

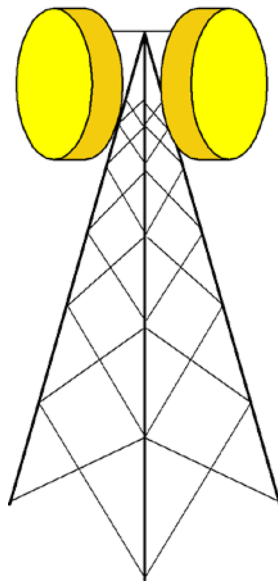
# SMALL WIND ENERGY SYSTEMS

&

# TOWERS

Ordinance 14-18(A)

Ordinance 14-18(A)(S)



Supporting documents



**ORDINANCE REFERENCE SHEET**  
**2014 ORDINANCE**  
**ORDINANCE 14-18**

An Ordinance of the City Council of Homer, Alaska, Amending Homer City Code 21.03.04, Definitions Used in Zoning Code, the Title of Homer City Code 21.58 and Homer City Code 21.58.010, Purpose and Application; and Enacting Homer City Code 21.58.040, Communications Tower Requirements; to Define and Establish Standards for Communications Towers.

Sponsor: Zak

1. City Council Regular Meeting April 28, 2014 Introduction and Referred to Planning Commission
  
2. City Council Regular Meeting March 29, 2016 Returned from Planning Commission
  - a. Substitute Ordinance 14-18(A)(S) from Planning Commission
  - b. Memorandum 16-054 from City Planner as backup



1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42

**CITY OF HOMER  
HOMER, ALASKA**

Zak

**ORDINANCE 14-18(A)**

AN ORDINANCE OF THE CITY COUNCIL OF HOMER, ALASKA, AMENDING HOMER CITY CODE 21.03.04, DEFINITIONS USED IN ZONING CODE, THE TITLE OF HOMER CITY CODE 21.58 AND HOMER CITY CODE 21.58.010, PURPOSE AND APPLICATION; AND ENACTING HOMER CITY CODE 21.58.040, COMMUNICATIONS TOWER REQUIREMENTS; TO DEFINE AND ESTABLISH STANDARDS FOR COMMUNICATIONS **ANY** TOWERS.

THE CITY OF HOMER ORDAINS:

Section 1. Homer City Code 21.03.040 is amended by adding a definition of “communications **any** tower” to read as follows:

“Communications **Any** tower” means a fixed vertical structure that supports equipment that transmits or receives radio, microwave or other electromagnetic communication signals, including a monopole or lattice tower, plus its accompanying base plates, anchors, guy cables and hardware.

Section 2. The title of Homer City Code 21.58 is amended to read as follows:

Chapter 21.58 Small Wind Energy Systems and Communications **any** Towers

Section 3. Homer City Code 21.58.010 is amended to read as follows:

21.58.010 Purpose and application. The purpose of this chapter is to establish minimum health and safety standards for small wind energy systems and communications **any** towers. It applies to small wind energy systems and **any** communications towers in all districts where they are allowed as permitted or conditional uses.

Section 4. Homer City Code 21.58.040 is enacted to read as follows:

21.58.040 ~~Communications~~ **All** tower requirements. a. An application for a ~~communications~~ **any** tower shall include the following information:

1. A level one site plan that shows the location of the ~~communications~~ tower.
2. Specifications for the ~~communications~~ tower including an illustration or picture of the ~~communications~~ tower prepared to scale, total tower height, tower color and, if proposed, the location of ladders and/or climbing pegs.

- 43 3. Tower foundation blueprints or drawings.  
44 4. Evidence of compliance with, or exemption from, Federal Aviation Administration  
45 requirements.  
46 b. Dimensional Requirements.  
47 1. A ~~communications~~ tower may be installed only on a lot having an area not less than  
48 one acre.  
49 2. The distance from a ~~communications~~ tower to the closest property line may not be  
50 less than 1.1 times its total height.  
51 3. All guy wires, cables and other accessory support structures for a ~~communications~~  
52 tower must be on the same lot as the ~~communications~~ tower, but may be located within  
53 required setback areas, and shall be properly jacketed to comply with visibility safety  
54 standards.  
55 c. Tower standards.  
56 1. A ~~communications~~ Any tower shall not interfere with television, microwave,  
57 navigational or radio reception.  
58 2. The lowest part of a climbing apparatus that provides access to equipment on a  
59 ~~communications~~ tower shall be at least 12 feet above the ground, and the tower shall have no  
60 handholds or footholds below the climbing apparatus.  
61 3. No artificial lighting shall be mounted on a ~~communications~~ any tower, and a  
62 ~~communications~~ any tower shall not be illuminated with artificial lighting, except when  
63 required by the Federal Aviation Administration.  
64 d. Signs. No sign, flag or pennant may be attached to a ~~communications~~ any tower  
65 except for the following:  
66 1. A sign identifying the owner or operator of the ~~communications~~ tower.  
67 2. Signs warning of dangers associated with the ~~communications~~ tower.  
68 e. The City may abate as a nuisance under HCC 21.90.070 a ~~communications~~ any tower  
69 that is not operational for a period of at least 12 consecutive months.  
70

71 Section 5. This Ordinance is of a permanent and general character and shall be  
72 included in the City Code.

73  
74 ENACTED BY THE CITY COUNCIL OF THE CITY OF HOMER, ALASKA, this \_\_\_\_\_ day of  
75 \_\_\_\_\_, 2014.

76  
77 CITY OF HOMER

78  
79 \_\_\_\_\_  
80 MARY E. WYTHE, MAYOR  
81

82 ATTEST:

83

84

85

86 \_\_\_\_\_  
JO JOHNSON, MMC, CITY CLERK

87

88

89 AYES:

90 NOES:

91 ABSTAIN:

92 ABSENT:

93

94

95 First Reading:

96 Public Reading:

97 Second Reading:

98 Effective Date:

99

100

101 Reviewed and approved as to form:

102

103

104

105 \_\_\_\_\_  
Walt Wrede, City Manager

106

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

\_\_\_\_\_

Thomas F. Klinkner, City Attorney

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





1 **CITY OF HOMER**  
2 **HOMER, ALASKA**

3 Planning Commission

4 **ORDINANCE 14-18(A)(S)**

5 AN ORDINANCE OF THE HOMER CITY COUNCIL AMENDING  
6 HOMER CITY CODE 21.03.040, DEFINITIONS USED IN ZONING  
7 CODE, HOMER CITY CODE 21.05.030, MEASURING HEIGHTS, AND  
8 HOMER CITY CODE 21.70.010, ZONING PERMIT REQUIRED;  
9 REPEALING HOMER CITY CODE CHAPTER 21.58, SMALL WIND  
10 ENERGY SYSTEMS; AND ENACTING HOMER CITY CODE CHAPTER  
11 21.58, TOWERS AND RELATED STRUCTURES.  
12

13 THE CITY OF HOMER ORDAINS:  
14

15 Section 1. Homer City Code Chapter 21.03.040, Definitions used in zoning code, is  
16 amended by adding the following definitions:  
17

18  
19 “Collocation” means the placement or installation of wireless communications  
20 equipment on an existing wireless communications support structure or in an existing  
21 equipment compound.  
22

23 “Equipment compound” means the area occupied by a wireless communications  
24 support structure and within which wireless communications equipment is located.  
25

26 “Tower, amateur radio” means a fixed vertical structure used exclusively to support an  
27 antenna used by an amateur radio operator licensed by the Federal Communications  
28 Commission, plus its accompanying base plates, anchors, guy cables and hardware.  
29

30 “Tower, communications” means a fixed vertical structure built for the primary  
31 purpose of supporting wireless communications equipment, plus its accompanying base  
32 plates, anchors, guy cables and hardware.  
33

34 “Wireless communications equipment” means the set of equipment and network  
35 components used in the provision of wireless communications services, including without  
36 limitation antennas, transmitters, receivers, base stations, equipment shelters, cabinets,  
37 emergency generators, power supply cables, and coaxial and fiber optic cables, but excluding  
38 any wireless communications support structure.  
39

40 “Wireless communications services” means transmitting and receiving information by  
41 electromagnetic radiation, by an operator (other than an amateur radio operator) licensed by  
42 the Federal Communications Commission.

**[Bold and underlined added]** Deleted language stricken through.]

43 “Wireless communications support structure” means a structure that is designed to  
44 support, or is capable of supporting, wireless communications equipment, including a  
45 communications tower, utility pole, or building.

46  
47 Section 2. Subsection (b) of HCC 21.05.030 is amended to read as follows:

48  
49 b. When measuring height of a building, the following are excluded from the  
50 measurement:

51 **1. Steeples** ~~steeple~~s, spires, belfries, cupolas and domes if not used for human  
52 occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads,  
53 monuments, flagpoles, wind energy systems, television and radio antennas, other  
54 similar features, and necessary mechanical appurtenances usually carried above roof  
55 level.

56 **2. Wireless communications equipment that does not extend more than 10**  
57 **feet above the height of the building.**

58  
59 Section 3. Subsection (d) of Homer City Code 21.05.030 is amended to read as follows:

60  
61 d. When determining the height of a nonbuilding structure, such as a sign, ~~or fence,~~  
62 **amateur radio tower, communications tower or wireless communications support**  
63 **structure**, the height shall be calculated as the distance from the base of the structure at  
64 normal grade to the top of the highest part of the structure, **excluding lightning rods**. For  
65 this calculation, normal grade shall be construed to be the lower of (1) existing grade prior to  
66 construction or (2) the newly established grade after construction, exclusive of any fill, berm,  
67 mound, or excavation made for the purpose of locating or supporting the structure. In cases  
68 in which the normal grade cannot reasonably be determined, structure height shall be  
69 calculated on the assumption that the elevation of the normal grade at the base of the  
70 structure is equal to the elevation of the nearest point of the crown of a public street or the  
71 grade of the land at the principal entrance to the main building on the lot, whichever is lower.

72  
73 Section 4. Homer City Code Chapter 21.58, Small Wind Energy Systems, is repealed.

74  
75 Section 5. Homer City Code Chapter 21.58, Towers and Related Structures, is enacted  
76 to read as follows:

77  
78 CHAPTER 21.58

79  
80 TOWERS AND RELATED STRUCTURES

81  
82 Article I. Communications Towers and Wireless Communications Equipment

83  
84 21.58.010 Purpose.

**[Bold and underlined added. Deleted language stricken through.]**

85 The purpose of this article is to provide standards and procedures for communications  
86 towers and for wireless communications equipment.

87  
88 21.58.020 Exemption from regulation.

89 a. Each of the following communications towers is a permitted principal or accessory  
90 use or structure in each zoning district and is exempt from the provisions of this article:

91 1. A communications tower that is placed temporarily to support wireless  
92 communications equipment that is provided in response to a state of emergency  
93 declared by a federal, state, or local government authority and is removed within 12  
94 months after the termination of the state of emergency.

95 2. A communications tower that is placed temporarily to support wireless  
96 communications equipment that is provided for media coverage of a special event,  
97 and that is placed no more than 30 days before the special event and removed no  
98 more than 15 days after the end of the special event.

99 3. A communications tower with a height not exceeding 35 feet.

100 4. An amateur radio tower, to the extent that it is exempt from regulation under  
101 AS 29.35.141.

102 b. The collocation, removal, replacement or installation of wireless communications  
103 equipment is a permitted principal or accessory use or structure in each zoning district and is  
104 not subject to approval under this title if it meets all of the following requirements:

105 1. The collocation, removal or replacement is in an existing wireless  
106 communications support structure or existing equipment compound that is in  
107 compliance with the requirements of this title in effect at the time of its construction  
108 and with the terms and conditions of any previous final approval under this title.

109 2. The collocation, removal or replacement will not do any of the following:

110 A. Increase the overall height of the wireless communications support  
111 structure by more than 20 feet or 10% of its original height, whichever is  
112 greater.

113 B. Increase the width of the wireless communications support structure  
114 by more than the minimum necessary to permit the collocation, removal or  
115 replacement.

116 3. The collocation, removal or replacement complies with the terms and  
117 conditions of any previous final approval of the wireless communications support  
118 structure or equipment compound under this title.

119 4. The installation is on an existing building that is in compliance with the  
120 requirements of this title and with the terms and conditions of any previous final  
121 approval under this title, and the wireless communications equipment does not  
122 extend more than 10 feet above the height of the building.

123  
124 21.58.030 Permission for communications towers.

125 a. Except as provided in subsection (b) of this section, a communications tower is  
126 permitted as a principal or accessory use or structure in each zoning district.

**[Bold and underlined added. Deleted language stricken through.]**

127 b. A communications tower that exceeds the following maximum height for the zoning  
128 district in which the communications tower is located is permitted only when authorized by  
129 conditional use permit issued in accordance with Chapter 21.71.

130

131	<u>District</u>	<u>Maximum Height (feet)</u>
132	CBD	60
133	TC	60
134	GBD	60
135	GC1	120
136	RO	85
137	UR	60
138	RR	85
139	CONS	60
140	GC2	120
141	EEMU	120
142	MI	120
143	MC	120
144	OSR	60
145	BCWPD	120

146

147 21.58.040 Application requirements. An application for a zoning permit or conditional  
148 use permit for a communications tower that is subject to regulation under this article shall  
149 include the following information, in addition to information required by other provisions of  
150 this title:

151 a. A level two site plan that shows the location of the communications tower.

152 b. A written narrative explaining why placing wireless communications equipment at  
153 the proposed location is necessary to the applicant's wireless communications services  
154 coverage, including confirmation that there is no available site for collocation of the wireless  
155 communications equipment within a radius of 1,000 feet from the proposed location in  
156 consideration of the proposed technology, why an existing structure may not be used, an  
157 evaluation of alternate communications tower locations that the applicant considered, and  
158 an explanation why the proposed location is the best alternative.

