for the facility.		

Site 52		Site Map	Site Photo
Owner:	CBJ		
Identification:	Unknown		
Address:	Saddle Mountain		
Latitude:	58-17-50.7 N		
Longitude:	-134-30-41.2 W		
Access:	Airplane		
Site Details			
Type:	Lattice Towers		
Height:	40'; 40'; and 35' per the CBJ.		
Collocations:	Existing: None	Future: 4	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	The CBJ should establish a policy for use of this tower by the wireless industry.		

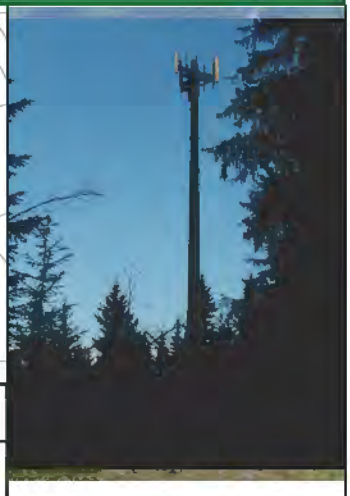
Site 53	Site Map	Site Photo
Owner:	Alaska Wireless Network	
Identification:	FCC: 1284253	
Address:	Fish Creek Road	
Latitude:	58-19-50 N	
Longitude:	134-35-54.9 W	
Access:	Vehicle	
Site Details		
Type:	Monopole painted green	
Height:	175' per the FCC antenna structure registration.	
Collocations:	Existing: 1 tenant	Future: 3
Observations:	The tower appears to be new.	Future: 0-2
Comments:	Painted green tower appear to be visually effective in the natural setting.	

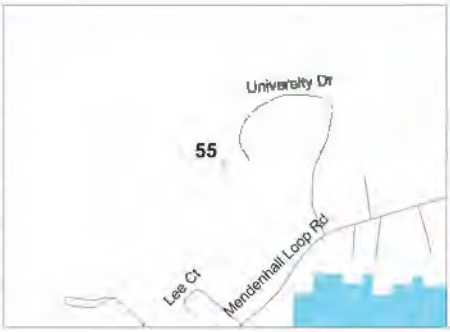


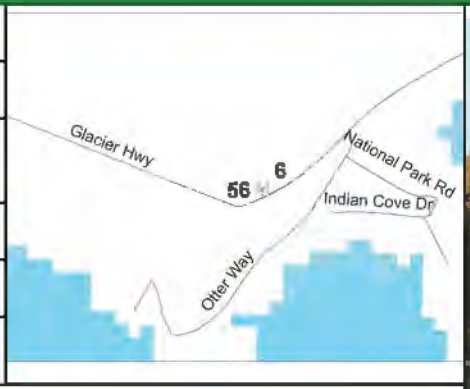
CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.

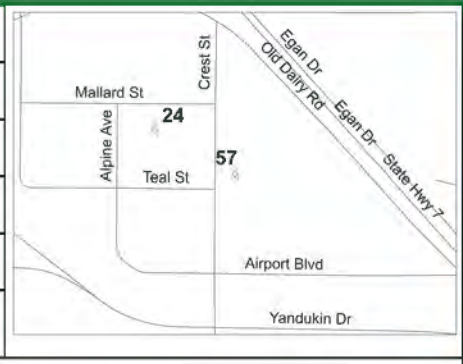
Tower built for GCI as the launch tenant. Site is also known as Coogan. Painted green tower appear to be visually effective in the natural setting.

Site 54	Site Map	Site Photo
Owner:	City and Borough of Juneau, AK	
Identification:	FCC: 1284964	
Address:	10200 Mendenhall Loop Road	
Latitude:	58-24-50.79 N	
Longitude:	-134-36-44.26 W	
Access:	Vehicle	
Site Details		
Type:	Lattice Tower	
Height:	130' per the FCC antenna structure registration.	
Collocations:	Existing: 1 tenant	Future: 0-4
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.	
Comments:	Tower built for Verizon as the launch tenant. Site is also known as Mendenhall Glacier.	

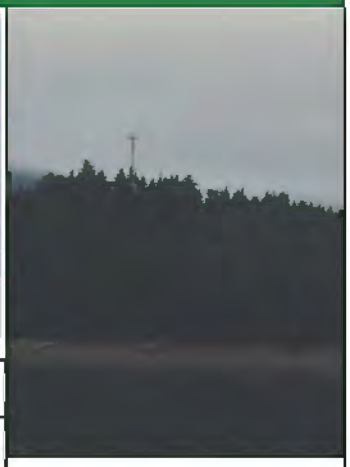


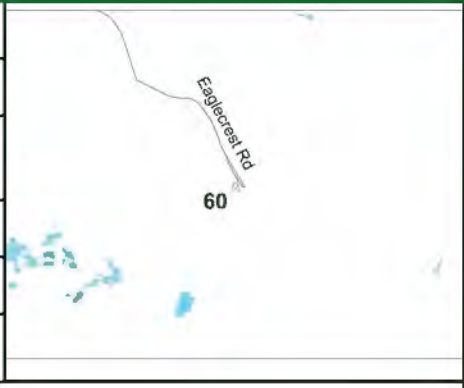
Site 55		Site Map	Site Photo
Owner:	AT&T Towers		
Identification:	FCC: 1286087		
Address:	4300 University Drive		
Latitude:	58-23-36.59 N		
Longitude:	-134-38-25.59 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	CBJ approved 100'; FCC approved 110' per the FCC antenna structure registration.		
Collocations:	Existing: 1 tenant	Future: 0-1	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	Site is also known as Auke Bay.		

Site 56		Site Map	Site Photo
Owner:	Cellco Partnership		
Identification:	FCC: 1285072		
Address:	14080 Glacier Highway		
Latitude:	58-22-43.32 N		
Longitude:	-134-42-21.24 W		
Access:	Vehicle		
Site Details			
Type:	Painted Monopole		
Height:	CBJ approved 100'; FCC approved 69' per the FCC antenna structure registration.		
Collocations:	Existing: 1 tenant	Future: 0-2	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	Tower built for Verizon as the launch tenant. Site is also known as Auke Bay Alt #3. The tower at site 6 which is 100' should have accommodated this collocation.		

Site 57	Site Map	Site Photo
Owner:	Global Tower, LLC		
Identification:	FCC: 1236722	
Address:	Crest Street	
Latitude:	58-21-38.75 N	
Longitude:	-134-34-24.41 W	
Access:	Vehicle	
Site Details		
Type:	Lattice Tower	
Height:	CBJ approved 100'; FCC approved 70' per the FCC antenna structure registration	
Collocations:	Existing: 1 tenant	Future: 0-2
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.	
Comments:	Tower built for Verizon as the launch tenant. Had site 24 (70') been modified or constructed originally 15' - 20' taller then this site (#57) would not have been necessary.	

Site 58	Site Map	Site Photo
Owner:	Atlas Tower USA		
Identification:	FCC: 1284968	
Address:	5753 Concrete Way	
Latitude:	58-21-16.36 N	
Longitude:	-134-30-3.06 W	
Access:	Vehicle	
Site Details		
Type:	Lattice Towers	
Height:	CBJ approved 130'; FCC approved 135' per the FCC antenna structure registration.	
Collocations:	Existing: 1 tenant	Future: 0-3
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.	
Comments:	Tower built for Verizon as the launch tenant. Site also known as Lemon Creek. Had site 27 (70') been modified or constructed originally 15' - 20' taller then this site (#58) would not have been necessary.	

Site 59		Site Map	Site Photo
Owner:	Atlas Tower USA		
Identification:	FCC: 1287767		
Address:	Unknown		
Latitude:	58-20-2.32 N		
Longitude:	-134-39-34.46 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	155' per CBJ and the FCC antenna structure registration.		
Collocations:	Existing: 1 tenant	Future: 0-4	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	Tower built for Verizon as the launch tenant.		

Site 60		Site Map	Site Photo
Owner:	AT&T		
Identification:	FCC: 1288896		
Address:	3000 Fish Creek Road		
Latitude:	58-16-36.01 N		
Longitude:	-134-31-0.88 W		
Access:	Vehicle		
Site Details			
Type:	Wood Pole		
Height:	50' per the CBJ and the FCC antenna structure registration		
Collocations:	Existing: 1 tenant	Future: 0-1	
Observations:	CityScape Consultants, Inc. did not assess this site. The site photo was provided by the CBJ.		
Comments:	Given the low height if this tower is it not likely to support any additional collocations.		

Appendix A

SEC. 704. FACILITIES SITING; RADIO FREQUENCY EMISSION STANDARDS.

(a) NATIONAL WIRELESS TELECOMMUNICATIONS SITING POLICY- Section 332(c) (47 U.S.C. 332(c)) is amended by adding at the end the following new paragraph:

`(7) PRESERVATION OF LOCAL ZONING AUTHORITY-

`(A) GENERAL AUTHORITY- Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.

`(B) LIMITATIONS-

`(i) The regulation of the placement, construction, and modification of personal wireless service facilities by any State or local government or instrumentality thereof--

`(I) shall not unreasonably discriminate among providers of functionally equivalent services; and

`(II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

`(ii) A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.