159 c. A demonstration that the height of the communications tower is the minimum  
160 required for the effective operation of the wireless communications equipment plus the  
161 present and future collocations that it supports.

162 d. A map showing the locations of the applicant's existing communications towers  
163 that serve customers in the city and of all current and currently proposed communications  
164 towers that the applicant intends to construct to serve customers in the city.

165 e. A detailed list of major components of the wireless communications equipment that  
166 the communications tower will support, and accessory structures such as equipment  
167 cabinets and generators.

**[Bold and underlined added. Deleted language stricken through.]**

168 f. An analysis of the potential visual impacts of the communications tower at distances  
169 of 500 feet and 1,500 feet from the proposed location, through the use of photo simulations of  
170 the communications tower and the wireless communications equipment that it will support.  
171 The analysis shall include, to the extent practicable, the visual impact along two lines  
172 extending from the shore of Kachemak Bay through the communications tower site that are  
173 separated by an angle of at least 90 degrees, and show the relationship of the  
174 communications tower to structures, trees, topography, and other intervening visual barriers.  
175 The analysis will include recommendations to mitigate adverse visual impacts of the  
176 communications tower on other properties.

177 g. A certificate from an engineer licensed in Alaska that the communications tower,  
178 and all antennas and other wireless communications equipment located on it, meet industry  
179 standards for their construction, including ANSI Z39-18 or most recent version.

180 h. Evidence that all wireless communications equipment supported by the  
181 communications tower meets applicable Federal Communications Commission  
182 requirements.

183 i. A determination of no hazard to air navigation for the communications tower issued  
184 by the Federal Aviation Administration.

185 j. For a conditional use permit, minutes of each public meeting held under Section  
186 21.58.060(a), and copies of all public comments received under Section 21.58.060(b)(5).

187  
188 21.58.050 Communications tower standards.

189 a. The distance from a communications tower to the closest property line of a lot that  
190 contains a dwelling unit, dormitory, hotel, motel, bar, restaurant, school, day care facility,  
191 church, retail establishment or place of public assembly may not be less than 1.1 times its  
192 total height.

193 b. The height of the communications tower shall not be greater than the minimum  
194 height required for the effective operation of the wireless communications equipment and  
195 collocations that it will support upon its initial construction.

196 c. The communications tower and any related equipment compound are painted or  
197 coated in a color that blends with the surrounding environment, except to the extent that  
198 obstruction marking is required by the Federal Aviation Administration, and the fence or wall  
199 that surrounds the equipment compound at the base of the communications tower,  
200 combined with any landscaping adjacent to its exterior, shall obscure the equipment  
201 compound to view from its exterior.

202 d. All guy wires, cables and other accessory support structures for a communications  
203 tower shall be on the same lot as the tower, but may be located within required setback  
204 areas, and shall be properly jacketed to ensure visibility in accordance with applicable safety  
205 standards.

206 e. The equipment compound for a communications tower shall conform to the  
207 minimum setback requirements of the zoning district in which it is located.

208 f. Not less than two off-street parking spaces conforming to the requirements of this  
209 title shall be provided on the lot where a communications tower is located for use in the

**[Bold and underlined added. Deleted language stricken through.]**

210 operation and maintenance of the communications tower and the wireless communications  
211 equipment that it supports.

212 g. The equipment compound at the base of a communications tower shall be  
213 surrounded by a fence or wall not less than six feet in height with a secured gate. The lowest  
214 part of a climbing apparatus that provides access to equipment on a communications tower  
215 shall be at least 12 feet above the ground, and the tower shall have no handholds or  
216 footholds below the climbing apparatus.

217 h. Except for switch type lighting, no artificial lighting shall be mounted on a  
218 communications tower, and a communications tower shall not be illuminated with artificial  
219 lighting, except when required by the Federal Aviation Administration.

220 i. Signs. No sign, flag or pennant may be attached to a communications tower except  
221 that the following shall be posted in a location that is visible from the ground outside the  
222 equipment compound:

223 1. A sign identifying the party responsible for the operation and maintenance of  
224 the communications tower, with a 24-hour emergency contact telephone number.

225 2. Any antenna structure registration number required by the Federal  
226 Communications Commission.

227 3. Warnings of dangers associated with the communications tower or  
228 equipment that is located on the communications tower.

229

230 21.58.060 Public notification of communications tower application.

231 a. The applicant for a conditional use permit for a communications tower shall hold at  
232 least one meeting informing the public of the application that conforms to the following  
233 requirements.

234 1. The meeting shall be held at city hall, or at a public facility that is nearer to  
235 the location of the proposed communications tower and capable of seating a minimum of 20  
236 people.

237 2. The meeting shall be held on a day that is not a city holiday at least 15 days  
238 before the applicant submits its application to the city.

239 3. The meeting shall be scheduled to last a minimum of two hours and shall not  
240 start before 5:00 p.m. or after 7:00 p.m.

241 b. The applicant shall notify each record owner of property within 1200 feet of the  
242 parcel that is the site of the proposed communications tower by first class mail at least 15  
243 days before the meeting of the following:

244 1. The legal description, street address and a map of the vicinity, of the parcel  
245 that is the site of the proposed communications tower;

246 2. A description of the proposed communications tower, including its height,  
247 design, and lighting, the proposed access to the site and the services proposed to be  
248 provided by the tower;

249 3. The date, time, and location of the meeting;

250 4. A contact name, telephone number, and address of the applicant; and

**Added language** Deleted language stricken through.]

251 5. A form on which to submit written comments, with a comment submittal  
252 deadline and instructions.

253  
254 21.58.070 Action on communications tower application.

255 a. The reviewing authority shall approve a communications tower only if the applicant  
256 demonstrates that it meets the following criteria:

257 1. The communications tower conforms to the requirements in Section  
258 21.58.050, and the other applicable standards in this title.

259 2. The coverage for the applicant's wireless communications services  
260 customers that the communications tower will provide cannot be provided by  
261 collocation on an existing wireless communications support structure.

262 3. Of the available alternate sites, the selected site provides necessary  
263 coverage for the applicant's wireless communications services customers with the  
264 least visual impact on other properties.

265 b. No action may be taken on a communications tower application on the basis of the  
266 environmental effects of radio frequency emissions to the extent that the wireless  
267 communications equipment that will be located on the tower complies with Federal  
268 Communications Commission regulations concerning such emissions.

269 c. The reviewing authority shall act on a communications tower application within a  
270 reasonable period of time after the application has been filed with the city taking into  
271 account the nature and scope of the application, but within no more than 150 days after the  
272 application is filed. The 150-day period excludes (i) any time that begins when the reviewing  
273 authority gives written notice to the applicant within 30 days of receipt of the application that  
274 the application is incomplete, clearly and specifically delineating all missing documents or  
275 information, until the applicant makes a supplemental submission in response to the notice  
276 of incompleteness; and (ii) any time that begins when the reviewing authority has given  
277 written notice to the applicant within 10 days of receipt of such a supplemental submission  
278 that the supplemental submission did not provide the information identified in the original  
279 notice delineating missing information until the applicant makes another supplemental  
280 submission.

281 d. An action denying a communications tower application shall be in writing and  
282 supported by substantial evidence contained in a written record.

283  
284 21.58.080 Communications tower removal requirements.

285 The owner and the lessee of the property that is the site of a communications tower  
286 are jointly and severally responsible for its removal:

287 a. If corrective action is not taken within six months after notice that the City Engineer  
288 has found the communications tower, or equipment on the communications tower, to be  
289 unsafe or not in compliance with applicable law.

290 b. Within 90 days after all wireless communications equipment on a communications  
291 tower has not been operational for a period of at least 12 consecutive months.

292  
**[Bold and underlined added. Deleted language stricken through.]**

## Article II. Small Wind Energy Systems

21.58.110 Purpose and application. The purpose of this article is to establish minimum health and safety standards for small wind energy systems. It applies to small wind energy systems in all districts where they are allowed as permitted or conditional uses.

### 21.58.120 Installation requirements.

a. The wind turbine of a small wind energy system may be mounted on a building or a wind energy system tower.

b. The surfaces of all small wind energy system components that are visible when the small wind energy system is in operation shall be painted a nonreflective, neutral color.

c. A zoning permit application for a small wind energy system shall include the following information:

1. A level one site plan that shows the location of the small wind energy system.

2. Specifications for the small wind energy system including manufacturer make and model, an illustration or picture of the turbine unit, maximum rated power output, blade diameter, total height, tower color and, if proposed, the location of ladders and/or climbing pegs.

3. Tower foundation blueprints or drawings.

4. Noise decibel data prepared by the wind turbine manufacturer or qualified engineer indicating noise decibel level at the property line nearest to the location of the small wind energy system.

5. Evidence of compliance with, or exemption from, Federal Aviation Administration requirements.

6. Evidence that the small wind energy system complies with current Underwriters Laboratories standards for local utility connections.

d. Dimensional Requirements.

1. The distance from a small wind energy system to the closest property line may not be less than 1.1 times its total height.

2. All guy wires, cables and other accessory support structures for a small wind energy system must be on the same lot as the small wind energy system, but may be located within required setback areas, and shall be properly jacketed to ensure visible safety standards.

### 21.58.130 Operation standards.

a. Electrical Standards.

1. A small wind energy system shall comply with the National Electric Code.

2. All electric transmission wires connected to a small wind energy system must be underground, or within the building on which the small wind energy system is mounted.

3. A small wind energy system shall not interfere with television, microwave, navigational or radio reception.

**[Bold and underlined added. Deleted language stricken through.]**



335 b. Noise and vibration from a small wind energy system shall not exceed the levels  
336 permitted in HCC 21.59.010(b) and (c), except during short-term events such as utility outages  
337 and severe wind storms.

338 c. Tower Safety.

339 1. The lowest part of a climbing apparatus that provides access to a wind  
340 turbine shall be at least 12 feet above the ground, and the wind energy system tower  
341 or building on which the wind turbine is mounted shall have no handholds or  
342 footholds below the climbing apparatus.

343 2. The lowest point through which a wind turbine blade rotates must be at  
344 least 20 feet above the ground.

345 d. Lighting. Except for switch type lighting, no artificial lighting shall be mounted on a  
346 small wind energy system, and a small wind energy system shall not be illuminated with  
347 artificial lighting, except when required by the Federal Aviation Administration and approved  
348 by conditional use permit.

349 e. Signs. No sign, flag or pennant may be attached to a small wind energy system  
350 except for the following:

351 1. A sign identifying the manufacturer or installer of the small wind energy  
352 system.

353 2. Signs warning of dangers associated with the small wind energy system.

354 f. Removal. The owner and the lessee of the property that is the site of a small wind  
355 energy system are jointly and severally responsible for its removal:

356 1. If corrective action is not taken within six months after notice that the City  
357 Engineer has found the small wind energy system to be unsafe or not in compliance  
358 with applicable law.

359 2. Within 90 days after the small wind energy system has not been operational  
360 for a period of at least 12 consecutive months.

361 Section 6. Subsection (c) of Homer City Code 21.70.010 is amended to read as follows:

362 c. The following are exempt from the requirement to obtain a zoning permit, but not  
363 from compliance with applicable requirements of the Homer Zoning Code, such as, but not  
364 limited to, the development activity plan or stormwater protection plan:

365 1. Any change to an existing building that does not increase the height, or  
366 exterior dimension of any floor, of the building, and any change to an existing  
367 structure that does not increase the height, or footprint area, of the structure.

368 2. Erection or construction of a one-story detached accessory building used as  
369 a tool and storage shed, playhouse, or other accessory use, provided the building area  
370 does not exceed 200 square feet; and further provided, that there is already a main  
371 building on the same lot.

372 **3. Erection or construction of a communications tower with a height not**  
373 **exceeding 35 feet, or an amateur radio tower.**

**[Bold and underlined added. Deleted language stricken through.]**

376 **43.** Fences or walls used as fences, unless otherwise regulated by the Homer  
377 City Code.

378 **54.** Removal of any building or structure.

379 **65.** Termination of any type of use.

380

381 Section 7. This Ordinance is of a permanent and general character and shall be  
382 included in the City Code.

383

384 ENACTED BY THE CITY COUNCIL OF HOMER, ALASKA, this \_\_\_\_ day of  
385 \_\_\_\_\_, 2016 .

386

CITY OF HOMER

387

388

389

\_\_\_\_\_  
MARY E. WYTHE, MAYOR

390

391 ATTEST:

392

393

394

\_\_\_\_\_  
JO JOHNSON, MMC, CITY CLERK

395

396

397

398

399 AYES:

400 NOES:

401 ABSTAIN:

402 ABSENT:

403

404

405 First Reading:

406 Public Hearing:

407 Second Reading:

408 Effective Date:

409

410 Reviewed and approved as to form:

411

412

413

414

\_\_\_\_\_  
Mary K. Koester, City Manager

415

416

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

\_\_\_\_\_  
Thomas F. Klinkner, City Attorney

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

**[Bold and underlined added. Deleted language stricken through.]**

**Presentations**

**Reports**

- A. Staff Report PL 16-04, City Planner's Report

City Planner Abboud reviewed the staff report.

There was brief discussion regarding the Knox Box. The Commissioners reviewed the City Council meeting schedule and plan to attend the following dates:

Stead- January 25; Stroozas- February 8; Highland-February 22; Bos- March 2.

**Public Hearings**

Testimony limited to 3 minutes per speaker. The Commission conducts Public Hearings by hearing a staff report, presentation by the applicant, hearing public testimony and then acting on the Public Hearing items. The Commission may question the public. Once the public hearing is closed the Commission cannot hear additional comments on the topic. The applicant is not held to the 3 minute time limit.

- A. Staff Report PL 16-05, Towers Draft Ordinance

City Planner Abboud reviewed the staff report.

There was brief discussion regarding the 1 to 1 ratio for setback.

Chair Stead opened the public hearing. No audience was present to comment and the hearing was closed.

There was also discussion about environmental effects of radio frequencies and people's concerns relating to microwave frequency emission. City Planner Abboud explained that the FCC regulations govern this and the city doesn't have a right to have greater standards.

VENUTI/STROOZAS MOVED TO APPROVE THE DRAFT ORDINANCE ON TOWER REGULATIONS AND FORWARD IT TO CITY COUNCIL FOR PUBLIC HEARING AND ADOPTION.

There was brief discussion supporting the ordinance.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

**Plat Consideration**

**Pending Business**



## Staff Report PL 16-05

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: January 20, 2016  
SUBJECT: Towers and Tall Structures

---

### Introduction

After a year and a half of work we are presenting a towers/tall structure ordinance for public hearing. After exploring from the very simple to the most complex regulation, we ended up somewhere in the middle.

### Analysis

The ordinance is meant to encourage colocation opportunities that results in the need for fewer new towers. It is also meant to help ensure safety with the structure and operation. Features of the ordinance are listed below

Exempt from the 'new' code but not with existing code regarding structures in general is wireless communications equipment that is either below 35 feet or extends no more than 10 feet above the height of a building. Other exemptions include some temporary uses, amateur radio and alterations within those supported by federal guidelines (lines 104-125).

This ordinance sets maximum heights within each district for which a conditional permit is not required, but will be required to follow the other application and standards of the new code. This is to help encourage towers in places where they may be more appropriate.

Application requirements (lines 149-187) include explanations of when colocation is not proposed and the minimum height necessary in consideration of the specific proposal. Also included are maps of all existing and proposed towers, a list of components, a visual analysis, a certificate to ensure that the structure meets industry standards including those of the FCC and FAA.

Communication tower standards (189-230) deal with the physical siting and structure requirements. This includes distance requirements of 1.1 of the tower height to the property line which contains dwellings and other places of public assembly. The standards support the minimum height necessary, towers should blend with the environment, setback standards

for associated equipment, two off street parking spaces, security requirements, also lighting and signage requirements.

Public participation requirements (lines 231-253) outline the notice and meeting requirements for towers that require a CUP. This requirement includes notification of all property owners within 1200 feet.

Action on communications tower application (lines 255-282) gives the criteria for approval of the application and establishes timelines consistent with federal expectations.

Communications tower removal requirements (lines 284-291) stipulate that if a tower is declared unsafe or has not been in operation for 12 consecutive months the lessee and owner of the property are jointly responsible for removal of the tower.

The rest of the ordinance, Small Wind Energy Systems is a housekeeping action that proposes no changes to the subject except its movement to another section of code.

An ordinance that ensures safety and requires towers that are the least visual intrusive requires the review of industry experts. If we take applications at face value and do not verify the claims, we may be doing the city a great disservice when it comes to regulating an industry that has only shown the propensity to create more and more foot prints as technology evolves.

I have included an update of the current ordinance with a few changes along with an industry model ordinance. The model ordinance is very precise and needs industry experts to review applications. If this ordinance is adopted, I will propose that a deposit be made by the applicant in order to fund the expert review. This way it will not cost the city and will limit the amount of time that the recently downsized planning staff will need to spend processing the application. Also included are informational items we have received from the consultant including the ordinance goals, examples of tower failure, and manipulated data.

My first read of the ordinance accounted for an hour of my life. I do have questions for the contractor and the model ordinance will certainly need to be tailored to meet the needs of Homer. This is the standard for hundreds of communities. It is quite a step for Homer, which does not even have a building code or inspector. While we learn more, I believe it would be best to at least scan the model ordinance and try to identify things you really like, really dislike, or have questions about. There are many things that have come up in our commission conversations that are addressed in the model ordinance. There are also many things that deal with the type of standards the city has yet to propose.

### **Staff Recommendation**

Review model ordinance with an eye for things you like, dislike, or question and bring your thoughts to the table. I plan to go into further detail at subsequent meetings.

### **Attachments**

1. Tower regulations Draft 5 markup 11.24.15
2. Model Ordinance
3. Ordinance Goals
4. Tower Failures
5. Manipulated Propagation Map

VENUTI/HIGHLAND MOVED TO APPROVE THE ORDINANCE WITH THE CHANGES THAT WERE MADE THIS EVENING.

Comment was made to confirm retail will require a CUP in CBD and on the spit.

City Planner Abboud added if they want to allow manufacturing in CBD they will need to make that amendment. He also confirmed testing is allowed outright and cultivation small and large are conditional use.

STROOZAS/VENUTI MOVED TO AMEND TO ALLOW MANUFACTURING AS A CUP IN CBD.

There was comment they had looked at manufacturing as having some potential for danger. It was noted there is a system of checks and balances with a CUP requirement.

VOTE (Amendment): YES: BOS, STEAD, VENUTI, STROOZAS, BRADLEY  
NO: HIGHLAND, ERICKSON

Motion carried.

VOTE (Main motion as amended): NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

### **Plat Consideration**

### **Pending Business**

A. Staff Report PL 16-03 Towers

City Planner Abboud reviewed the staff report.

The Commission discussed:

- Equipment failures and inspections
- Insurance
- The 1.1 times the total height buffer
- Concern about codifying ANSI 222 G

ERICKSON/VENUTI MOVED TO ACCEPT THE CHANGES AND MOVE THE ORDINANCE FORWARD TO PUBLIC HEARING.

There was brief discussion.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

HTRC laydown 1/7/16

## Rick Abboud

---

**From:** Becky Windt Pearson <[rwindtpearson@gci.com](mailto:rwindtpearson@gci.com)>  
**Sent:** Wednesday, January 06, 2016 4:06 PM  
**To:** Rick Abboud  
**Subject:** RE: Thanks!

Hi Rick,

Hope you are doing well and enjoying the new year thus far.

I just took a look at the proposed ordinance you will be floating for review with the Planning Commission tonight, and at your cover memorandum regarding the process. If the Planning Commission does elect to move forward with the Center for Municipal Solutions model ordinance, we will hope to have the opportunity to review the document in depth (it appears to be their standard form), and to submit comments on specific issues for consideration by the Commission. At this point in the process, though, it sounds like you are still considering whether to pursue the CMS relationship further, so I will limit my comments to more general thoughts on going this route to develop an ordinance. I know this comes just a few hours before tonight's meeting, but I was hoping you might relay these thoughts, either in their entirety or as part of your presentation, to the Commission. I apologize for not attending in person.

In general, I would encourage you and the Commission to think critically about this model ordinance and to take CMS's recommendations with a grain of salt (just as, I imagine, you will take my comments with a grain of salt, acknowledging that we are in the business of providing wireless services). I have a number of thoughts about the obviously incendiary images and selective excerpts they have sent your way with the draft ordinance that I will not go into in depth here; clearly the aftermath of a hurricane or flood cannot be used as an example of standard concerns with tower construction.

With respect to the ordinance itself, I would agree with your recommendation that the Commission consider incorporation of portions of the CMS language into your existing local ordinance, rather than adopting the proposed draft wholesale. This ordinance is enormously complex, cumbersome, and ill-suited for a small community in a state in which there are a maximum of three wireless carriers operating in any given location. Elsewhere in the state we have seen the attempted adoption of this sort of ordinance run aground as a result of its complexity and the mismatch between the ordinance language and the needs of the community itself. While I understand and appreciate your interest in outside insight into engineering matters, and structural review of existing towers, these goals can also be accomplished using local resources, without ceding control entirely and adopting an ordinance structure which is not what is needed.

If you would like to discuss this further, please just let me know. Again, I apologize for throwing in my thoughts from afar; as these discussions continue I will plan to submit more in-depth comments and to appear in person.

Thanks,

Becky

---

**Becky Windt Pearson**  
**GCI** | Corporate and Land Use Counsel  
2550 Denali Street, Suite 1000 | Anchorage, AK 99503  
☎ 907.868.5629 | ✉ [rwindtpearson@gci.com](mailto:rwindtpearson@gci.com)





# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

## Staff Report PL 16-03

Previously SR PL15-83

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: January 6, 2016  
SUBJECT: Tower Considerations

---

### Introduction

As our ordinance has evolved, I found myself more concerned with the city's ability to ensure the ordinance goals of safety and minimizing visual intrusiveness. In order to have a meaningful ordinance, we will need to verify the technical claims being made in the application and consider the requirement of inspections.

### Analysis

An ordinance that ensures safety and requires towers that are the least visual intrusive requires the review of industry experts. If we take applications at face value and do not verify the claims, we may be doing the city a great disservice when it comes to regulating an industry that has only shown the propensity to create more and more foot prints as technology evolves.

I have included an update of the current ordinance with a few changes along with an industry model ordinance. The model ordinance is very precise and needs industry experts to review applications. If this ordinance is adopted, I will propose that a deposit be made by the applicant in order to fund the expert review. This way it will not cost the city and will limit the amount of time that the recently downsized planning staff will need to spend processing the application. Also included are informational items we have received from the consultant including the ordinance goals, examples of tower failure, and manipulated data.

My first read of the ordinance accounted for an hour of my life. I do have questions for the contractor and the model ordinance will certainly need to be tailored to meet the needs of Homer. This is the standard for hundreds of communities. It is quite a step for Homer, which does not even have a building code or inspector. While we learn more, I believe it would be best to at least scan the model ordinance and try to identify things you really like, really dislike, or have questions about. There are many things that have come up in our commission conversations that are addressed in the model ordinance. There are also many things that deal with the type of standards the city has yet to propose.

### **Staff Recommendation**

Review model ordinance with an eye for things you like, dislike, or question and bring your thoughts to the table. I plan to go into further detail at subsequent meetings.

### **Attachments**

1. Tower regulations Draft 5 markup 11.24.15
2. Model Ordinance
3. Ordinance Goals
4. Tower Failures
5. Manipulated Propagation Map

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44

**CITY OF HOMER  
ORDINANCE 15-xx**

Planning Commission

AN ORDINANCE OF THE HOMER CITY COUNCIL AMENDING HOMER CITY CODE 21.03.040, DEFINITIONS USED IN ZONING CODE, HOMER CITY CODE 21.05.030, MEASURING HEIGHTS, AND HOMER CITY CODE 21.70.010, ZONING PERMIT REQUIRED; REPEALING HOMER CITY CODE CHAPTER 21.58, SMALL WIND ENERGY SYSTEMS; AND ENACTING HOMER CITY CODE CHAPTER 21.58, TOWERS AND RELATED STRUCTURES.

THE CITY OF HOMER ORDAINS:

Section 1. Homer City Code Chapter 21.03.040, Definitions used in zoning code, is amended by adding the following definitions:

"Collocation" means the placement or installation of wireless communications equipment on an existing wireless communications support structure or in an existing equipment compound.

"Equipment compound" means the area occupied by a wireless communications support structure and within which wireless communications equipment is located.

"Tower, amateur radio" means a fixed vertical structure used exclusively to support an antenna used by an amateur radio operator licensed by the Federal Communications Commission, plus its accompanying base plates, anchors, guy cables and hardware.

"Tower, communications" means a fixed vertical structure built for the primary purpose of supporting wireless communications equipment, plus its accompanying base plates, anchors, guy cables and hardware.

"Wireless communications equipment" means the set of equipment and network components used in the provision of wireless communications services, including without limitation antennas, transmitters, receivers, base stations, equipment shelters, cabinets, emergency generators, power supply cables, and coaxial and fiber optic cables, but excluding any wireless communications support structure.

"Wireless communications services" means transmitting and receiving information by electromagnetic radiation, by an operator (other than an amateur radio operator) licensed by the Federal Communications Commission.

**[Bold and underlined added. Deleted language stricken through.]**

45 "Wireless communications support structure" means a structure that is designed to  
46 support, or is capable of supporting, wireless communications equipment, including a  
47 communications tower, utility pole, or building.

48  
49 Section 2. Subsection (b) of HCC 21.05.030 is amended to read as follows:

50  
51 b. When measuring height of a building, the following are excluded from the  
52 measurement:

53 1. Steeples steeples, spires, belfries, cupolas and domes if not used for human  
54 occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads,  
55 monuments, flagpoles, wind energy systems, television and radio antennas, other  
56 similar features, and necessary mechanical appurtenances usually carried above roof  
57 level.

58 2. Wireless communications equipment that does not extend more than 10  
59 feet above the height of the building.

60  
61 Section 3. Subsection (d) of Homer City Code 21.05.030 is amended to read as follows:

62  
63 d. When determining the height of a nonbuilding structure, such as a sign, ~~or fence,~~  
64 amateur radio tower, communications tower or wireless communications support  
65 structure, the height shall be calculated as the distance from the base of the structure at  
66 normal grade to the top of the highest part of the structure, excluding lightning rods. For this  
67 calculation, normal grade shall be construed to be the lower of (1) existing grade prior to  
68 construction or (2) the newly established grade after construction, exclusive of any fill, berm,  
69 mound, or excavation made for the purpose of locating or supporting the structure. In cases in  
70 which the normal grade cannot reasonably be determined, structure height shall be calculated  
71 on the assumption that the elevation of the normal grade at the base of the structure is equal  
72 to the elevation of the nearest point of the crown of a public street or the grade of the land at  
73 the principal entrance to the main building on the lot, whichever is lower.

74  
75 Section 4. Homer City Code Chapter 21.58, Small Wind Energy Systems, is repealed.

76  
77 Section 5. Homer City Code Chapter 21.58, Towers and Related Structures, is enacted  
78 to read as follows:

79  
80 CHAPTER 21.58

81  
82 TOWERS AND RELATED STRUCTURES

83  
84 Article I. Communications Towers and Wireless Communications Equipment

85  
86 21.58.010 Purpose.

[**Bold and underlined added.** Deleted language stricken through.]

87 The purpose of this article is to provide standards and procedures for communications  
88 towers and for wireless communications equipment.

89  
90 21.58.020 Exemption from regulation.