`(iii) Any decision by a State or local government or place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.

`(iv) No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

`(v) Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any7 court of competent jurisdiction. The court shall hear and decide such action on an expedited basis. Any

person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.

`(C) DEFINITIONS- For purposes of this paragraph--

`(i) the term `personal wireless services' means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services;

`(ii) the term `personal wireless service facilities' means facilities for the provision of personal wireless services; and

`(iii) the term `unlicensed wireless service' means the offering of telecommunications services using duly authorized devices which do not require individual licenses, but does not mean the provision of direct-to-home satellite services (as defined in section 303(v)).'.

(b) RADIO FREQUENCY EMISSIONS- Within 180 days after the enactment of this Act, the Commission shall complete action in ET Docket 93-62 to prescribe and make effective rules regarding the environmental effects of radio frequency emissions.

(c) AVAILABILITY OF PROPERTY- Within 180 days of the enactment of this Act, the President or his designee shall prescribe procedures by which Federal departments and agencies may make available on a fair, nondiscriminatory basis, property, rights-of-way, and easements under their control for the placement of new telecommunications services that are dependent, in whole or in part, upon the utilization of Federal spectrum rights for the transmission or reception of such services. These procedures may establish a presumption that requests for the use of property, rights-of-way, and easements by duly authorized providers should be granted absent unavoidable direct conflict with the department or agency's mission, or the current or planned use of the property, rights-of-way, and easements in question. Reasonable fees may be charged to providers of such telecommunications services for use of property, rights-of-way, and easements. The Commission shall provide technical support to States to encourage them to make property, rights-of-way, and easements under their jurisdiction available for such purposes.

Presented by: The Manager
Introduced:
Drafted by: A. G. Mead

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2014-32

An Ordinance Amending the Land Use Code of the City and Borough to Provide for the Regulation of Wireless Communication Facilities and Providing for a Penalty

NOW, THEREFORE, BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City and Borough of Juneau Municipal Code.

Section 2. New Article. Article IX. Wireless Communication Facilities, is created to read:

ARTICLE IX. – WIRELESS COMMUNICATION FACILITIES

49.65.900 Purpose.

It is the purpose of this article to establish reasonable regulations for the placement, construction and modification of wireless communication facilities (WCF) consistent with the Telecommunications Act of 1996 and applicable law and:

(a) Promote the health, safety, and general welfare of the public and the City and Borough;

(b) Minimize the impacts of WCFs by establishing standards for siting, design and screening and by requiring consistency with the City and Borough's Wireless Telecommunications Master Plan;

(c) Encourage the collocation of antennas on existing structures thereby minimizing new visual impacts and reducing the need for new towers;

(d) Maintain the natural surroundings and character of the City and Borough;

(e) Preserve neighborhood harmony and scenic viewsheds and corridors as indicated in the Comprehensive Plan of the City and Borough of Juneau;

(f) Accommodate the growing need and demand for wireless communications services;

(g) Respond to the policies embodied in the Telecommunications Act of 1996 in such a manner as not to unreasonably discriminate between providers of functionally equivalent personal wireless services or to prohibit or have the effect of prohibiting personal wireless services; and

(h) Respond to the policies embodied in Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012.

(i)

49.65.910 Applicability.

(a) This article shall apply to the development activities including installation, construction, or modification of all WCFs including, but not limited to, existing towers, proposed towers and collocated facilities on existing structures.

(b) All applications for WCF are subject to the standards in this article to the extent that they do not violate Federal limitations on local siting standards and are not otherwise inconsistent with Federal law. The provisions of this article are not intended to

and shall not be interpreted to prohibit or to have the effect of prohibiting personal wireless services. This article shall not be applied in such a manner as to unreasonably discriminate between providers of functionally equivalent personal wireless services.

(c) Exempt Facilities. The following are exempt from this article:

(1) Noncommercial, FCC licensed amateur (ham) radio antennas;

(2) Satellite earth stations and/or antennas used for private television reception;

(3) A government-owned or temporary, commercial WCF installed upon the declaration of a state of emergency by federal, state, or local government, or a written determination of public necessity by the director; except that such facility must comply with all federal and state requirements. The WCF shall be exempt from the provisions of this article for up to one week after the duration of the state of emergency; and

(4) A temporary, commercial WCF installed for providing coverage of a special event such as news coverage or sporting event, subject to approval by the director. The WCF shall be exempt from the provisions of this article for up to one week after the duration of the special event.

(d) All WCFs existing on or before the effective date of this article shall be allowed to continue as they presently exist, provided however, that any proposed modification to an existing WCF, including collocation, must comply with this article.

49.65.920 Location preference for new WCFs.

(a) Locating a new antenna array or new tower shall be in accordance with the following location preferences, one being the highest priority and six being the lowest priority:

(1) Collocated antenna on existing WCF;

(2) Attached concealed antenna;

(3) Attached non-concealed antenna;

(4) Concealed freestanding new WCFs;

(5) Nonconcealed freestanding new WCFs;

(6) Any lighted WCF or any WCF requiring air navigation lighting.

(b) If the proposed location is not the highest priority listed above, then a detailed explanation justifying why a site of a higher priority was not selected must be submitted with the WCF application, as required by section 49.65.960. Any application seeking approval to locate a WCF in a lower-ranked location may be denied unless the applicant demonstrates to the satisfaction of the director or planning commission the following:

(1) That despite diligent efforts to adhere to the established hierarchy, doing so is technically infeasible or commercially impractical; and

(2) The reason or reasons why the application should be approved for the proposed location.

49.65.930 General requirements.

(a) *Concealed and non-concealed antenna.*

(1) Antennas shall be mounted on WCFs so as to present the smallest possible silhouette, profile, or cross-section, unless applicant provides sufficient evidence that doing so would prohibit the applicant from properly deploying the network. New antenna mounts shall be flush-mounted onto existing WCFs, unless it is demonstrated

through RF propagation analysis that flush-mounted antennas will not meet the network objectives of the desired coverage area.

(2) Attached, concealed feed lines and antennas shall be designed to architecturally match the facade, roof, wall, or structure on which they are affixed so that they blend with the existing design, color, and texture of the structure.

(b) *Security of WCFs.* All WCFs shall be located, fenced or otherwise secured in a manner that prevents unauthorized access.

(1) All antennas, towers and other supporting structures, including guy wires, shall be constructed or shielded to reasonably prevent unauthorized access.

(2) Transmitters and telecommunications control points must be installed in a manner to be readily accessible only to persons authorized to operate or service them.

(c) *Signage.* WCFs shall contain a sign no larger than four square feet with text in a sufficient font size to provide adequate notification to persons in the immediate area of the presence of an antenna that has transmission capabilities. The sign shall contain the name(s) of the owner(s) and operator(s) of the facility, an emergency phone number(s), and FCC registration number, if applicable. The sign shall be on the equipment shelter or cabinet and be visible from the access point of the site. The sign shall not be lighted unless authorized by the City and Borough or unless applicable provisions of law require such lighting. No other signage, including advertising, shall be permitted on any WCF, unless required by law.

(d) *Lighting.* Notice is required to be provided to the FAA, on a form prescribed by the FAA, if the facility falls under notification requirements mentioned in 14 CFR Part 77. The applicant is responsible for determining whether notification is required. Any WCF

that is required to have lighting by the FAA will be lighted with the minimum intensity and number of flashes per minute (i.e., the longest duration between flashes) allowable by the FAA. The lights shall be oriented so as not to project directly onto surrounding property, consistent with FAA requirements.

(e) *Design criteria.*

(1) All freestanding WCFs between 60 and 120 feet in height shall be engineered and constructed to accommodate no fewer than four antenna arrays. All WCFs between 121 feet and 150 feet shall be engineered and constructed to accommodate no fewer than five antenna arrays. All WCFs between 151 feet and taller shall be engineered and constructed to accommodate no fewer than six antenna arrays.

(2) All utilities for a WCF site shall be installed underground and in compliance with all ordinances, rules and regulations of the City and Borough, including, but not limited to, the National Electrical Code where appropriate. The director may waive or vary the requirements of underground installation of utilities whenever, in the opinion of the director, such waiver shall not be detrimental to the health, safety, or general welfare of the community or the environment, or the visual and scenic characteristics of the area.

(3) All appurtenant or associated facilities of a WCF shall maximize use of building materials, colors and textures designed to blend with the structure to which it may be affixed, or to harmonize with the natural surroundings or built environment, which shall include the utilization of concealed or concealment technology for facilities appurtenant to concealed WCFs. If located in or abutting a Residential, Commercial or Mixed-Use district, the appurtenant or associated facility shall either be placed inside an enclosed structure,

fenced, or screened with sight-obscuring foliage, which will be as tall as the appurtenant or associated facility.

(4) Use of guy wires is prohibited for all WCF.

(f) *Setbacks.* Freestanding towers and appurtenant structures shall be subject to the setbacks described below:

(1) If the tower is not constructed using breakpoint design technology, the minimum setback distance from the nearest property line shall be equal to the height of the proposed tower.