91 a. Each of the following communications towers is a permitted principal or accessory  
92 use or structure in each zoning district and is exempt from the provisions of this article:

93 1. A communications tower that is placed temporarily to support wireless  
94 communications equipment that is provided in response to a state of emergency  
95 declared by a federal, state, or local government authority and is removed within 12  
96 months after the termination of the state of emergency.

97 2. A communications tower that is placed temporarily to support wireless  
98 communications equipment that is provided for media coverage of a special event, and  
99 that is placed no more than 30 days before the special event and removed no more than  
100 15 days after the end of the special event.

101 3. A communications tower with a height not exceeding 35 feet.

102 4. An amateur radio tower, to the extent that it is exempt from regulation under  
103 AS 29.35.141.

104 b. The collocation, removal, replacement or installation of wireless communications  
105 equipment is a permitted principal or accessory use or structure in each zoning district and is  
106 not subject to approval under this title if it meets all of the following requirements:

107 1. The collocation, removal or replacement is in an existing wireless  
108 communications support structure or existing equipment compound that is in  
109 compliance with the requirements of this title in effect at the time of its construction  
110 and with the terms and conditions of any previous final approval under this title.

111 2. The collocation, removal or replacement will not do any of the following:

112 A. Increase the overall height of the wireless communications support  
113 structure by more than 20 feet or 10% of its original height, whichever is  
114 greater.

115 B. Increase the width of the wireless communications support structure  
116 by more than the minimum necessary to permit the collocation, removal or  
117 replacement.

118 2,500 square feet.

119 3. The collocation, removal or replacement complies with the terms and  
120 conditions of any previous final approval of the wireless communications support  
121 structure or equipment compound under this title.

122 4. The installation is on an existing building that is in compliance with the  
123 requirements of this title and with the terms and conditions of any previous final  
124 approval under this title, and the wireless communications equipment does not extend  
125 more than 10 feet above the height of the building.

126  
127 21.58.030 Permission for communications towers.

128 a. Except as provided in subsection (b) of this section, a communications tower is  
129 permitted as a principal or accessory use or structure in each zoning district.

[**Bold and underlined added.** Deleted language stricken through.]

130 b. A communications tower that exceeds the following maximum height for the zoning  
131 district in which the communications tower is located is permitted only when authorized by  
132 conditional use permit issued in accordance with Chapter 21.71.

133	<u>District</u>	<u>Maximum Height (feet)</u>
134	CBD	60
135	TC	60
136	GBD	60
137	GC1 (Beluga Lake)	120
138	RO	85
139	UR	60
140	RR	85
141	CONS	60
142	GC2	120
143	EEMU	120
144	MI	120
145	MC	120
146	OSR	60
147	BCWPD	120

148

149 21.58.040 Application requirements. An application for a zoning permit or conditional  
150 use permit for a communications tower that is subject to regulation under this article shall  
151 include the following information, in addition to information required by other provisions of  
152 this title:

153 a. A level two site plan that shows the location of the communications tower.

154 b. A written narrative explaining why placing wireless communications equipment at  
155 the proposed location is necessary to the applicant's wireless communications services  
156 coverage, including confirmation that there is no available site for collocation of the wireless  
157 communications equipment within a radius of 1,000 feet from the proposed location in  
158 consideration of the proposed technology, why an existing structure may not be used, an  
159 evaluation of ~~at least three~~ alternate communications tower locations that the applicant  
160 considered, and an explanation why the proposed location is the best alternative.

161 c. A demonstration that the height of the communications tower is the minimum  
162 required for the effective operation of the wireless communications equipment plus the  
163 present and future collocations that it supports.

164 d. A map showing the locations of the applicant's existing communications towers that  
165 serve customers in the city and of all current and currently proposed communications towers  
166 that the applicant proposes to construct to serve customers in the city.

167 e. A ~~description~~ a detailed list of major components of the wireless communications  
168 equipment that the communications tower will support, and accessory structures such as  
169 equipment cabinets and generators.

170 f. An analysis of the potential visual impacts of the communications tower at distances  
171 of 500 feet and 1,500 feet from the proposed location, through the use of photo simulations of  
172 the communications tower and the wireless communications equipment that it will support.

**[Bold and underlined added. Deleted language stricken through.]**

173 The analysis shall include, to the extent practicable, the visual impact along two lines  
174 extending from the shore of Kachemak Bay through the communications tower site that are  
175 separated by an angle of at least 90 degrees, and show the relationship of the communications  
176 tower to structures, trees, topography, and other intervening visual barriers. The analysis will  
177 include recommendations to mitigate adverse visual impacts of the communications tower on  
178 other properties.

179 g. A certificate from an engineer licensed in Alaska that the communications tower, and  
180 all antennas and other wireless communications equipment located on it, meet industry  
181 standards for their construction, **including ANSI 222 G or most recent version** ~~without~~  
182 ~~limitation the ability to withstand anticipated wind and seismic loads.~~

183 h. Evidence that all wireless communications equipment supported by the  
184 communications tower meets applicable Federal Communications Commission requirements.

185 i. A determination of no hazard to air navigation for the communications tower issued  
186 by the Federal Aviation Administration.

187 h. For a conditional use permit, minutes of each public meeting held under Section  
188 21.58.060(a), and copies of all public comments received under Section 21.58.060(b)(5).

189

190 21.58.050 Communications tower standards.

191 a. The distance from a communications tower to the closest property line of a lot that  
192 contains a dwelling unit, dormitory, hotel, motel, bar, restaurant, school, day care facility,  
193 church, retail establishment or place of public assembly may not be less than 1.1 times its total  
194 height.

195 b. The height of the communications tower shall not be greater than the minimum  
196 height required for the effective operation of the wireless communications equipment and  
197 collocations that it will support upon its initial construction, plus 10 feet for each additional  
198 unoccupied collocation site on the communications tower.

199 c. The communications tower and any related equipment compound are painted or  
200 coated in a color that blends with the surrounding environment, except to the extent that  
201 obstruction marking is required by the Federal Aviation Administration, and the fence or wall  
202 that surrounds the equipment compound at the base of the communications tower, combined  
203 with any landscaping adjacent to its exterior, shall obscure the equipment compound to view  
204 from its exterior.

205 d. All guy wires, cables and other accessory support structures for a communications  
206 tower shall be on the same lot as the tower, but may be located within required setback areas,  
207 and shall be properly jacketed to ensure visibility in accordance with applicable safety  
208 standards.

209 e. The equipment compound for a communications tower shall conform to the  
210 minimum setback requirements of the zoning district in which it is located.

211 f. Not less than two off-street parking spaces conforming to the requirements of this  
212 title shall be provided on the lot where a communications tower is located for use in the  
213 operation and maintenance of the communications tower and the wireless communications  
214 equipment that it supports.

**[Bold and underlined added. Deleted language stricken through.]**

215 h. The equipment compound at the base of a communications tower shall be  
216 surrounded by a fence or wall not less than six feet in height with a secured gate. The lowest  
217 part of a climbing apparatus that provides access to equipment on a communications tower  
218 shall be at least 12 feet above the ground, and the tower shall have no handholds or footholds  
219 below the climbing apparatus.

220 h. Except for switch type lighting, no artificial lighting shall be mounted on a  
221 communications tower, and a communications tower shall not be illuminated with artificial  
222 lighting, except when required by the Federal Aviation Administration.

223 i. Signs. No sign, flag or pennant may be attached to a communications tower except  
224 that the following shall be posted in a location that is visible from the ground outside the  
225 equipment compound:

226 1. A sign identifying the party responsible for the operation and maintenance of  
227 the communications tower, with a 24-hour emergency contact telephone number.

228 2. Any antenna structure registration number required by the Federal  
229 Communications Commission.

230 3. Warnings of dangers associated with the communications tower or  
231 equipment that is located on the communications tower.

232  
233 21.58.060 Public notification of communications tower application.

234 a. The applicant for a conditional use permit for a communications tower shall hold at  
235 least one meeting informing the public of the application that conforms to the following  
236 requirements.

237 1. The meeting shall be held at city hall, or at a public facility that is nearer to the  
238 location of the proposed communications tower and capable of seating a minimum of 20  
239 people.

240 2. The meeting shall be held on a day that is not a city holiday at least 15 days  
241 before the applicant submits its application to the city.

242 3. The meeting shall be scheduled to last a minimum of two hours and shall not  
243 start before 5:00 p.m. or after 7:00 p.m.

244 b. The applicant shall notify each record owner of property within 1200 feet of the  
245 parcel that is the site of the proposed communications tower by first class mail at least 15 days  
246 before the meeting of the following:

247 1. The legal description, street address and a map of the vicinity, of the parcel  
248 that is the site of the proposed communications tower;

249 2. A description of the proposed communications tower, including its height,  
250 design, and lighting, the proposed access to the site and the services proposed to be  
251 provided by the tower;

252 3. The date, time, and location of the meeting;

253 4. A contact name, telephone number, and address of the applicant; and

254 5. A form on which to submit written comments, with a comment submittal  
255 deadline and instructions.

256

**[Bold and underlined added. Deleted language stricken through.]**



257 21.58.070 Action on communications tower application.

258 a. The reviewing authority shall approve a communications tower only if the applicant  
259 demonstrates that it meets the following criteria:

260 1. The communications tower conforms to the requirements in Section  
261 21.58.050, and the other applicable standards in this title.

262 2. The coverage for the applicant's wireless communications services customers  
263 that the communications tower will provide cannot be provided by collocation on an  
264 existing wireless communications support structure.

265 3. Of the available alternate sites, the selected site provides necessary coverage  
266 for the applicant's wireless communications services customers with the least visual  
267 impact on other properties.

268 b. No action may be taken on a communications tower application on the basis of the  
269 environmental effects of radio frequency emissions to the extent that the wireless  
270 communications equipment that will be located on the tower complies with Federal  
271 Communications Commission regulations concerning such emissions.

272 c. The reviewing authority shall act on a communications tower application within a  
273 reasonable period of time after the application has been filed with the city taking into account  
274 the nature and scope of the application, but within no more than 150 days after the application  
275 is filed. The 150-day period excludes (i) any time that begins when the reviewing authority  
276 gives written notice to the applicant within 30 days of receipt of the application that the  
277 application is incomplete, clearly and specifically delineating all missing documents or  
278 information, until the applicant makes a supplemental submission in response to the notice of  
279 incompleteness; and (ii) any time that begins when the reviewing authority has given written  
280 notice to the applicant within 10 days of receipt of such a supplemental submission that the  
281 supplemental submission did not provide the information identified in the original notice  
282 delineating missing information until the applicant makes another supplemental submission.

283 d. An action denying a communications tower application shall be in writing and  
284 supported by substantial evidence contained in a written record.

285  
286 21.58.080 Communications tower removal requirements.

287 The owner and the lessee of the property that is the site of a communications tower are  
288 jointly and severally responsible for its removal:

289 a. If corrective action is not taken within six months after notice that the City Engineer  
290 has found the communications tower, or equipment on the communications tower, to be  
291 unsafe or not in compliance with applicable law.

292 b. Within 90 days after all wireless communications equipment on a communications  
293 tower has not been operational for a period of at least 12 consecutive months.

294  
295 Article II. Small Wind Energy Systems

296  
297 21.58.110 Purpose and application. The purpose of this article is to establish minimum  
298 health and safety standards for small wind energy systems. It applies to small wind energy  
299 systems in all districts where they are allowed as permitted or conditional uses.

**[Bold and underlined added. Deleted language stricken through.]**

- 300  
301           21.58.120 Installation requirements.  
302           a. The wind turbine of a small wind energy system may be mounted on a building or a  
303 wind energy system tower.  
304           b. The surfaces of all small wind energy system components that are visible when the  
305 small wind energy system is in operation shall be painted a nonreflective, neutral color.  
306           c. A zoning permit application for a small wind energy system shall include the  
307 following information:  
308               1. A level one site plan that shows the location of the small wind energy system.  
309               2. Specifications for the small wind energy system including manufacturer make  
310 and model, an illustration or picture of the turbine unit, maximum rated power output,  
311 blade diameter, total height, tower color and, if proposed, the location of ladders  
312 and/or climbing pegs.  
313               3. Tower foundation blueprints or drawings.  
314               4. Noise decibel data prepared by the wind turbine manufacturer or qualified  
315 engineer indicating noise decibel level at the property line nearest to the location of the  
316 small wind energy system.  
317               5. Evidence of compliance with, or exemption from, Federal Aviation  
318 Administration requirements.  
319               6. Evidence that the small wind energy system complies with current  
320 Underwriters Laboratories standards for local utility connections.  
321           d. Dimensional Requirements.  
322               1. A small wind energy system may be installed only on a lot having an area not  
323 less than one acre.  
324               2. The distance from a small wind energy system to the closest property line  
325 may not be less than 1.1 times its total height.  
326               3. All guy wires, cables and other accessory support structures for a small wind  
327 energy system must be on the same lot as the small wind energy system, but may be  
328 located within required setback areas, and shall be properly jacketed to ensure visible  
329 safety standards.  
330  
331           21.58.130 Operation standards.  
332           a. Electrical Standards.  
333               1. A small wind energy system shall comply with the National Electric Code.  
334               2. All electric transmission wires connected to a small wind energy system must  
335 be underground, or within the building on which the small wind energy system is  
336 mounted.  
337               3. A small wind energy system shall not interfere with television, microwave,  
338 navigational or radio reception.  
339           b. Noise and vibration from a small wind energy system shall not exceed the levels  
340 permitted in HCC 21.59.010(b) and (c), except during short-term events such as utility outages  
341 and severe wind storms.  
342           c. Tower Safety.

**[Bold and underlined added. Deleted language stricken through.]**

343 1. The lowest part of a climbing apparatus that provides access to a wind turbine  
344 shall be at least 12 feet above the ground, and the wind energy system tower or  
345 building on which the wind turbine is mounted shall have no handholds or footholds  
346 below the climbing apparatus.

347 2. The lowest point through which a wind turbine blade rotates must be at least  
348 20 feet above the ground.

349 d. Lighting. Except for switch type lighting, no artificial lighting shall be mounted on a  
350 small wind energy system, and a small wind energy system shall not be illuminated with  
351 artificial lighting, except when required by the Federal Aviation Administration and approved by  
352 conditional use permit.

353 e. Signs. No sign, flag or pennant may be attached to a small wind energy system  
354 except for the following:

355 1. A sign identifying the manufacturer or installer of the small wind energy  
356 system.

357 2. Signs warning of dangers associated with the small wind energy system.

358 f. Removal. The owner and the lessee of the property that is the site of a small wind  
359 energy system are jointly and severally responsible for its removal:

360 1. If corrective action is not taken within six months after notice that the City  
361 Engineer has found the small wind energy system to be unsafe or not in compliance  
362 with applicable law.

363 2. Within 90 days after the small wind energy system has not been operational  
364 for a period of at least 12 consecutive months.

365  
366 Section 6. Subsection (c) of Homer City Code 21.70.010 is amended to read as follows:

367  
368 c. The following are exempt from the requirement to obtain a zoning permit, but not  
369 from compliance with applicable requirements of the Homer Zoning Code, such as, but not  
370 limited to, the development activity plan or stormwater protection plan:

371 1. Any change to an existing building that does not increase the height, or  
372 exterior dimension of any floor, of the building, and any change to an existing structure  
373 that does not increase the height, or footprint area, of the structure.

374 2. Erection or construction of a one-story detached accessory building used as a  
375 tool and storage shed, playhouse, or other accessory use, provided the building area  
376 does not exceed 200 square feet; and further provided, that there is already a main  
377 building on the same lot.

378 **3. Erection or construction of a communications tower with a height not**  
379 **exceeding 35 feet, or an amateur radio tower.**

380 ~~43.~~ Fences or walls used as fences, unless otherwise regulated by the Homer  
381 City Code.

382 ~~54.~~ Removal of any building or structure.

383 ~~65.~~ Termination of any type of use.

384

**[Bold and underlined added. Deleted language stricken through.]**

385 Section 7. This Ordinance is of a permanent and general character and shall be included  
386 in the City Code.

387  
388 ENACTED BY THE CITY COUNCIL OF HOMER, ALASKA, this \_\_\_\_ day of  
389 \_\_\_\_\_ 2015.

390 CITY OF HOMER

391  
392  
393  
394 \_\_\_\_\_  
395 MARY E. WYTHE, MAYOR

396 ATTEST:

397  
398  
399 \_\_\_\_\_  
400 JO JOHNSON, MMC, CITY CLERK

401  
402 AYES:

403 NOES:

404 ABSTAIN:

405 ABSENT:

406  
407  
408 First Reading:

409 Public Hearing:

410 Second Reading:

411 Effective Date:

412  
413 Reviewed and approved as to form:

414  
415  
416 \_\_\_\_\_  
417 Mary K. Koester, City Manager

416 \_\_\_\_\_  
417 Thomas F. Klinkner, City Attorney

418  
419 Date: \_\_\_\_\_

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

**[Bold and underlined added. Deleted language stricken through.]**

## Model Ordinance: Table of Contents

Wireless Telecommunications Facilities or Complexes .....	1
Section 1. Purpose and Legislative Intent .....	1
Section 2. Severability.....	1
Section 3. Definitions .....	1
Section 4. General Policies and Procedures for Applications under this Section .....	4
Section 5. Responsible Party(s) .....	8
Section 6. Fees .....	8
Section 7. Existing Facilities and Complexes .....	8
Section 8. Certificate of Completion .....	8
Section 9. Exclusions .....	9
Section 10. Application Requirements for a New Tower or Support Structure or For a Substantial Modification or Co-location .....	9
Section 11. Expedited Application Process for Substantial Modifications and Substantial Co- locations. ....	12
Section 12. Requirements for Eligible Facility Co-locations or Modifications .....	12
Section 13. Location of Wireless Telecommunications Facilities .....	14
Section 14. Type and Height of Towers.....	15
Section 15. Visibility and Aesthetics .....	16
Section 16. Security .....	16
Section 17. Signage .....	17
Section 18. Setback and Fall Zone.....	17
Section 19. Retention of Expert Assistance Cost to be Borne by Applicant .....	17
Section 20. Procedural Requirements for a Granting a Conditional Use Permit .....	18
Section 21. Action on an Application .....	18
Section 22. Transfer or Assignment .....	19
Section 23. Violations.....	19
Section 24. Removal and Performance Security .....	19
Section 25. Reservation of Authority to Inspect Wireless Telecommunications Facilities.....	20
Section 26. Liability Insurance.....	20
Section 27. Indemnification .....	20
Section 28. Fines .....	21
Section 29. Default and/or Revocation .....	21
Section 30. Moving or Removal of Co-located Facilities and Equipment .....	21

Section 31. RF Emissions .....22  
Section 32. Relief .....23  
Section 33. Adherence to State and/or Federal Rules and Regulations .....23  
Section 34. Conflict with Other Laws .....23  
Section 35. Effective Date .....23  
Section 36. Authority .....24

# Wireless Telecommunications Facilities or Complexes

## Section 1. Purpose and Legislative Intent

1. The Telecommunications Act of 1996 affirmed the City of Homer's authority concerning the placement, construction and Modification of Wireless Telecommunications Facilities or Complexes. This Ordinance provides for the safe and efficient integration of Wireless Facilities or Complexes Necessary for the provision of advanced wireless telecommunications services throughout the community and to ensure the ready availability of reliable wireless services to the public, government agencies and first responders, with the intention of furthering the public safety and general welfare.
2. The City of Homer (City) finds that Wireless Telecommunications Facilities (Facilities) and Complexes may pose significant concerns to the health, safety, public welfare, character and environment of the City and its inhabitants. The City also recognizes that facilitating the development of wireless service technology can be an economic development asset to the City and of significant benefit to the City and its residents. In order to assure that the placement, construction or Modification of a Facility or Complex is consistent with the City's land use policies, the City is adopting a single, comprehensive, Wireless Telecommunications Facility or Complex application and permitting process. The intent of this Section is to minimize the physical impact of Wireless Telecommunications Facilities on the community, protect the character of the community to the extent reasonably possible, establish a fair and efficient process for review and approval of applications, assure an integrated, comprehensive review of environmental impacts of such facilities, and protect the health, safety and welfare of the City.

## Section 2. Severability

1. If any word, phrase, sentence, part, section, subsection, or other portion of this Section or any application thereof to any person or circumstance is declared void, unconstitutional, or invalid for any reason, then such word, phrase, sentence, part, section, subsection, or other portion, or the proscribed Application thereof, shall be severable, and the remaining provisions of this Section, and all applications thereof, not having been declared void, unconstitutional, or invalid, shall remain in full force and effect.
2. Any Conditional Use Permit issued pursuant to this Section shall be comprehensive and not severable. If part of a permit is deemed or ruled to be invalid or unenforceable in any material respect, by a competent authority, or is overturned by a competent authority, the permit shall be void in total, upon determination by the City.

## Section 3. Definitions

For purposes of this Section, and where not inconsistent with the context of a particular section, the defined terms, phrases, words, abbreviations, and their derivations shall have the meaning given in this section. When not inconsistent with the context, words in the present tense include the future tense, words used in the plural number include words in the singular number and words in the singular number include the plural number. The word "shall" is always mandatory, and not merely directory.

1. **"Accessory Facility or Structure"** means an accessory facility or structure serving or being used in conjunction with Wireless Telecommunications Facilities or Complexes, including but not limited to utility or transmission equipment storage sheds or cabinets.
2. **"Amend", "Amendment" and "Amended"** as regards an Application or request to permit mean and shall relate to any change, addition, correction, deletion, replacement or substitution, other than typographical changes of no effect.
3. **"Applicant"** means any Wireless service provider submitting an Application for a Conditional Use Permit for Wireless Telecommunications Facilities.

4. **“Application”** means all Necessary and required documentation that an Applicant submits in order to receive a Conditional Use Permit or an Administrative Approval or a Building Permit for Wireless Telecommunications Facilities.
5. **“Antenna”** means a system of electrical conductors that transmit or receive electromagnetic waves or radio frequency or other wireless signals.
6. **“Board” or “Council”** means the City Council of the City of Homer.
7. **“Certificate of Completion” or “COC”** means a required document issued by the City that confirms that all work represented in the application i) was properly permitted; ii) was done in compliance with and fulfilled all conditions of all permits, including any final completion deadline; iii) was fully constructed as approved and permitted; and iv) a final inspection was requested, conducted and the Facility or Complex passed the final inspection.
8. **“Co-location”** means the use of an approved structure to support Antenna for the provision of wireless services.
9. **“Commercial Impracticability” or “Commercially Impracticable”** means the inability to perform an act on terms that are reasonable in commerce, the cause or occurrence of which could not have been reasonably anticipated or foreseen and that jeopardizes the financial efficacy of the project. The inability to achieve a satisfactory financial return on investment or profit, standing alone and for a single site, shall not deem a situation to be “commercially impracticable” and shall not render an act or the terms of an agreement “commercially impracticable”.
10. **“Completed Application”** means an Application that contains all necessary and required information and/or data necessary to enable an informed decision to be made with respect to an Application.
11. **“Complex”** means the entire site or Facility, including all structures and equipment located at the site.
12. **“DAS” or “Distributive Access System”** means a technology using antenna combining technology allowing for multiple carriers or Wireless Service Providers to use the same set of antennas, cabling or fiber optics.
13. **“Eligible Facility”** means an existing wireless tower or base station that involves collocation of new transmission equipment or the replacement of transmission equipment that does not constitute a Substantial modification. An Eligible Facility Application shall be acted upon Administratively and shall not require a Conditional Use Permit, but shall require Staff Administrative Approval.
14. **“FAA”** means the Federal Aviation Administration, or its duly designated and authorized successor agency.
15. **“Facility”** means a set of wireless transmitting and/or receiving equipment, including any associated electronics and electronics shelter or cabinet and generator.
16. **“FCC”** means the Federal Communications Commission, or its duly designated and authorized successor agency.
17. **“Height”** means, when referring to a Tower or wireless support structure, the distance measured from the pre-existing grade level to the highest point on the Tower or structure, even if said highest point is an Antenna or lightning protection device.
18. **“In-Kind Replacement”** means replacing a component(s) that is malfunctioning with a properly functioning component of the same weight and dimensions and that does not enable an increase in revenue for the service provider or increase the compensation paid to the owner or manager of the support structure or change the type of service or allow a new service to be provided.



19. **“Maintenance”** means plumbing, electrical, carpentry or mechanical work that may or may not require a building permit, but that does not constitute a Modification to the WTF.
20. **“Modification”** or **“Modify”** means, the addition, removal or change of any of the physical and visually discernable components or aspects of a wireless Facility or Complex with identical components, including but not limited to antennas, cabling, equipment shelters, landscaping, fencing, utility feeds, changing the color or materials of any visually discernable components, vehicular access, parking and/or an upgrade or change-out of equipment for better or more modern equipment. Adding a new wireless carrier or service provider to an existing support structure or Tower as a co-location is a Modification, unless the height, profile or size of the compound is increased, in which case it is not a Modification. Modification also means anything that changes the structural loading on the support structure attached to.
21. **“Necessary”** or **“Necessity”** or **“Need”** means what is technologically required for the equipment to function as designed by the manufacturer and that anything less will result in prohibiting the provision of service as intended and described in the narrative of the Application. Necessary or Need does not mean what may be desired, preferred or the most cost-efficient approach and is not related to an Applicant’s specific chosen design standards. Any situation involving a choice between or among alternatives or options is not a Need or a Necessity.
22. **“NIER”** means Non-Ionizing Electromagnetic Radiation.
23. **“Person”** means any individual, corporation, estate, trust, partnership, joint stock company, association of two (2) or more persons having a joint common interest, or any other entity.
24. **“Personal Wireless Facility”** See definition for ‘Wireless Telecommunications Facilities’.
25. **“Personal Wireless Services”** or **“PWS”** or **“Personal Telecommunications Service”** or **“PTS”** shall have the same meaning as defined and used in the 1996 Telecommunications Act.
24. **“Repairs and Maintenance”** means the replacement or repair of any components of a wireless Facility or Complex where the replacement is identical to the component being replaced, or for any matters that involve the normal repair and maintenance of a wireless Facility or Complex without the addition, removal or change of any of the physical or visually discernable components or aspects of a wireless Facility or Complex that will impose new visible burdens of the Facility or Complex as originally permitted. Any work that changes the services provided to or from the Facility, or the equipment, is not Repairs or Maintenance.
25. **“Conditional Use Permit”** means the official document or permit by which an Applicant is allowed to file for a building permit to construct and use a Facility or Complex as granted or issued by the City.
26. **“Stealth”** or **“Stealth Siting Technique”** means a design or treatment that minimizes adverse aesthetic and visual impacts on the land, property, buildings, and other facilities adjacent to, surrounding, and in generally the same area as the requested location of such Wireless Telecommunications Facilities, which shall mean building the least visually and physically intrusive facility and Complex that is not technologically or commercially impracticable under the facts and circumstances. Stealth technique includes such techniques as i) DAS or its functional equivalent; or ii) camouflage where the Tower is disguised to make it less visually obtrusive and not recognizable to the average person as a Wireless Facility or Complex.
27. **“State”** means the State of Alaska.
28. **“Structural Capability”** or **“Structural Capacity”** or **“Structural Integrity”** means, notwithstanding anything to the contrary in any other standard, code, regulation or law, up to and not exceeding a literal 100% of the designed loading and stress capability of the support structure.