(2) If tower has been constructed using breakpoint design technology, the minimum setback distance shall be equal to 110 percent (110%) of the distance from the top of the structure to the breakpoint level of the structure, or the minimum yard setback requirements, whichever is greater. For example, on a 100-foot tall freestanding tower with a breakpoint at 80 feet, the minimum setback distance would be 22 feet (110 percent of 20 feet, the distance from the top of the tower to the breakpoint) plus the minimum side or rear yard setback requirements for that zoning district. Certification by a professional engineer registered in the State of Alaska, of the breakpoint design and the design's fall radius must be provided with the application.

(3) Any appurtenant structure shall be located so as to comply with the applicable minimum setback requirements for the property on which it is situated.

(g) WCF shall not significantly affect Natural Areas or land designated as Natural Area Park or Scenic Corridor/Viewshed as identified in the Comprehensive Plan.

(h) *Master Plan.* WCFs shall be consistent with the City and Borough's Wireless Telecommunications Master Plan.

(i) *Visibility*.

(A) WCF shall be configured and located in a manner that shall minimize adverse effects including visual impacts on the landscape and adjacent properties and shall be maintained in accordance with the requirements of this article.

(B) WCFs shall be designed to either resemble the surrounding landscape and other natural features where located in proximity to natural surroundings, or be compatible with the urban, built environment, through matching or complementing existing structures and specific design considerations such as architectural designs, height, scale, color, and texture.

(j) *Structural assessment*. The owner of a freestanding WCF tower shall have a structural assessment of the tower by a professional engineer, licensed in the State of Alaska, if the tower is within the distance equal to the tower's height from a dwelling, parking lot, playground, or right-of way, and shall submit the structural assessment report, signed by the engineer who conducted the assessment, to the director by July 1 every fifth year from the date of issuance of the building permit.

49.65.940 Permit application process for all WCFs.

(a) Applications, on a form specified by the director, and site plans for all WCFs shall be submitted to the director.

(b) At the time that a person submits an application for a permit for any type of WCF, such person shall pay a nonrefundable application fee to the CBJ, as set forth in Chapter 49.85.100. In addition to the application fee, the director may require a technical review by a third party expert, the actual costs of which shall be borne by the applicant.

Based on the results of the technical review, the director may require changes or additional documentation before the application will be considered complete. The technical expert review may address some or all of the following, at the discretion of the director:

(1) The accuracy and completeness of the items submitted with the application;

(2) The applicability of analysis and techniques and methodologies proposed by the applicant;

(3) The validity of conclusions reached by the applicant;

(4) Whether the proposed WCF complies with applicable approval criteria set forth in this article; and

(5) Other matters deemed to be relevant to determining whether a proposed WCF complies with the provisions of this article.

49.65.950 Administrative permits.

(a) A WCF described in Table 1 shall be approved or denied by the director, unless lighting would be required by the FAA or FCC.

TABLE 1

WCF Type	**Zoning Districts**	**Maximum Height**	**Min. Distance to D-1 – D-18 Districts**
Eligible Collocation, Removal or Replacement of Transmission Equipment as provided in CBJ 49.65.950(b)	All	Not more than 10% of existing structure or 20 feet (unless the increased height requires an existing unlit WCF to become lit)	N/A

Concealed Attached	All	≤ 20 Feet[1]	N/A
Non-concealed Attached	D-1 – D-18	≤ 5 Feet [1]	N/A
Non-concealed Attached	Non-Residential and Mixed Use	≤ 20 Feet [1]	N/A
New Concealed Tower	WI, WC, GC, LC	≤ 20 Feet above Max. Height of Zoning District	N/A
New Concealed Tower	RR	≤ 70 Feet	> 500 Feet
New Concealed Tower	I	≤ 120 Feet	> 500 Feet
New Concealed Tower	D-1 – D-18	Compliant with Max Height of Zoning District	N/A
New Non-Concealed Tower	RR	≤60 Feet	>1000 Feet
New Non-Concealed Tower	I	≤60 Feet	>500 Feet

Note: (fn. 1) Rooftop and attachment heights are identified as above the highest point of the existing structure.

(b) *Collocations and other modifications to existing facilities pursuant to Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012.* Eligible collocations and modifications for the removal or replacement of transmission equipment on an existing wireless tower or base station that do not substantially change the physical dimensions of the existing tower or base station shall be eligible for an administrative permit. For the purposes of this section, "substantial change" means:

(1) The mounting of the proposed antenna would increase the existing height of the WCF by more than 10%, or by the height of one additional antenna array with separation from the nearest existing antenna not to exceed twenty feet, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set

forth in this subsection if necessary to avoid interference with existing antenna or unless the increased height requires an existing unlit WCF to become lit;

(2) The mounting of the proposed antenna would involve the installation of more than the standard number of new equipment cabinets for the technology involved, not to exceed four, or more than one new equipment shelter;

(3) The mounting of the proposed antenna would involve adding an appurtenance to the body of an existing WCF that would protrude from the edge of the existing WCF more than twenty feet, or more than the width of the WCF at the level of the appurtenance, whichever is greater, except that the mounting of the proposed antenna may exceed the size limits set forth in this subsection if necessary to shelter the antenna from inclement weather or to connect the antenna to the structure via a cable; or

(4) The mounting of the proposed antenna would involve excavation outside the existing WCF site, defined as the current boundaries of the leased or owned property surrounding the WCF and any access or utility easements currently related to the site.

(c) *Director's decision.* Except for applications requiring a special use permit, applications shall be approved or denied, in writing, by the director.

(1) The director shall review the submitted application for completeness and shall notify the applicant within 30 days of receipt of the initial submission whether the application is deemed complete. If rejected as incomplete, the director shall identify the deficiencies in the application, which if cured, would make the application complete.

(2) The director shall review all completed applications for compliance with the requirements of section 49.65.930. The director may notify an applicant of a failure

to comply with section 49.65.930 and may allow the applicant to resubmit a revised application. Any period of time from when the director notifies the applicant to the date the revised application is received shall not count for the purposes of calculating the 90 calendar day deadline in subsection (3).

(3) Applications not meeting the requirements of this article shall be rejected. The director's decision to approve or deny an application shall be in writing and supported by substantial evidence. The director's decision shall be postmarked to the applicant by the 90th calendar day from the date of receipt of the final and complete application.

49.65.960 General application submittal requirements for all WCFs.

(a) An application for a WCF shall be signed on behalf of the applicant by the person preparing the same and with knowledge of the contents and representations made therein and attesting to the truth and completeness of the information. The landowner, if different than the applicant, shall also sign the application. All information submitted in an application shall be provided by a person qualified to provide the information. All applications for the construction or installation of a new WCF shall be accompanied by the following documentation, except applications for eligible collocation or modification under section 49.65.950(b) are exempt from providing the documentation required by subsections (q) or (r):

(b) In addition to the information required by 49.65.920(b), an affidavit demonstrating compliance with 49.65.920. If a lower ranking alternative is proposed the

affidavit must address why higher ranked options are technically infeasible or commercially impracticable given the proposed location of the wireless communications facility;

(c) A narrative describing compliance with the 49.65.930.

(d) A signed statement from a qualified person, together with a statement of that person's professional qualifications, certifying that radio frequency emissions from the antenna array(s), both individually and cumulatively considering any other WCF located on or immediately adjacent to the proposed WCF, will comply with FCC standards;

(e) Name, address, email address, and phone number of all persons preparing the application and any required submittals;

(f) Name, address and phone number of the property owner, applicant, and facility owner, if applicable;

(g) Postal address and tax map parcel number of the property;

(g) Zoning designation of the property on which the proposed WCF will be situated;

(i) Size of the property stated both in square feet and lot line dimensions, and a diagram showing the location of all lot lines;

(j) Locations of any dwellings within a radius equal to the height of the proposed tower from its base;

(k) Location, size and height of all structures on the property which is the subject of the application;

(l) Location, size and height of all proposed and existing antennas and all appurtenant structures;

(m) Type, locations and dimensions of all proposed and existing landscaping and fencing;

(n) The number, type and design of the WCFs proposed and the basis for the calculations of the WCFs capacity to accommodate multiple collocations;

(o) A detailed description of the proposed WCF and all related fixtures, structures, appurtenances and apparatus, including height above preexisting grade, materials, color and lighting;

(p) Certification that the application is in compliance with all applicable laws pertaining to the type of service offered;

(q) For all freestanding WCF, certification that a geotechnical study has been conducted, and a statement that, taking into account the subsurface and substrata and the proposed drainage plan, the site is adequate to assure the stability of the proposed WCF on the proposed site;

(r) Applicant shall disclose in writing any agreement that would limit or preclude the ability of the applicant to share any new WCF that it constructs;

(s) Applicant shall furnish written certification by a professional engineer, licensed in the State of Alaska, that the WCF, foundation and appurtenant attachments are designed and will be constructed to meet EIA/TIA 222 G (as amended) and local building code structural requirements for loads, including wind, snow and ice loads for the specified number of collocations required in section 49.65.930(c)(1).

(t) Certification by a professional engineer licensed in the State of Alaska that the WCF was constructed, repaired, modified or restored in strict compliance with all current applicable technical, safety and safety-related laws adopted by the City and

Borough, state, or federal government, and in compliance with accepted and responsible workmanlike industry practices and recommended practices of the National Association of Tower Erectors; and

(u) Proof of compliance with FAA regulations in 14 CFR Part 77, if applicable.

49.65.970 Special use permit applications.

(a) As of the effective date of this article, no person shall be permitted to site, place, build, construct, modify, or prepare any site for the placement or use of WCF, except for those WCF identified in section 49.65.940, Table 1, without having first obtained a special use permit. All applicants for a special use permit and any modification of such facility shall comply with the requirements set forth in this section.

(b) *Pre-application meeting.* Prior to submission of an application, the applicant shall meet with the director for the purpose of discussing the site and development proposal, and to address any issues that will help to expedite the review and permitting process, including the scope of the visual assessment the applicant will be required to provide as part of the special use permit process. A pre-application meeting may also include a site visit, as determined by the director. No statement by either the applicant or director shall be regarding as binding or authoritative for purposes of this section.

(c) *Additional required application submittals.*

(1) In addition to the fee required in 49.65.940(b), the applicant shall pay an additional special use permit application fee as set forth in 49.85.100.

(2) In addition to the documentation required by section 49.65.960, the following documentation must be submitted with any special use permit application:

(A) *Design Criteria.* A narrative describing compliance with the design criteria listed in section 49.65.930;

(B) *Visual impact assessment*. The scope of the required assessment will be reviewed at the pre-application meeting, but the planning commission may require submission of a more detailed visual analysis after submittal of the following required information. The visual impact assessment must include:

(i) A "zone of visibility map" which shall be provided in order to determine locations from which the tower may be seen;

(ii) An analysis demonstrating that the WCF will be sited so as to have the least adverse visual impact on the environment and its character, on existing vegetation, and on the properties in the area, while still meeting the applicant's network objectives; and

(iii) Pictorial representations of "before and after" views from key viewpoints as may be appropriate, including but not limited to roadways, parks, public lands, historic districts, and any other location where the site is visible to a large number of visitors, travelers or residents. Guidance will be provided concerning the appropriate key ~~sites~~viewpoints at the pre-application meeting;

(iv) Description of the visual impact of the tower base, guy wires (if applicable) and accessory buildings from abutting properties and streets;

(v) The applicant shall demonstrate in writing and/or by drawing how it shall effectively screen from view the base of its proposed WCF tower and all appurtenant facilities and structures; and

(C) The applicant shall provide evidence that the proposed facility is designed to meet the minimum height requirement necessary for effective functioning of the provider's network.

(D) *Balloon test.* In order to better inform the public in the case of a new freestanding WCF, the applicant shall, prior to the public hearing on the application, hold a "balloon test." The applicant shall arrange to fly, or raise upon a temporary mast, a minimum of a three (3) foot in diameter brightly colored balloon at the maximum height of the proposed new tower. The applicant shall inform the director, in writing, of the date and times of the test, at least two days in advance. The balloon shall be flown for at least four (4) consecutive hours sometime between 7:00 am and 6:00 pm on the date chosen. The applicant shall submit photos of the test and a narrative describing the date, time and duration of the test.

(E) A propagation study for the proposed WCF.

(d) *Director's Review.*

(1) The director shall review the application for completeness.

(2) Incomplete applications shall be rejected and the applicant notified in writing within 30 days of receipt of the initial submission. If rejected, the director's decision shall identify the deficiencies in the application, which, if cured, would make the application complete.

(3) Once an application is deemed complete, the director shall schedule it for a hearing before the planning commission, and shall give notice to the applicant and the public in accordance with subsection (d).

(e) *Public notice*. Public notice of planning commission consideration of a special use permit, at a minimum, shall be provided as follows:

(1) Permit consideration shall be included as an item in the posted agenda.

(2) Notice of the hearing and the agenda item shall be published in a newspaper of general circulation in the City and Borough a minimum of ten days prior to the date of the meeting. The cost of publication shall be paid by the applicant.

(3) The applicant shall post three signs on the site at least 14 days prior to the hearing at locations determined by the director. The sign shall be between four square feet and 32 square feet in area, shall have a red background, and shall indicate in white lettering, 216-point or larger, that a special use permit for a WCF has been sought for the site, the date of the hearing thereon, and that further information is available from the director. The applicant shall maintain the sign and shall remove it within 14 days after final action on the application.

(4) The director shall mail notice of the application and the public hearing to the owners of record of all property located within three miles of the site. The actual cost of mailing shall be paid by the applicant.

(f) *Planning Commission determination.* The planning commission is authorized to review, analyze, evaluate and make decisions with respect to reviewing special use permits for WCFs.

(1) The planning commission may impose any conditions on a special use permit:

(A) Required to ensure compliance with the design criteria specified in section 49.65.930; and

(B) That are consistent with the purposes of this article, which may include conditions related to the aesthetic effect of the WCF and compatibility with the surrounding area. Factors relevant to aesthetic effects are: the protection of the view in sensitive or particularly scenic areas, Scenic Corridors/Viewsheds identified in the Comprehensive Plan of the City and Borough of Juneau, and in the Historic District; the concentration of WCFs in the proposed area; and whether the height, design, placement or other characteristics of the proposed facility could be modified to have a less intrusive visual impact.

(2) The planning commission may deny an application for any of the following reasons.

(A) Conflict with safety and safety-related codes and requirements;

(B) Conflict with the purpose of a specific zoning or land use designation;;

(C) Presence of another approved WCF or WCF application within the geographic search area, which is available to the applicant;

(D) The proposed site is on, or eligible to be on, the National Register of Historic Places;

(E) For a proposed freestanding tower, the applicant fails to demonstrate that no existing structure or tower can accommodate the applicant's proposed use without increasing the height of the existing tower or structure or otherwise creating a

greater visual impact; or that use of such existing facilities is technically infeasible or commercially impracticable; and

(F) Conflicts with the provisions of this article.

(3) The planning commission shall deny any application for WCF in the following locations:

(A) State or local wildlife refuges;

(B) In any area designated as a public park, unless screened so as to minimize visual and noise impacts, and as long as public use will not be disrupted; and

(C) In any area designated as a Scenic Corridor/Viewshed identified in the Comprehensive Plan of the City and Borough of Juneau.

(D) In any area that obstructs the view of the Mendenhall Glacier from the waterfront roadway from the North Douglas boat launch facility to False Outer Point.

(4) The planning commission shall condition a permit on a requirement to construct the WCF within a reasonable period of time, which may not exceed 18 months.

(g) Any and all representations made by the applicant to the planning commission on the record during the application process, whether written or verbal, shall be deemed a part of the application and may be relied upon in good faith by the commission.

(h) A holder of a special use permit granted under this article shall obtain, at its own expense, all permits and licenses required by applicable law, rule, regulation or code, and must maintain the same, in full force and effect, for as long as required by the City and Borough or other governmental entity or agency having jurisdiction over the applicant.

(i) The planning commission's decision shall be in writing and mailed to the applicant, postmarked by the 150th day of receipt of a final and completed application. A decision to grant or deny a request to place, construct or modify a WCF shall be supported by substantial evidence.

(j) If the planning commission denies a request to place, construct or modify a WCF, the applicant may, within 20 days from the postmarked date of the decision, appeal the planning commission's decision in accordance with section 49.20.110.

49.65.980 Extent and parameters of special use permits.

(a) Special use permits may, following a hearing upon prior notice to the applicant, be revoked, canceled, or terminated for a violation of the conditions and provisions of the special use permit for WCFs or for a material violation of this article after prior written notice to the applicant and the holder of the special use permit.

(b) The holder of a special use permit shall notify the City and Borough of any intended modification of a WCF and shall apply to the director to modify, relocate or rebuild any WCF.

(c) A special use permit shall become void 18 months after its effective date if no substantial construction progress has been made. A new application must be submitted for a voided permit, including the payment of any required fees, and a new permit obtained. No permit shall be renewed more than once, the maximum duration of which shall be 18 months.

(d) Upon an application submitted at least 30 days before the expiration of an existing special use permit, the commission shall hold a hearing to consider whether the permit should be extended. At least ten days prior to the hearing, notice thereof shall be

mailed to the property owners of record within three miles of the proposed site identified in the application and at least two days prior to the hearing a general notice thereof shall be printed in a newspaper of general circulation in the municipality. At the hearing, the burden of proof for the justification for a permit extension shall rest with the applicant. Upon written findings that such burden has been met, the commission may grant an extension not to exceed 18 months, but shall not delete from, amend or add to the conditions contained in the permit. Upon written findings that the applicant's burden has not been met, or that the conditions contained in the permit should be changed, or both, the commission shall deny the application whereupon the permit shall be voided. Upon application and consideration pursuant to this section, the commission may grant no more than one additional extension, the maximum duration of which shall be 18 months.