29. **“Substantial Modification”** means a change or Modification that
- a. increases the existing vertical height of the structure by the greater of (a) more than ten percent (10%) or (b) the height of one additional antenna array with separation from the nearest existing antenna not to exceed 20 feet; or
  - b. except where necessary to shelter the antenna from inclement weather or to connect the antenna to the tower via cable, adding an appurtenance to the body of a wireless support structure that protrudes horizontally from the edge of the wireless support structure the greater of (i) more than 20 feet or (ii) more than the width of the wireless support structure at the level of the appurtenance; or
  - c. increases the square footage of the existing equipment compound by more than 2,500 square feet.
30. **“Telecommunications”** means the transmission and/or reception of audio, video, data, and other information by wire, radio frequency, light, and other electronic or electromagnetic systems.
31. **“Telecommunications Site”** See definition for Wireless Telecommunications Facilities.
32. **“Telecommunications Structure”** means a structure used primarily to support equipment used to provide wireless communications.
33. **“Temporary”** means not permanent in relation to all aspects and components of this Section, something intended to, and that does, exist for fewer than ninety (90) days.
34. **“City”** means the City of Homer, Alaska.
35. **“Tower”** means any structure designed primarily to support an antenna(s) and/or other equipment for receiving and/or transmitting a wireless signal and is taller than forty feet (40’).
36. **“Wireless Telecommunications Facility or Facilities (WTF or WTFs)”, “Facility”, “Site”, “Complex”, “Telecommunications Site” and “Personal Wireless Facility Site”** all mean a specific location at which a structure that is designed or intended to be used to house, support or accommodate Antennas or other transmitting or receiving equipment is located. This includes without limit, Towers and support structures of all types and kinds, including but not limited to buildings, church steeples, silos, water Towers, signs or other any other structure that is used or is proposed to be used as a support structure for Antennas or the functional equivalent of such. It expressly includes all related facilities and equipment such as cabling, radios and other electronic equipment, equipment shelters and enclosures, cabinets and other structures associated with the Complex used to provide, though not limited to, radio, television, cellular, SMR, paging, 911, Personal Communications Services (PCS), commercial satellite services, microwave services, Internet access service and any commercial wireless telecommunication service whether or not licensed by the FCC.

#### **Section 4. General Policies and Procedures for Applications under this Section**

In order to ensure that the location, placement, construction and Modification of a Facility or the components of a Complex do not endanger or jeopardize the City’s health, safety, public welfare, environmental features, the nature and character of the community or neighborhood and other aspects of the quality of life specifically listed elsewhere in this Section, the City hereby adopts an overall policy and related procedures with respect to the submittal, review, approval and issuance of permits or Administrative Approval granted authority for Wireless Facilities for the express purpose of achieving the following outcomes:

1. Requiring a Conditional Use Permit for any new Complex, Facility or any Substantial Modification of a Facility or Complex or for a Co-located Facility;

2. Requiring Administrative Approval and a properly issued Building Permit for any co-location or Modification of a Facility or Complex that is not a Substantial Modification or Substantial Co-location.
3. Implementing an Application process and requirements;
4. Establishing procedures for examining an Application and issuing a Conditional Use Permit or Administrative Approval that are fair and consistent;
5. Promoting, and requiring wherever possible, the sharing and/or co-location of support structures among service providers;
6. Requiring, promoting and encouraging, wherever possible, the placement, height and quantity of attachments to a Facility or Complex in such a manner as to minimize the physical and visual impact on the community, including but not limited to the use of stealth siting techniques.
7. Requiring that the Facility and Complex shall be the least visually intrusive among those options available in the City given the facts and circumstances.
8. The City Council is the officially designated agency or body of the City to whom applications for a Conditional Use Permit for a Facility or Complex must be made, and that is authorized to make decisions with respect to granting or not granting or revoking Conditional Use Permits applied for under this Section. The City Council may at its discretion delegate or designate the City Planning Board or other official agencies or officials of the City or outside consultants to accept, review, analyze, evaluate and make recommendations to the Board with respect to the granting or not granting or revoking Conditional Use Permits for Wireless Telecommunications Facilities. However, the Board shall possess the sole right to grant all Conditional Use Permits.
9. The City Council hereby designates the City Manager or the City Manager's designee as the authority for requests for anything other than a Substantial Modification or Conditional Use Permit, i.e. for all Administrative Approvals.
10. There shall be a pre-application meeting for all intended applications prior to the submission of an application. The pre-application meeting may be held either on site, or telephonically as deemed appropriate by the City or its designee. The purpose of the pre-application meeting will be to address i) issues that will help to expedite the review and permitting process; and ii) certain issues or concerns the City or the Applicant may have. Costs of the City's consultant to prepare for and attend the pre-application meeting will be borne by the applicant and paid for out of a fee set forth in the City's Schedule of Fees, which shall have been paid to the City prior to any site visit or pre-application meeting.
11. If there has not been a prior site visit for the requested Facility or Complex within the previous six (6) months a site visit shall be conducted.
12. An Applicant shall submit to the City the number of completed Applications determined to be needed at the pre-application meeting. If Board action is required, applications will not be transmitted to the Board for consideration until the application is deemed Complete.
13. If the proposed site is within one (1) mile of another jurisdiction, written notification of the Application shall be provided to the legislative body of all such adjacent jurisdictions as applicable and/or requested.
14. The owner(s) of the support structure to which antennas or related equipment are to be attached must be an official Applicant of Record, unless the owner is the City, in which case, to prevent a conflict of interest, the City shall not be a party to the Application.
15. All Applicants shall closely follow the instructions for preparing an Application. Not following the instructions without permission to deviate from such shall result in the application being deemed

incomplete and a tolling of the time allowed for action on an Application until a Complete Application is received.

16. The Applicant shall be notified in writing of any deficiencies within forty-five days of the submission of an Application as regards any deficiencies related to the completeness of the Application. Remediation of deficiencies in an Application shall be deemed an amendment of the Application that was received.
17. The City may deny applications not meeting the requirements stated herein or which are otherwise not Complete after proper notice and a reasonable opportunity to make the Application Complete has been afforded. Applications will be deemed abandoned if left incomplete for more than ninety (90) days after the date of notice of incompleteness.
18. No work of any kind on or at a Facility or Complex shall be started until the Application is reviewed and approved and the Conditional Use Permit or Administrative Approval, as applicable, has been issued, and a Building Permit has been issued in accordance with the City's Land Development Ordinance.
19. Any and all representations made by the Applicant or that are made in support of the Application shall be deemed to be on the record, whether written or verbal, and shall be deemed to have been relied upon in good faith by the City. Any verbal representation shall be treated as if it were made in writing.
20. Other than to remediate non-compliant situations related to matters of safety or the conditions of a permit, no permits for work at a Facility or Complex shall be issued where the Facility or Complex is not in full compliance with all applicable local, State and federal laws, rules, regulations and orders. A Facility or Complex not in full compliance with this Section shall be required to be brought into full compliance before any Permit of any kind will be issued.
21. An Application shall be signed on behalf of the Applicant(s) by a person vested with the authority to bind and commit the Applicant attesting to the truthfulness, completeness and accuracy of the information presented
22. The Applicant must provide documentation to substantiate that it has the right to proceed as proposed on the site or at the Complex in the form of an executed copy of the lease with the landowner or landlord or a signed letter of agency granting authorization. If the applicant owns the Site or Complex, a copy of the ownership record is required.
23. Applications shall include written commitment statements to the effect that:
  - a. the applicant's Facility or Complex shall at all times and without exception be maintained in a safe manner, and in compliance with all conditions of all permits, as well as all applicable and permissible local codes, ordinances, and regulations and all applicable City, State and Federal Laws, rules, and regulations, unless specifically granted relief by the Board in writing; and
  - b. the construction of the Facility or Complex is legally permissible, including, but not limited to the fact that the Applicant is licensed to do business in the State.
24. Where a certification is called for in this Section, such certification shall bear the signature and seal of a Professional Engineer licensed in the State.
25. A support structure and any and all accessory or associated structures shall maximize the use of building materials, colors and textures designed to blend with the structure to which it may be affixed and to harmonize with the natural surroundings. This shall include the utilization of stealth or camouflage or concealment technique as may be required by the City.
26. All utilities at a Complex or site shall be installed underground and in compliance with all Laws, ordinances, rules and regulations of the City, including specifically, but not limited to applicable electrical codes.

27. At a Facility or Complex needing vehicular access, an access road, parking and turn around space for emergency vehicles shall be provided to assure adequate emergency and service access. Maximum use of existing roads, whether public or private, shall be made to the extent practicable. Road construction shall at all times minimize ground disturbance and the cutting of vegetation. Road grades shall closely follow natural contours to assure minimal visual disturbance and reduce soil erosion. If the current access road or turn around space is deemed in disrepair or in need of remedial work to make it serviceable and safe and in compliance with any applicable regulations as determined at a site visit, the Application shall contain a commitment to remedy or restore the road or turn around space so that it is serviceable and safe and in compliance with applicable regulations.
28. All work at a Facility or Complex shall be done in strict compliance with all current applicable technical, safety and safety-related codes adopted by the City, State, or United States, including but not limited to the most recent edition of the TIA ANSI Code, National Electric Safety Code, the National Electrical Code, the Occupational and Safety and Health Administration (OSHA) regulations, recommended practices of the National Association of Tower Erectors and accepted and responsible workmanlike industry practices. The codes referred to are codes that include, but are not limited to, construction, building, electrical, fire, safety, health, and land use codes. In the event of a conflict between or among any of the preceding the more stringent shall apply.
29. A holder of a Conditional Use Permit or Administrative Approval granted authority granted under this Section shall obtain, at its own expense, all permits and licenses required by applicable law, ordinance, rule, regulation or code, and must maintain the same, in full force and effect, for as long as required by the City or other governmental entity or agency having jurisdiction over the applicant.
30. Unless such is proven to be technologically impracticable, the City requires the co-location of new antenna arrays on existing structures, as opposed to the construction of a new Complex or support structure or increasing the height, footprint or profile of a Facility or Complex beyond the conditions of the approved Conditional Use Permit for an existing Facility or Complex. In instances not qualifying as an Eligible Facility, the Applicant shall submit a comprehensive report inventorying all existing structures more than fifty feet (50') in height within one-half (1/2) mile of the location of any proposed new Facility or Complex.
31. An Applicant intending to co-locate on or at an existing Facility or Complex shall be required to document the intent of the existing owner to permit its use by the Applicant.
32. Co-located equipment shall consist only of the minimum Antenna array technologically needed to provide service primarily and essentially within the City, to the extent practicable, unless good cause is shown in the form of clear and convincing evidence.
33. DAS systems that are owned or operated by a commercial carrier and are part of a commercial wireless system, or are used for commercial purposes, are expressly included in the context of this Section, regardless of the location or whether the Facility or any of its components is located inside or outside a structure or building.
34. The existence of a lease or an option to lease shall not be deemed justification for not complying with the siting priorities set forth in this Section, as well as other applicable land use and zoning regulations. An Applicant may not by-pass sites of higher priority solely because the site proposed is under lease or an option to lease exists. If a site other than the number 1 priority is proposed, the applicant must explain to the reasonable satisfaction of the City why co-location is technically or commercially impracticable. Build-to-Suit agreements between carriers and a proposed Tower owner shall not be a valid basis for any claim of exemption, exception or waiver from compliance with this Section.
35. Any technical information must be provided in such a manner, form and with such content that it is able to be verified by a third party using the information used and provided by the applicant.

36. All costs associated with the preparation and submission of an Application and/or necessitated by the requirements for obtaining and maintaining any and all City permits shall be borne by the Applicant or Permittee.

## **Section 5. Responsible Party(s)**

With the exception of the City, itself, the owner(s) of a Facility or Complex, any support structure used to accommodate wireless Facilities, and of the land upon which a Facility support structure or Complex is located, shall at all times be jointly and individually responsible for: (1) the physical and safe condition of the Facility or Complex, support structure and all components on the site related to the Facility or Complex; (2) assuring that all activities of owners, users, or lessees occurring on the site, and all components on the site related to the Facility or Complex, are at all times in compliance with all applicable laws, ordinances, rules, regulations, orders, and permits related to the Facility or Complex; and (3) assuring the proper permitting as required by this Article and other City regulations by all lessees and users of the Facility or Complex, including but not limited to any upgrades and/or Modifications of equipment. Said owner(s) shall regularly and diligently monitor activities at the site to assure that the Facility or Complex is operated in compliance with this Ordinance, other City regulations, and any Conditional Use Permit.

## **Section 6. Fees**

All fees and charges, including but not limited to Application fees, Expert Assistance fees, Inspection fees and Permit fees, shall be as set forth in the City's Schedule of Fees and Charges.

## **Section 7. Existing Facilities and Complexes**

- A. Any legally permitted Facility, Tower or other support structure or Complex that exists on the effective date of this Section of the City's codes shall be allowed to continue as it presently exists, provided that i) all work was properly permitted; ii) the Facility or Complex is in compliance with all applicable local, State and federal laws, rules regulations, orders and permit conditions; iii) the Site is in compliance with the latest version of TIA ANSI 222 as regards the physical condition of the Site; and iv) a Certificate of Completion (COC) was issued for the most recent work performed;
- B. Any work not properly previously permitted prior to the adoption of this Section must be properly permitted within ninety (90) days of the effective date of this Section or prior to any Modification on or at the site or Facility.
- C. Any new Co-location and/or Modification of a Facility, Tower or other support structure or Complex or a Carrier's equipment located on the Tower or Facility, must be permitted under this Section and will require the entire Facility or Complex and any new Co-location or Modification to comply with all applicable laws, rules and regulations, including obtaining a valid COC.

## **Section 8. Certificate of Completion**

- A. No work shall be allowed to be done at or on any Facility or Complex, excepting normal repair and maintenance work as defined in this Section, for which the owner cannot produce the COC for the most recent work, until a final inspection has been conducted and a COC has been issued. The owner of the Facility, Tower or other support structure or Complex shall pay for the actual cost of the required final inspection prior to the inspection being conducted. If the Facility or Complex does not pass the initial final inspection, the owner shall be required to pay for any subsequent inspection prior to the inspection being conducted. A passing final inspection is required prior to the issuance of a COC.
- B. If no COC can be produced for previously done work, at the discretion of either the Planning Director or the Building Director, fines and other penalties as allowed by law maybe imposed until the Facility or Complex is compliant and the required COC has been issued.

## Section 9. Exclusions

The following shall be exempt from this Section:

- A. Any facilities expressly exempt from the City's zoning, land use, siting, building and permitting authority.
- B. Any reception or transmission devices expressly exempted under the Telecommunications Act of 1996.
- C. A Facility used exclusively for private, non-commercial radio and television reception and private citizen's bands, licensed amateur radio and other similar non-commercial Telecommunications that is less than 100' above ground level.
- D. Facilities used exclusively for providing wireless service(s) or technologies where i) there is no charge for the use of the wireless service; ii) the Facility or Complex does not require a new Tower or increase the height or profile of the structure being attached to; and iii) the service is not intended to be useable more than one-hundred feet (100') from the Antenna(s).

## Section 10. Application Requirements for a New Tower or Support Structure or For a Substantial Modification or Co-location

- A. All Applicants for a Conditional Use Permit for a new Wireless Facility or Complex, including for a new Tower or other support structure or that constitutes a Substantial Modification, shall comply with the requirements set forth in this Section. In addition to the required information set forth in this Section, all applications for the construction or installation of new Facility or Complex shall contain the information hereinafter set forth prior to the issuance of a Building Permit. Any technical information must be provided in such a manner, form and with such content that it is able to be verified by a third party using the information used and provided by the applicant.

### Ownership and Management

- 1. The Name, address and phone number of the person preparing the Application;
- 2. The Name, address, and phone number of the property owner and the Applicant, including the legal name of the Applicant. If the owner of the structure is different than the applicant, the name and all Necessary contact information shall be provided;
- 3. The Postal address and tax map parcel number of the property;
- 4. A copy of the FCC license applicable for the intended use(s) of the Wireless Telecommunications Facilities, including all FCC licensed frequency bands;
- 5. The Applicant shall disclose in writing any agreement in existence that would limit or preclude the ability of the Applicant to share any new Telecommunication Tower that it constructs or has constructed for it;

### Zoning and Planning

- 6. The Zoning District or designation in which the property is situated;
- 7. The size of the property footprint on which the structure to be built or attached is located, stated both in square feet and lot line dimensions, and a survey showing the location of all lot lines;
- 8. The location, size and height of all existing and proposed structures, enclosures and cabinets on the property on which the structure is located and that are related to the subject of the Application;
- 9. A site plan to scale, not a hand drawn sketch, showing the footprint of the Support Structure and the type, location and dimensions of access drives, proposed landscaping and buffers in compliance with Article 11 of the City's Land Development Ordinance, including but not limited to fencing and any other requirements of site plans;
- 10. Elevation drawings showing the profile or the vertical rendition of the Tower or support structure at the Facility or Complex and identifying all existing and proposed attachments, including the height above the existing grade of each attachment and the owner or operator of each, as well as all lighting;
- 11. The type and design of the Tower or support structure, the number of antenna arrays

proposed to be accommodated and the basis for the calculations of the Tower's or support structure's capacity to accommodate the required number of antenna arrays for which the structure must be designed;

12. Disclosure in writing of any agreement in existence prior to the submission of the Application that would limit or preclude the ability of the Applicant to share any new Telecommunication Tower that it constructs.
13. A certified statement of i) the total cost of construction for the work associated with the Application; and ii) the total cost of all equipment of the Applicant at the Facility. To verify the accuracy of the information, the City reserves the right to require copies of applicable invoices or other clear and convincing corroborating evidence.

#### **Safety**

14. the age of the Tower or support structure and Complex stated in years, including the date of the grant of the original permit;
  15. a description of the type of Tower, e.g. guyed, self-supporting lattice or monopole, or other type of support structure;
  16. for a tower, the make, model, type and manufacturer of the Tower and the structural design analysis and report, including the calculations, certified by a Professional Engineer licensed in the State and proving the Tower or support Structure's capability to safely accommodate the Facilities of the Applicant without change or Modification .
  17. if a Substantial Co-location, change or Modification of a Facility or Complex is needed, a detailed narrative explaining what changes are needed and why they are needed;
  18. a Complete, unredacted copy of the foundation design and report for the Tower or other structure, including a geotechnical sub-surface soils investigation report and foundation design for the Facility;
  19. if Substantially Modifying or Co-locating on an existing Tower or other support structure, a Complete, unredacted and certified TIA ANSI 222 Report regarding the physical condition of the Complex and all of its components done within the previous six (6) months. If such report has not been done within the previous six (6) months, one shall be done and submitted as part of the Application. No Building Permit shall be issued for any Wireless Facility or related equipment where the structure being attached to is in need of remediation to comply with the requirements of this subsection and other adopted standards of the City regarding the physical condition and/or safety, unless and until all remediation work that is deemed needed has been completed, or a schedule for the remediation work has been approved by the City Planning Department or Inspections and Permits Department;
  20. In an instance involving a Tower with only a single array of antennas, or for the first antenna array to be attached to a Tower where the array will be thirty-three feet (33') or more above ground level and not within 100 feet of areas to which the public has or could reasonably have or gain access to, in lieu of a full RF emissions study, if deemed appropriate by the City, signed documentation in the form of the FCC's "Checklist to Determine whether a Facility may be Categorically Excluded" may in certain cases be allowed to be used and shall be provided to verify that the Facility and Complex with the proposed installation will be in full compliance with the current FCC's RF Emissions regulations;
  21. In certain instances the City may deem it appropriate to have a post-construction on-site RF survey of the Facility or Complex done after the construction or Modification and activation of the Facility or Complex, such to be done under the direction of the City or its designee, and an un-redacted copy of the survey results provided, along with all calculations, prior to issuance of a Certificate of Compliance. Such study shall reflect the cumulative effects, readings or levels of all active RF equipment at the Site;
  22. If not submitted in a previous application, a signed statement that the Applicant will expeditiously remedy any physical or RF interference with other telecommunications or wireless devices or services.
- B. A written copy of an analysis completed by a qualified individual or organization to determine if the proposed Wireless Telecommunications Facility or Complex is in compliance with Federal Aviation Administration Regulation Part 77, and if it requires lighting, including any Facility or



Complex where the application proposes to increase the height of the existing Tower or support structure.

- C. New Towers and other new support structures shall be prohibited in Residential Districts, Historic Districts and areas officially deemed to be visual or scenic sensitive areas, unless the Applicant provides clear and convincing technical evidence from a carrier demonstrating that i) a new Tower as proposed is technically Necessary, ii) that the intended area cannot be served from outside the District or visually sensitive area; iii) that no existing or previously approved Facility or Complex can reasonably be used to accommodate equipment needed to provide the intended service; and iv) that not to permit a new Tower would preclude eliminating or would create a significant gap in service.
- D. All Applications for a proposed Facility or Complex applicable to this Section shall contain clear and convincing evidence that the Facility or Complex is sited and designed so as to create the least visual intrusiveness reasonably possible given the facts and circumstances involved. To achieve this goal the City expressly reserves the right to require the use of Stealth or Camouflage siting techniques such as, but not limited to, DAS (Distributive Antenna System) or a functional equivalent as regards size, and such shall be subject to approval by the Board.
- E. If proposing a new Tower or support structure, or a Substantial Co-location or Modification of an existing structure, the Applicant shall be required to submit clear and convincing evidence that there is no alternative solution within one-half (1/2) mile of the proposed site that would be less visually intrusive and that not to permit the proposed new Tower or support structure, or a Substantial Co-location or Modification would result in the prohibition of service or the perpetuation of a significant gap in service.
- F. In order to better inform the public, in the case of a new Tower, the applicant shall hold a "balloon test" prior to the initial public hearing on the application. The Applicant shall arrange to fly, or raise upon a temporary mast, a minimum of a ten (10) foot in length brightly colored balloon with horizontal stabilizers at the maximum height of the proposed new Tower. The use of spherical balloons shall not be permitted.
- G. At least fourteen (14) days prior to the conduct of the balloon test, a sign shall be erected so as to be clearly visible from the road nearest the proposed site and shall be removed no later than fourteen (14) days after the conduct of the balloon test. The sign shall be at least four feet (4') by eight feet (8') in size and shall be readable from the road by a person with 20/20 vision.
  - 1. Such sign shall be placed off, but as near to, the public right-of-way as is possible.
  - 2. Such sign shall contain the times and date(s) of the balloon test and contact information.
  - 3. The dates, (including a second date, in case of poor visibility or wind in excess of 15 mph on the initial date) times and location of this balloon test shall be advertised by the Applicant seven (7) and fourteen (14) days in advance of the first test date in a newspaper with a general circulation in the City and as agreed to by the City. The Applicant shall inform the City in writing, of the dates and times of the test, at least fourteen (14) days in advance. The balloon shall be flown for at least four (4) consecutive hours between 10:00 am and 2:00 p.m. on the dates chosen. The primary date shall be on a week-end, but the second date, in case of poor visibility on the initial date, may be on a week day. A report with pictures from various locations of the balloon shall be provided with the application.
  - 4. The Applicant shall notify all property owners and residents located within one-thousand five hundred feet (1,500) of the nearest property line of the subject property of the proposed construction of the Tower and Facility or Complex and of the date(s) and time(s) of the balloon test. Such notice shall be provided at least fourteen (14) days prior to the conduct of the balloon test and shall be delivered by first-class mail. The City Planner shall be provided an attested copy of the list of addresses to which notification is provided. The Wireless Telecommunications Facility or Complex shall be structurally

designed to accommodate at least four (4) Antenna Arrays, with each array to be flush mounted or as close to flush-mounted as is reasonable possible.

- H. The Applicant shall provide certified documentation in the form of a structural analysis and report, including all calculations, showing that the Facility or Complex will be constructed to meet all local, state and federal structural requirements for loads, including wind and ice loads and including, but not limited to all applicable ANSI (American National Standards Institute) TIA 222 guidelines. In the event of a conflict the more stringent shall apply.
- I. The Applicant shall furnish a Visual Impact Assessment, which may be required to include:
  - 1. a computer generated "Zone of Visibility Map" at a minimum of one mile radius from the proposed structure shall be provided to illustrate locations from which the proposed installation may be seen, with and without foliage; and
  - 2. To-scale pictorial representations (photo simulations) of "before and after" views from key viewpoints inside of the City as may be appropriate and required, including but not limited to state highways and other major roads, state and local parks, other public lands, historic districts, preserves and historic sites normally open to the public, and from 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. In addition to photographic simulations to scale showing the visual impact, the applicant shall provide a map showing the locations of where the pictures were taken and the distance(s) of each location from the proposed structure;
- J. The Applicant shall provide a written description and a visual rendering demonstrating how it shall effectively screen from view the bottom fifteen feet (15') of the Facility or Complex and all related equipment and structures associated with the Facility or Complex.
- K. A Building Permit shall not be issued for the construction of a new Tower or other support structure until there is an Application for or by a specific carrier that documents that the Facility or Complex is Necessary for that carrier to serve the community and that co-location on an existing Structure is not feasible.
- L. Co-location on an existing structure is not reasonably feasible if such is technically or Commercially Impracticable or the owner of the Structure is unwilling to enter into a contract for such use at fair market value. Sufficient documentation in the form of clear and convincing evidence to support such claims shall be submitted with an Application for the first carrier in order to determine whether co-location on existing structures is reasonably feasible and to document the need for a specific stated height, and that less height will serve to prohibit or have the effect of prohibiting the provision of service.

## **Section 11. Expedited Application Process for Substantial Modifications and Substantial Co-locations.**

An Applicant for a Substantial Modification or Substantial Co-location, but expressly not for a new Tower or other new support structure, may request a special expedited application process in which the Application shall be acted upon within forty-five (45) days of the receipt of a Complete Application. To be granted such status and treatment, in addition to all other required fees, the Applicant shall pay to the City a special Expedited Treatment Fee of \$5,000 for and prior to the grant of such status and treatment.

## **Section 12. Requirements for Eligible Facility Co-locations or Modifications**

- A. For the co-location, modification or upgrade of a wireless facility that qualifies as an Eligible Facilities request under applicable law, the following information shall be required to be contained in an application. Any technical information must be provided in such a manner, form and with

such content that it is able to be verified by a third party using the information used and provided by the applicant.

#### **Safety**

- 1) the age of the Tower or other support structure in years, including the date of the grant of the original permit;
- 2) a description of the type of Tower, e.g. guyed, self-supporting lattice or monopole, or a description of another other type of support structure;
- 3) a narrative description and explanation of the specific objective(s) of the new equipment, expressly including the purpose of such (e.g. coverage and/or capacity), technical requirements, frequencies to be used and the identified boundaries of the specific geographic area of intended coverage;
- 4) technical documentation that shows by clear and convincing technical evidence that the Need for the requested height is Necessary to provide the type and coverage of the service primarily and essentially within the City using generally accepted industry methods.
- 5) certified documentation in the form of a structural analysis and report, including all supporting calculations, showing that the Facility, as it exists, will meet all local, state and federal structural requirements for loads, including wind and ice loads and including, but not limited to, the Alaska Building Code and all applicable ANSI (American National Standards Institute) TIA 222 guidelines. In the event of a conflict, the more stringent shall apply.
- 6) a copy of i) the installed foundation design, including a geotechnical sub-surface soils investigation report and ii) foundation design recommendation for the Tower or other structure;
- 7) a certified, unredacted report and supporting documentation, including photographs, regarding the physical situation and physical condition of all equipment and facilities at the site in the form of a report based on an on-site inspection done pursuant to and in compliance with the latest version of TIA/ANSI 222. The inspection shall be done by a qualified individual experienced in performing such inspections and the report shall be signed by an individual with authority to order any needed remediation or resolution of issues.
- 8) a copy of the FCC licenses for each frequency band applicable for the intended use of the Wireless Telecommunications transmission and/or receive equipment;
- 9) a list of all frequencies, to be used at the Facility;
- 10) the maximum transmission power capability at which each type of radio is designed to operate;
- 11) the number, type and model of the Antenna(s) proposed, along with a copy of the manufacturer's specification sheet(s), i.e. cut sheet(s), for the antennas;
- 12) certification from the owner of the Facility certifying that the Facility and all attachments thereto are currently in compliance with the conditions of the approved Conditional Use Permit or Administrative Approval and setting forth any non-compliant situation.