49.65.990 Interference with public safety equipment.

In order to facilitate the regulation, placement, and construction of antenna, and to ensure that all parties are complying to the fullest extent possible with the rules, regulations, and/or guidelines of the FCC, each applicant or owner applicant shall agree in a written statement to the following:

(a) Compliance with "good engineering practices" as defined by the FCC in its rules and regulations;

(b) Compliance with FCC regulations regarding susceptibility to radio frequency interference, frequency coordination requirements, general technical standards for power, antenna, bandwidth limitations, frequency stability, transmitter measurements, operating

requirements, and any and all other federal statutory and regulatory requirements relating to radio frequency interference (RFI);

(c) In the case of an application for collocated telecommunications facilities, the applicant, together with the owner of the subject site, shall use their best efforts to provide a composite analysis of all users of the site to determine that the applicant's proposed facilities will not cause radio frequency interference with the City and Borough's public safety communications equipment and will implement appropriate technical measures, as described in antenna element replacements, to attempt to prevent such interference; and

(d) Whenever the City and Borough has encountered radio frequency interference with its public safety communications equipment, and it believes that such interference has been or is being caused by one or more antenna arrays, the following steps may be taken:

(1) The City and Borough shall provide notification to all wireless service providers operating in the City and Borough of possible interference with the public safety communications equipment, and upon such notifications, the owners shall use their best efforts to cooperate and coordinate with the City and Borough among themselves to investigate and mitigate the interference, if any, utilizing the procedures set forth in the joint wireless industry-public safety "Enhanced Best Practices Guide," released by the FCC in Appendix D of FCC 04-168 (released August 6, 2004), including the "Good Engineering Practices," as may be amended or revised by the FCC from time to time in any successor regulations.

(2) If any equipment owner fails to cooperate with the City and Borough in complying with the owner's obligations under this section or if the FCC makes a determination of radio frequency interference with the City and Borough public safety

communications equipment, the owner who failed to cooperate and/or the owner of the equipment which caused the interference shall be responsible, upon FCC determination of radio frequency interference, for reimbursing the City and Borough for all costs associated with ascertaining and resolving the interference, including but not limited to any engineering studies obtained by the City and Borough to determine the source of the interference. For the purposes of this subsection, failure to cooperate shall include failure to initiate any response or action as described in the "Enhanced Best Practices Guide" within 24 hours of the City and Borough's notification.

49.65.1000 Transfers and assignments.

(a) Permits obtained pursuant to this chapter may not be assigned or transferred without providing prior notice to the City and Borough, on a form acceptable to the director.

(b) In the event a WCF provider or owner transfers ownership of a WCF to a different provider or owner, the previous and new service provider or owner shall notify the director no less than 10 days from the date of transfer. The new provider or owner shall include the name, address and phone number of the person to be responsible for the WCF.

49.65.1010 Non-use and abandonment.

(a) Notwithstanding section 49.10.600, the director may require removal of a WCF under the following circumstances, which are deemed detrimental to the health, safety, and welfare interests of the City and Borough:

(1) WCFs with a permit that have not been used as a WCF for a period exceeding 90 consecutive days or a total of 180 days in any 365-day-period, except for

periods caused by force majeure or acts of God, in which case, repair or removal shall commence within 90 days or within such other reasonable time approved by the director.

(2) Permitted WCFs that have fallen into such a state of disrepair that create a public health or safety hazard, which shall be deemed a nuisance per se.

(3) WCFs that have been located, constructed, or modified without first obtaining all permits required by law, or that have been located, constructed or modified in a manner inconsistent with the applicable permit requirements, which shall be deemed a nuisance per se.

(b) If the director makes such a determination as noted in subsection (a) of this section, the director shall notify the permittee in writing that said WCF is to be removed.

(c) Within 90 days of the postmarked date of the director's notice, the permittee, or its successors or assigns, shall dismantle and remove such WCF, and all associated structures and facilities, from the site and restore the site as close to its original condition as is possible, such restoration being limited only by physical or commercial impracticability proven to the satisfaction of the director.

(d) If the WCF is not removed or substantial progress has not been made to remove the WCF within 90 days after the permit holder has received notice, the City and Borough may remove or cause to be removed the WCF at the sole expense of the owner or permit holder.

(e) If, the City and Borough removes or causes to be removed a WCF and the owner of the WCF does not claim and remove it from the site to a lawful location within ten days, then the City and Borough may take steps to declare the WCF abandoned, and sell it and its components.

(f) Notwithstanding anything in this section to the contrary, the director may approve a temporary use permit/agreement for the WCF, for no more than 90 days, during which time a suitable plan for removal, conversion, or relocation of the affected WCF shall be developed by permit holder or owner, subject to the approval of the director. If such a plan is not developed, approved and executed within the 90-day time-period, then the City and Borough may take possession of and dispose of the affected WCF in the manner provided in this section.

49.65.1020 Conflict with other ordinances.

Where this article differs or conflicts with other ordinances, unless the right to do so is preempted or prohibited by the state or federal law, the more restrictive or protective of the City and Borough and the public shall apply.

49.65.1030 Violations

Violations of this article or any special use permit obtained pursuant to this article shall be subject to the provisions of section 49.10.600 through 49.10.660.

Section 3. Amendment of Section. CBJ 49.80.120 Definitions, is amended by the addition of the following definitions to be incorporated in alphabetical order:

Amateur Radio Antenna means any tower used for amateur radio (ham) transmissions consistent with FCC regulations.

Antenna means communications equipment that transmits and receives electromagnetic radio signals used in the provision of all types of wireless communications services.

Antenna array means A single or group of antenna elements and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment device such as a mounting frame or mounting support structure for the sole purpose of transmitting or receiving electromagnetic waves.

Appurtenant or associated facilities means an accessory facility or structure serving or being used in conjunction with (WCF), and located on the same property or lot as the (WCF), including but not limited to, utility or transmission equipment storage shelters or cabinets.

Base station means a facility consisting of radio transceivers, antenna, coaxial cable, a regular and back-up power supply, and other electronics associated with the operation of a WCF.

Breakpoint Technology means the engineering design of a monopole wherein a specified point on the monopole is designed to be at least five percent more susceptible to failure than any other point along the monopole so that in the event of structural failure, the failure will occur at the breakpoint rather than at the base plate, anchor bolts, or any other point on the monopole.

Collocation means the placement of an antenna on an existing WCF for the purpose of transmitting and/or receiving radio frequency signals for communications purposes.

Commercially impracticable means the inability to perform an act on terms that are reasonable in commerce. The inability to achieve a satisfactory financial return on investment or profit, standing alone, shall not be considered "commercial impracticability" and shall not render an act or the terms of an agreement commercially impracticable.

Equipment cabinet or shelter means a small structure shelter, cabinet or vault used to house and protect the electronic equipment necessary for processing wireless communication signals. Associated equipment may include air conditioning and emergency generators.

FAA means the Federal Aviation Administration or its duly designated and authorized successor agency.

FCC means the Federal Communications Commission or its duly designated and authorized successor agency.

Feed lines means cables used as the interconnecting media between the transmission/receiving base station and the antenna.

Flush mounted means any antenna or antenna array attached directly to the face of the support structure or building in a manner that permits mechanical beam tilting if necessary but such that no portion of the antenna extends above the height of the support structure or building.

Geographic Search Area means an area designated by a wireless provider or operator for a new base station or WCF, produced in accordance with generally accepted principles of wireless engineering.

Guy wire means any wire or cable that provides structural support between a tower and the ground.

Monopole WCF means a style of free-standing WTF consisting of a single shaft usually composed of two or more hollow sections that are in turn attached to a foundation. This type of WTF is designed to support itself without the use of guy wires or other stabilization devices. These facilities are mounted to a foundation that rests on or in the ground or on a building's roof.

Non-concealed means a WCF that has not been treated, camouflaged, or disguised to blend with its surroundings and is readily identifiable.

Radio frequency emissions means any electro-magnetic radiation or other communication signal emitted from an antenna that is regulated by the FCC.

Satellite earth station means a parabolic or dish antenna that is mounted to a structure, which may include associated equipment cabinets, necessary for the transmission or reception of wireless communication signals with satellites.

Tower means a structure that is built for the sole or primary purpose of supporting equipment for the transmission and/or reception of radio frequency signals or other wireless communications or meteorological purposes, and usually consisting of an antenna or antenna array, transmission cables, equipment cabinets, and their associated facilities.

Tower base means the foundation, usually concrete, on which the tower and other support equipment is situated. For measurement calculations, the tower base is that point on the foundation reached by dropping a perpendicular from the geometric center of the tower.

Wireless Communication Facility (WCF) means any manned or unmanned location for the transmission and/or reception of radio frequency signals or other wireless communications, and usually consisting of an antenna or group of antennas, transmission cables, and equipment cabinets, and may include an antenna support structure. The following developments shall be considered a WCF: developments containing new, mitigated, or existing antenna support structures, public antenna support structures, replacement antenna support structures, collocation on existing antenna support structures, attached wireless communications facilities, concealed wireless communication facilities, and non-concealed wireless communication facilities. Excluded from the definition are: noncommercial amateur radio, amateur ham radio and citizen band antennas, satellite earth stations and antenna support structures, and antennas and/or antenna arrays for AM/FM/TV/HDTV broadcasting transmission facilities.

Specific types of WCFs include:

Attached WCF means an antenna or antenna array that is secured to an existing building or structure with any accompanying pole or device which attaches it to the building or structure, together with transmission cables, and an equipment cabinet,

which may be located either on the roof or inside/outside of the building or structure. An attached wireless communications facility is considered to be an accessory use to the existing principal use on a site.

Concealed WCF, sometimes referred to as a concealed or camouflaged facility, means a WCF, ancillary structure, or WCF equipment compound that is not readily identifiable as such, and is designed to be aesthetically compatible with existing and proposed building(s), vegetation, natural features, and uses on a site. There are two types of concealed WCFs: 1) attached and 2) freestanding. 1) Examples of concealed attached facility include, but are not limited to the following: painted antenna and feed lines to match the color of a building or structure, faux windows, dormers or other architectural features that blend with an existing or proposed building or structure. 2) Freestanding concealed WCFs usually have a secondary, obvious function which may be, but is not limited to the following: church steeple, windmill, bell tower, clock tower, cupola, light standard, flagpole with or without a flag, or faux tree.

Freestanding WCF means any manned or unmanned location for the transmission and/or reception of radio frequency signals, or other wireless communications, and usually consisting of an antenna or group of antennas, feed lines, and equipment cabinets, and may include an antenna support structure. A freestanding WCF includes, but is not limited to the following: guyed, lattice, or monopole support structures.

Non-concealed WCF means a wireless communication facility that is readily identifiable as such and can be either freestanding or attached.

Section 4. Amendment of Section. CBJ 49.85.100 is amended to add a subsection (1) to read:

(18) Wireless Communication Facility Application Fees.

(A)	Application fees required by 49.65.940(b):	$350
(B)	Additional fee required for special use permit applications required by 49.65.970(b)(1):	$500

(C) Any actual costs incurred for technical expert review, publication and mailings.

Section 5. Amendment of Section. CBJ 49.05.200 is amended to add a subsection (1) to read:

(L) Wireless Telecommunication Master Plan, dated May 2014.

Section 6. Amendment of Table. Category 18.000 of section CBJ 49.25.300 Table of Permissible Uses, is amended is amended to add a superscript "AA" to 18.100, 18.200, and 18.300.

Section 7. Amendment of Table. Category 18.000 of section CBJ 49.25.300 Table of Permissible Uses is amended to add a subcategory, 18.500 WCF Wireless Communications Facilities, to read as follows:

18.500	Wireless Communication Facilities	See CBJ 49.65, Wireless Communication Facilities

Section 8. Amendment of Table. Section 49.25.300 Table of Permissible Uses, is amended by adding to the Notes section the following:

AA. Does not apply to Wireless Communication Facilities.

//

//

Section 9. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this _____ day of _____, 2014.

_____
Merrill Sanford, Mayor

Attest:

_____
Laurie J. Sica, Municipal Clerk

DRAFT

ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA

Ordinance 2014-14 An Ordinance Amending the Land Use Code Relating to Rezoning Procedures.

ATTACHMENTS:

	Description	Upload Date	Type
☐	Ordinance 2014-14	5/14/2014	Ordinance
☐	Planning Commission Notice of Recommendation	6/11/2014	Cover Memo
☐	Staff Report	6/11/2014	Cover Memo

Presented by: The Manager
Introduced:
Drafted by: A. G. Mead

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2014-14

An Ordinance Amending the Land Use Code Relating to Rezoning Procedures

NOW, THEREFORE, BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

Section 1. Classification. This ordinance is of a general and permanent nature and shall become a part of the City and Borough of Juneau Municipal Code.

Section 2. Amendment to Section. CBJ 49.75.130 Procedure is amended to read:

49.75.130 Procedure.

A rezoning shall follow the procedure for a major development permit except for the following:

(1) The commission ~~decision for approval~~ shall make a recommendation to the assembly to approve or deny a rezoning request ~~shall constitute only a recommendation to the assembly.~~

(2) As soon as possible after the commission's recommendation, the assembly shall provide public notice and hold a public hearing on the proposed rezoning. After public hearing, the assembly may adopt the commission's recommendation as

submitted or with amendments, or reject the recommendation. ~~A rezoning shall be adopted by ordinance, and any conditions thereon shall be contained in the ordinance. Upon adoption of any such ordinance, the director shall cause the official zoning map to be changed in accordance therewith.~~

(3) ~~The commission decision for denial shall constitute a final agency decision on the matter which will not be presented to the Assembly unless it is appealed to the Assembly in accordance with CBJ 49.20.120~~. All rezonings shall be adopted by ordinance, and any conditions thereon shall be contained in the ordinance. Upon adoption of any such ordinance, the director shall cause the official zoning map to be amended in accordance with the adopted ordinance.

Section 3. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this _____ day of _____, 2014.

_____
Merrill Sanford, Mayor

Attest:

_____
Laurie J. Sica, Municipal Clerk

CITY/BOROUGH OF JUNEAU
ALASKA'S CAPITAL CITY

PLANNING COMMISSION
NOTICE OF RECOMMENDATION
Date: April 23, 2014
File No.: AME2014 0005

City and Borough of Juneau
City and Borough Assembly
155 South Seward Street
Juneau, AK 99801

Application For:	Planning Commission Recommendation to the City and Borough Assembly regarding an ordinance amending Title 49, the Land Use Code regarding Planning Commission rezoning recommendations of denial to the Assembly.
Legal Description:	N/A
Property Address:	N/A
Hearing Date:	April 22, 2014

The Planning Commission, at its regular public meeting, adopted the analysis and findings listed in the attached memorandum dated April 11, 2014 and recommended that the City and Borough Assembly adopt staff's recommendation for the amendment to Title 49 Section 49.75.130. A final draft of the Ordinance which includes changes recommended by the Planning Commission is attached.

Attachments: April 11, 2014 memorandum from Travis Goddard, Community Development, to the CBJ Planning Commission regarding AME2014 0005.

This Notice of Recommendation constitutes a recommendation of the CBJ Planning Commission to the City and Borough Assembly. Decisions to recommend an action are not appealable, even if the recommendation is procedurally required as a prerequisite to some other decision, according to the provisions of CBJ §01.50.020 (b).

Project Planner: _____
Travis Goddard, Planner
Community Development Department

_____
Michael Satre, Chair
Planning Commission

_____ April 24, 2014
Filed With City Clerk City Manager Date

cc: Plan Review

NOTE: The Americans with Disabilities Act (ADA) is a federal civil rights law that may affect this recommended text amendment. ADA regulations have access requirements above and beyond CBJ - adopted regulations. Contact an ADA - trained architect or other ADA trained personnel with questions about the ADA: Department of Justice (202) 272-5434, or fax (202) 272-5447, NW Disability Business Technical Center (800) 949-4232, or fax (360) 438-3208.

MEMORANDUM

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

DATE: April 11, 2014

TO: Planning Commission

FROM: Travis Goddard, Planning Manager
Community Development Department

Chrissy Mabelly for Travis Goddard

FILE NO.: AME2014 0005

PROPOSAL: Proposed amendment to Title 49 Section 49.75.130 amending the Land Use Code related to rezoning approval.

At the February 28, 2012 Planning Commission meeting, the Commission recommended approval of an ordinance amending Title 49 Section 49.75.130 to the Assembly. The purpose of the text amendment was to clarify rezoning procedures when the Planning Commission denies a rezone request. Title 49 has been clear that when the Planning Commission approves a rezoning the action is a recommendation to the Assembly. However, Title 49 was silent on whether a denial was a recommendation or a final decision. Ordinance 2012-11 established that a denial of a rezone request by the Planning Commission was a final decision. The decision can be appealed to the Assembly.

Based on the recommendation of the CBJ Law Department, the proposed Ordinance would make a Planning Commission denial of a rezone request a recommendation to the Assembly. The purpose of Ordinance 2014-14 is to remedy two issues related to the amendment of CBJ 49.75.130 (rezoning procedure.) First, Ordinance 2012-11 created an inconsistency in the code by providing for the Planning Commission's decision to deny a rezone to be a "final agency decision on the matter."

Second, CBJ 49.75.130 improperly suggests that rezoning decisions are quasi-judicial, and thus appealable, rather than legislative acts. While rezoning decisions are subject to direct judicial review and can be invalidated when they are the result of prejudice, arbitrary decision-making, improper motive, or when they violate due process, they are not subject to direct appeal. ("[T]he decision of a legislative body is subject to review by appeal only where the decision is a quasi-judicial one." *Cabana v. Kenai Peninsula Borough*, 21 P.3d 833, 836 (Alaska 2001). *See also:* "As a general rule, an applicant whose rezoning petition is denied cannot seek a direct review of that denial…" 3 Rathkopf's The Law of Zoning and Planning § 40:4 (4th ed.)).

The Planning Commission is not authorized to make the final legislative decision on rezoning requests under the current code. The Planning Commission's role with respect to rezoning is to "make recommendations to the assembly on all proposed . . . zonings and rezonings…" (CBJ

49.10.170(d)). In order to correct this inconsistency, either: (1) the Planning Commission's authority would need to be expanded to allow for it to be the legislative, and final, decision-maker on rezoning requests; or (2) 49.75.130 needs to be amended to return the legislative authority to decide all rezoning requests to the Assembly, which is consistent with past practice. (CBJ 49.75.130 suggests that the legislative authority on rezoning requests is split between the Assembly and Planning Commission. It provides that the authority to make the legislative decision on approvals is held by the Assembly, but on denials, suggests that authority rests with the Planning Commission.)

Finally, even if CBJ 49.10.170(d) were amended to give the Planning Commission the legislative-decision-making authority on rezoning requests (denials and approvals), CBJ 49.75.130 would need to be amended to eliminate the reference to appealing denials to the Assembly. As stated above, small scale rezoning decisions are legislative acts, not quasi-judicial, and are not subject to appeal under CBJ 01.50. (*Cabana v. Kenai Peninsula Borough*, 21 P.3d 833, 836 (Alaska 2001)).

RECOMMENDATION

Based on the above analysis, it is recommended that the Planning Commission forward to the Assembly a recommendation to approve the proposed Ordinance.

DEVELOPMENT PERMIT APPLICATION

Project Number	CITY and BOROUGH of JUNEAU	Date Received:
Project Name (City Staff to Assign Name)		

PROJECT / APPLICANT INFORMATION

Project Description: Text ammendment for CBJ 49.75.130 (Rezone Procedures)

PROPERTY LOCATION

Street Address: Borough wide	City/Zip
Legal Description(s) of Parcel(s) (Subdivision, Survey, Block, Tract, Lot)	
Assessor's Parcel Number(s)	

LANDOWNER/LESSEE

Property Owner's Name: Borough Wide	Contact Person:	Work Phone:
Mailing Address	Home Phone:	Fax Number:
E-mail Address	Other Contact Phone Number(s):	

LANDOWNER/LESSEE CONSENT

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 _____ Landowner/Lessee Signature — 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.

APPLICANT

If the same as OWNER, write "SAME" and sign and date at X below

Applicant's Name: Travis Goddard	Contact Person: Same	Work Phone: 907-586-0756
Mailing Address	Home Phone:	Fax Number:
E-mail Address: travis_Goddard@ci.Juneau.ak.US.	Other Contact Phone Number(s):	

X Travis Goddard — Applicant's Signature — Date of Application: 4/4/14

STAFF APPROVALS

---OFFICE USE ONLY BELOW THIS LINE---

✓	Permit Type	Fee	Date Received	Application Number(s)
	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)			
	Use Approval (Allowable, Conditional, Cottage Housing, Mobile Home Parks, Accessory Apartment)			
	Variance Case (De Minimis and all other Variance case types)			
	Wetlands Permits			
	Zone Change Application			
	Other (Describe) Text Amendment		4/7/14	AME 14-0005

***Public Notice Sign Form filled out and in the file.

Comments:

Permit Intake Initials

NOTE: DEVELOPMENT PERMIT APPLICATION FORMS MUST ACCOMPANY ALL OTHER COMMUNITY DEVELOPMENT DEPARTMENT APPLICATIONS

Presented by: The Manager
Introduced:
Drafted by: A. G. Mead

ORDINANCE OF THE CITY AND BOROUGH OF JUNEAU, ALASKA

Serial No. 2014-14

An Ordinance Amending the Land Use Code Relating to Rezoning Procedures

NOW, THEREFORE, BE IT ENACTED BY THE ASSEMBLY OF THE CITY AND BOROUGH OF JUNEAU, ALASKA:

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Section 3. Effective Date. This ordinance shall be effective 30 days after its adoption.

Adopted this _____ day of _____, 2014.

_____
Merrill Sanford, Mayor

Attest:

_____
Laurie J. Sica, Municipal Clerk

DRAFT

ASSEMBLY AGENDA/MANAGER'S REPORT
THE CITY AND BOROUGH OF JUNEAU, ALASKA

Seawalk 1% for Art

ATTACHMENTS:

	Description	Upload Date	Type
☐	Staff Memo regarding Waterfront Art	6/11/2014	Cover Memo

City & Borough of Juneau
Alaska's Capital City

City and Borough of Juneau
Engineering Department
155 South Seward Street
Juneau, Alaska 99801
Telephone: 586-0800 Facsimile: 463-2606

DATE: June 10, 2014

TO: Rorie Watt, Engineering Director
Carl Uchytil, Port Director
Brent Fischer, Parks and Recreation Director

FROM: Michele Elfers, Landscape Architect
Gary Gillette, Port Engineer

RE: Artistic and Interpretive Elements Along the Waterfront and Seawalk

With the recent discussion regarding art on the waterfront and upcoming construction of the Cruise Ship Berths Project (16B) and the Seawalk Bridge Park to Gold Creek , this memo provides a timely update of ongoing efforts to incorporate art and interpretive elements in the projects. Recently, four waterfront construction projects have created a continuous seawalk connection between Marine Park and Franklin Dock. Art is included in each of these projects through the design process and/or the 1% for art funding. The incorporation of artistic and interpretive elements is based on planning efforts and community involvement through the Long Range Waterfront Plan (LRWP). The LRWP, adopted by the Assembly in 2005, provides guidance on the intent of the seawalk and applies themes to waterfront areas. The plan envisions the seawalk to "unify the waterfront and its various diverse uses...", "serve as the defining linkage connecting all activities along the waterfront...", and "encourage diversity and creativity."

The LRWP suggests a variety of interpretive and artistic themes that can occur throughout the waterfront, some of which are appropriate for specific areas. The themes are:

1. Environmental Education
2. Children and Families
3. Juneau and Alaska's Role in WWII
4. Juneau Aviation and Maritime History
5. Juneau as Alaska's Capital City
6. The Faces of Juneau and Alaska: A Cultural Showcase
7. Working Along Juneau's Waterfront

"Diversity and creativity" is being expressed in the existing seawalk through art and interpretive elements. For example, the design for the Seawalk section Bridge Park to Gold Creek is based on a plan for shoreline reclamation and includes environmental education elements. It is also an appropriate section to focus on children and families with the largest open space park on the seawalk. Artistic elements will follow this broad theme for this section.

Other examples of artistic elements adhering to these themes include:

- USS Juneau Memorial
- Fishermen's Memorial
- 'Under the Tlingit Sky' artwork in the Franklin Dock Canopy
- Fish Processing Tank and Interpretive Signage at Taku Fisheries
- Welcome to Juneau Sign with painting of Commercial Fishing Boat
- Bull Kelp Sculpture
- Statue of Patsy Ann
- Lighthouse Interpretive Signage
- Maritime Transportation Interpretive Signage

To accomplish the goals in the LRWP of unity and "a defining linkage", a waterfront design guideline report was created in 2008. From this report, the idea of repeating elements, artistic and functional, is suggested as the way in which to create cohesion along the long linear corridor. For example, a standard guardrail, light posts, site furnishings such as benches, and wayfinding signage are consistent elements that are installed along each section of seawalk. Additionally, artistic elements such as bronze medallions identifying important historic or current aspects of the seawalk such as the MV Flosie, a ferry boat between Juneau and Douglas, or the location of a historic creek, Chas' Heeni, which means Humpy Creek. Seawalk banners by a local artist portraying marine animals have been installed along the new sections of seawalk and will continue along the entire seawalk. Repeating artistic elements that showcase the elements of water, light, earth and wind are also being incorporated into the design such as the rain chimes by the IVF dock and the shadow throwing design in the canopy at Franklin Dock. Art selections for the Cruise Berths project and future seawalk projects would seek to incorporate similar repeating artistic elements along the waterfront.

At its regular meeting of June 3, 2013, the Assembly appointed an Art Selection Panel (Panel) for the Cruise Berth project in accordance with CBJ Code 62.65.040. The Panel includes two representatives appointed by the Juneau Arts and Humanities Council; two public members selected by the Assembly; a member appointed by the City Manager; and a member representing the department which will be the primary user of the facility (in this case a Docks and Harbors Board representative).

Recently Assembly members expressed a desire to expand the vision of art for the Cruise Berths project to consider thematic ties with current and future seawalk projects. The intent, as we understand it, would be to create cohesion along the waterfront as envisioned by the Long Range Waterfront Plan. Given that the Cruise Berths project is managed by CBJ Docks and Harbors and the seawalk is managed by CBJ Parks and Recreation Department it would seem consistent with city code to expand the Panel to include a representative of Parks and Recreation. Upon consultation with Brent Fischer, P&R Director, it seemed appropriate to recommend that a member of the Parks and Recreation Advisory Committee be added to the Panel. Kate Walters, PRAC member, has expressed a willingness to serve on the Panel if so desired by the Assembly.

In addition, we recommend that Docks and Harbors and Engineering staff work to coordinate the art selection process as liaisons to the Panel. The Panel and proposing artists would be informed about the desire for establishing cohesive artistic expressions along the waterfront and seawalk in accordance with appropriate LRWP themes; repeating artistic and functional elements; and design guidelines.

Bridge Park and Seawalk to Gold Creek, in permitting and design
Cruise Berth Project (16B), 2016-2017
People's Wharf, 2007
Port/Customs/Visitor Center and Cruise Ship Terminal Uplands, 2011-2014
Taku Fisheries, 2009
Miner's Cove, 2014
SEAWALK CONSTRUCTION TIMELINE

3.8 UNIFYING PROJECTS: THE SEAWALK AND WATER TAXI/SHUTTLE SYSTEM

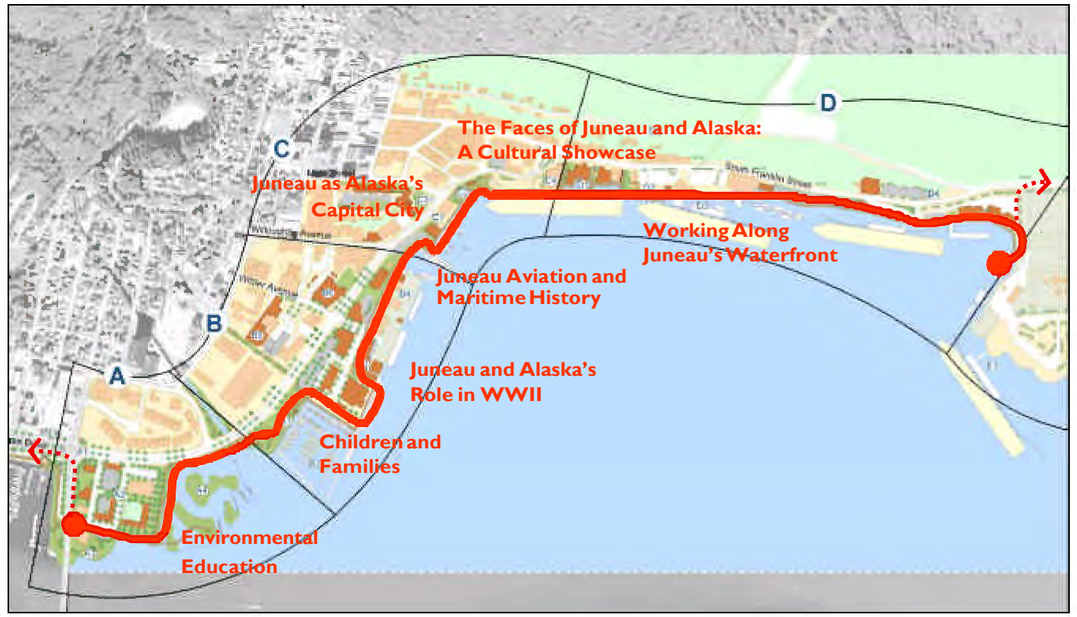
Seawalk

The seawalk is possibly the most important project contemplated under the Waterfront Master Plan and one that was consistently viewed by community participants during the outreach effort as a top priority. As envisioned, the seawalk will unify the waterfront and its various diverse uses, creating a tremendously useful recreation, mobility, and social feature for residents and visitors (see Figures 28 and 43). While a number of pedestrian, street and view corridors will link the surrounding urban fabric to the waterfront, the seawalk will serve as the defining linkage connecting all activities along the waterfront. Its presence, while not generating a direct revenue to the CBJ and private property users, will undoubtedly increase property values along the waterfront by becoming a new pedestrian thoroughfare and in many cases a "must use" venue by area residents and visitors.

The basic design components for the seawalk should be straightforward. The width of the seawalk should be a minimum of 16 feet to provide ample areas for pedestrians (both in motion and gathering to enjoy the surrounding environment), bicyclists, street furniture (benches, weather protection, signage, lighting, trash receptacles), public art, monuments, and small points of interest and activity (see Figure 44). In some cases, width may need to be reduced to 12 feet, but this reduction should be infrequent. Views should be maximized by designating the walkway to be barrier-free, limiting fences only for security and/or safety reasons, and creating structures and shelters which are transparent and screen-like. Materials and finishes should have a maritime and/or natural theme to form the base palette for all designs and street furniture. The entirety of the seawalk should be ADA accessible. Where necessary, security features should be built into the seawalk to ensure that users are separated from ship's lines, heavy equipment, and gangway systems; if portions of the seawalk need to be closed due to an elevated level on the Homeland Security Advisory System, gates and other barriers should easily be placed and a viable alternate route offered (see Area D discussion for additional details). Security barriers when not needed should be as transparent as possible. At each of the ends of the seawalk—the Juneau-Douglas Bridge and the South Franklin Street Dock—a smooth transition into a continuing recreation corridor should occur.

Beyond these basic parameters, the CBJ should take some exciting liberties with the seawalk to truly make it a reflection of the community and to offer various programmed elements and feeling along the waterfront. A suggested approach for creating themed zones is presented as Figure 38. Segments should encourage diversity and creativity. Special architectural features could include: a seaside pavilion; a tidal pool formed by a ring of meter-wide rocks; canopied seating areas; extensive landscaping wildlife enhancement along the Gold Creek Protection Zone; and dramatic high-tide features such as sections of the seawalk that flood at the yearly highest tides encouraging interaction between people and the sea. Public art installations should also be an important component of the seawalk. Dramatic lighting can also become an artistic component of the waterfront, creating a lit ribbon along water's edge during the longer winter nights.

Figure 44: Suggested Seawalk Route and Themed Zones



The seawalk should emerge as the area's primary wayfinding device, moving residents and visitors along the waterfront and back into the Downtown proper.

Diversity, Creativity and Themes Along the Seawalk

Welcome to Juneau - Alaska's Capital City

Fishing Boat- Working Waterfront

Patsy Ann - Maritime history

USS Juneau Memorial- WWII History

Bull Kelp - Environmental Education

Fish Processing and Signage - Working Waterfront

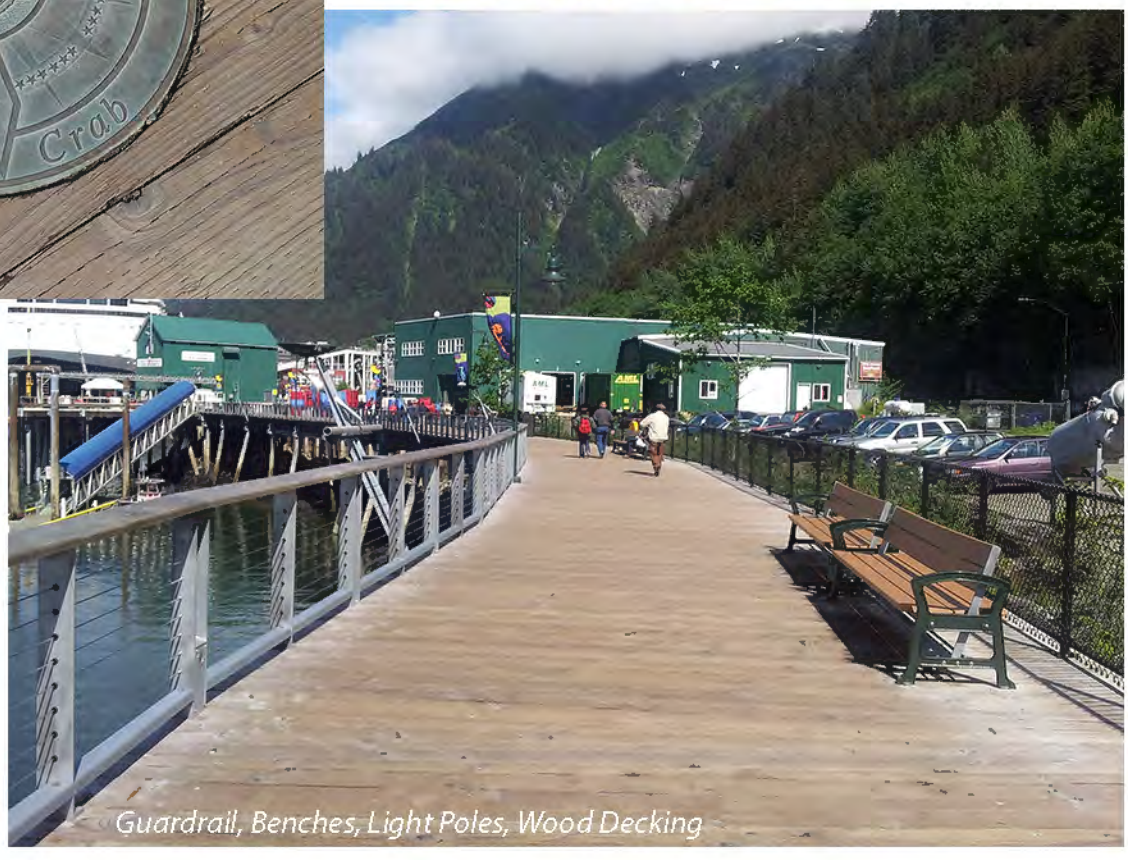
Tlingit Art- A Cultural Showcase

Unifying Artistic, Interpretive and Functional Elements Along the Seawalk

Wayfinding Signage

Banners

Bronze Medallions


Guardrail, Benches, Light Poles, Wood Decking