#### **Ownership and Management**

- 13) the Name, address and phone number of the person preparing the Application;
- 14) the Name, address, and phone number of the property owner and the Applicant, including the legal name of the Applicant. If the owner of the structure is different than the applicant, the name and all Necessary contact information shall be provided;
- 15) the Postal address and tax map parcel number of the property;
- 16) a copy of the FCC license applicable for the intended use of the Wireless Telecommunications Facilities.

#### **Construction**

- 17) The total cost of construction and the value of all new and/or replacement components and equipment.

**B.** In certain instances the City may deem it appropriate to have an on-site RF survey of the facility performed after the construction or Modification and activation of the Facility, such to be done under the direction of the City or its designee, and an un-redacted copy of the survey results provided, along with all calculations, prior to issuance of a Certificate of Compliance. Such study shall reflect the cumulative effects, readings or levels of all active RF equipment at the Site;

### C. Attachments to Existing Structures Other Than Towers

- 1) Attachments to Buildings: To preserve and protect the nature and character of the area and create the least visually intrusive impact reasonably possible under the facts and circumstances, any attachment to a building or other structure with a facade, the antennas shall be mounted on the facade without increasing the height of the building or other structure, unless it can be proven that such will prohibit or have the effect of prohibiting the provision of service, and all such attachments and exposed cabling shall use camouflage or stealth techniques to match as closely as possible the color and texture of the structure.
- 2) Utility poles and light standards: If attaching to a utility pole or light standard, no equipment may extend more than six feet (6') beyond the top of the structure and no equipment other than cabling shall be lower than fifteen feet (15') above the ground.
- 3) Attachments to Water Tanks: If attaching to a water tank, in order to maintain the current profile and height, mounting on the top of the tank or the use of a corral shall only be permitted if the Applicant can prove that to locate elsewhere less visually on the tank will prohibit or have the effect of prohibiting the provision of service or that to do so would be technologically impracticable.
- 4) Profile: So as to be the least visually intrusive and create the smallest profile reasonably possible under the facts and circumstances involved, and thereby have the least adverse visual effect, all antennas attached shall be flush mounted or as near to flush mounted as is possible, unless it can be proven that such would prohibit or serve to prohibit the provision of service or be technologically impracticable.

## Section 13. Location of Wireless Telecommunications Facilities

- A. No tower or other new support structure shall be permitted in any existing or planned (i.e. platted) residential neighborhood.
- B. If a new telecommunications support structure is proposed to be located within one-half mile of an existing or planned residential neighborhood, irrespective of the type of zoning, the support structure shall not be taller than ten feet (10') above the tallest obstruction between the proposed support structure and a residential neighborhood.
- C. Applicants shall locate, site and erect all Facilities and associated equipment in accordance with the following priorities, in the following order: more than 10' taller than existing surrounding structures.
  1. On existing structures without increasing the height or size of the profile of the Tower or structure.
  2. On existing structures without increasing the height of the structure by more than can be proven by clear and convincing technical evidence is technically Needed.
  3. On properties in areas zoned for Commercial use.
  4. On properties in areas zoned for Rural use.
  5. On properties in designated Historic Districts without increasing the height or size of the profile of the support structure and only if Camouflaged or Stealthed to the satisfaction of the Planning Director.
  6. On properties in areas zoned for Residential use without increasing the height of the support structure or size of the profile and only if Camouflaged or stealthed to the satisfaction of the Planning Director.
- D. If the applicant proposes and commits to locate on City-owned property or structures, the City expressly reserves the right to waive the Application Fee that would otherwise be paid to the City.
- E. If the proposed site is not proposed for the highest priority listed above, then a detailed narrative and technical explanation shall be provided as regards why a site from all higher priority designations was not selected. The person seeking such an exception must demonstrate to the satisfaction of the Planning Director and the Board the reason or reasons why a Conditional Use Permit or Administrative Approval should be granted for the proposed site.

- F. Notwithstanding anything else to the contrary, the City may approve any site located within an area in the above list of priorities, provided that the City finds that the proposed site is in the best interest of the health, safety and welfare of the City and its inhabitants and will not have a deleterious effect on the nature and character of the community and neighborhood. The City may also direct that the proposed location be changed to another location that is more in keeping with the goals of this Section and the public interest as determined by the Board and that serves the intent of the Applicant.
- G. Notwithstanding that a potential site may be situated in an area of highest priority or highest available priority, the City may disapprove an Application for any of the following reasons:
  - 1. Conflict with safety and safety-related codes and requirements, including but not limited to setback and Fall Zone requirements;
  - 2. Non-Compliance with zoning or land use regulations;
  - 3. The placement and location of a Facility or Complex would create an unacceptable risk, or the reasonable possibility of such, to any person or entity for physical or financial damage, or of trespass on private property;
  - 4. The placement and location of a Facility or Complex would result in a conflict with, compromise in or change in the nature or character of the adjacent and surrounding area, and expressly including but not limited to loss in value as measured over the twelve (12) months preceding the Application having been filed;
  - 5. Conflicts with the provisions of zoning or land use regulations;
  - 6. Failure to submit a Complete Application as required under this Section within sixty (60) days after proper notice and opportunity to make the Application Complete shall be deemed to have been abandoned and require no action.
- H. Notwithstanding anything to the contrary in this Section, for good cause shown such as the ability to utilize a shorter, smaller or less intrusive Facility or Complex elsewhere and still accomplish the primary service objective, if relocation could result in a less intrusive Facility or Complex singly or in combination with other locations, the City may require the relocation of a proposed site, including allowing for the fact that relocating the site chosen by the Applicant may require the use of more than one (1) site to provide substantially the same service.

## **Section 14. Type and Height of Towers**

- A. All new Towers shall be of the monopole type. No new Towers of a lattice or guyed type shall be permitted, unless relief is otherwise expressly granted.
- B. The maximum permitted total height of a new tower or other proposed support structure shall be one hundred feet (100') above pre-construction ground level, unless it can be shown by clear and convincing technical evidence from a carrier who has committed to use the tower that such height would prohibit or have the effect of prohibiting the provision of service in the intended service area within the City. The maximum permitted height is permissive and is expressly not as-of-right.
- C. As the policy decision has been made that more Facilities of a shorter and less intrusive height is in the public interest, as opposed to fewer but taller support structures, spacing or the distance between Facilities shall be such that the service may be provided without exceeding the maximum permitted height.
- D. If proposed to be taller than the maximum permitted height, the Applicant for a new Tower or support structure shall submit clear and convincing technical evidence by a carrier or wireless service provider that has committed to use the Tower or other support structure justifying the total height requested and the basis therefore, as well as a copy of a lease or a written commitment to use the Facility upon completion of its construction. If the Applicant chooses to provide evidence in the form of propagation studies, such must include all modeling information and support data used to produce the studies at the requested height and a minimum of ten feet (10') lower to enable verification of the Need for the requested height. The City or its delegee will provide the form that shall be used for reporting such information.

- E. The City reserves the right to require a drive test to be conducted under the supervision of the City or its delegate i) as evidence of; or ii) to verify the technical Need for what is requested.
- F. At no time shall a Tower or other support structure be of a height that requires lighting by the FAA.
- G. Towers shall be structurally designed to support a minimum of four (4) carriers using functionally equivalent equipment to that used by the first carrier attaching to a Tower or other support structure, so that the height can be increased if Needed.

## **Section 15. Visibility and Aesthetics**

- A. No Tower or support structure that is not a building and is constructed after the effective date of this Section shall be tall enough to require lighting by the FAA.
- B. Stealth: All new Facilities, including but not limited to Towers, shall utilize Stealth or Camouflage siting techniques that are acceptable to the City, unless such can be shown to be either Commercially Impracticable or Technologically Impracticable.
- C. Finish/Color: Towers shall be galvanized and/or painted with a rust-preventive paint of an appropriate color to harmonize with the surroundings and shall be maintained in accordance with the requirements of this Section.
- D. Lighting: Notwithstanding the prohibition of lighting, in the event lighting is subsequently required by the FAA, the Applicant shall provide a detailed plan for sufficient lighting of as unobtrusive and inoffensive an effect as is permissible under State and Federal regulations. For any Facility or Complex for which lighting is required under the FAA's regulations, or that for any reason has lights attached, all such lighting shall be affixed with technology that enables the light to be seen as intended from the air, but that prevents the ground scatter effect so that it is not able to be seen from the ground to a height of at least 20 degrees vertical for a distance of at least 1 mile in a level terrain situation. Such device shall be compliant with or not expressly in conflict with FAA regulations. A physical shield may be used, as long as the light is able to be seen from the air, as intended by the FAA.
- E. Retrofitting: In the event a Tower or other support structure that is lighted as of the effective date of this Section is modified, at the time of the first Modification of the Facility the City reserves the right to require that the Tower be retrofitted so as to comply with the lighting requirements of this Section or be reduced to a height that does not require lighting.
- F. Flush Mounting: Except for omni-directional antennas, all new or replacement antennas, shall be flush-mounted or as close to flush-mounted on the support structure as is functionally possible, unless it can be demonstrated by clear and convincing technical evidence that such has the effect of prohibiting the provision of service to the intended service area, alone or in combination with another site(s), or unless the Applicant can prove that it is technologically impracticable.
- G. Placement on Building: If attached to a building, all antennas shall be mounted on the facade of the building and camouflaged so as to match the color and, if possible, the texture of the building, or in a manner so as to make the antennas as visually innocuous and undetectable as is possible given the facts and circumstances involved.

## **Section 16. Security**

All Facilities shall be located, fenced or otherwise secured in a manner that prevents unauthorized access. Specifically:

- A. All Facilities, including Antennas, Towers and other supporting structures, such as guy anchor points and guy wires, shall be made inaccessible to unauthorized individuals and shall be constructed or shielded in such a manner that they cannot be climbed or collided with and shall

expressly include removing the climbing steps for the first ten feet (10') from the ground on a monopole; and

- B. Transmitters and Telecommunications control points shall be installed so that they are readily accessible only to persons authorized to operate or service them.

## **Section 17. Signage**

Facilities shall contain a sign no larger than four (4) square feet and no smaller than two (2) square feet in order to provide adequate warning to persons in the immediate area of the presence of RF radiation. A sign of the same size is also to be installed bearing the name(s) of the owner(s) and operator(s) of the Antenna(s) as well as emergency phone number(s). The sign shall be on the equipment shelter or cabinet of the Applicant and must be visible from the access point of the Facility or Complex and must identify the equipment owner of the shelter or cabinet. On Tower sites, an FCC registration sign, as applicable, is also to be present. The signs shall not be lighted, unless applicable law, rule or regulation requires lighting. No other signage, including advertising, shall be permitted.

## **Section 18. Setback and Fall Zone**

- A. All proposed Towers and any other proposed Wireless support structures shall be set back from abutting parcels, recorded rights-of-way and roads and streets by the greater of the following distances: i) a distance equal to the height of the proposed Tower or support structure plus ten percent (110%) of the height of the Tower or other structure, otherwise known as the Fall Zone; or ii) the existing setback requirement of the underlying zoning district, whichever is greater. Any Accessory structure shall be located within the fenced compound area as approved in the Conditional Use Permit and so as to comply with the applicable minimum setback requirements for the property on which it is situated. The Fall Zone or setback shall be measured from the nearest portion of the tower to the nearest portion of the right-of-way of any public road or thoroughfare and any occupied building or domicile, as well as any property boundary lines.
- B. The nearest portion of any private access road leading to a Facility shall be no less than ten (10) feet from the nearest property line.
- C. There shall be no development of habitable buildings within the Setback area or Fall Zone.

## **Section 19. Retention of Expert Assistance Cost to be Borne by Applicant**

- A. To prevent the taxpayers from having to bear the cost related to the issue of permitting and regulating a commercially used Wireless Telecommunications Facilities or negotiating an agreement to lease or amend or modify a lease for any City-owned property or structure, an Applicant shall pay to the City fees as set forth in the City's Fee Schedule. The fees are intended to cover all reasonable costs of the expert assistance needed by the City in connection with the review of any Application, including both the technical review and non- technical review, and the permitting, inspection, construction or Modification requested, any Application pre-approval evaluation requested by the Applicant and any lease negotiations. The payment of the Expert Assistance fees to the City shall precede any work being done that is related to the intended Application or lease, including a pre-application meeting or site visit.
- B. The City may hire any consultant of its choice to assist the City in reviewing and evaluating Applications and negotiating leases, provided the consultant has at least five (5) years experience working exclusively for the public sector regulating Towers and Wireless Facilities and negotiating leases.
- C. The total amount of the funds needed for expert assistance as set forth in the City's Fee schedule may vary with the scope and complexity of the Application, the completeness of the Application and other information as may be needed to Complete the necessary technical and non-technical reviews, analysis and inspection of any construction or Modification or the amount of time spent

responding to an Applicant's arguments as regards its Application or the requirements of this Section.

- D. The City will maintain an accounting record for the expenditure of all such funds.
- E. Pursuant to N.C. 160A-400.52(f), if an Application is Amended, or a waiver or relief is requested from any regulations at any time prior to the grant of the Certificate of Completion required under this Ordinance, the City reserves the right to require additional payment for the review and analysis equal to, but not exceeding, the cost created for the City by the Applicant or its Application. Such amount shall be paid to the City prior to the issuance of the Conditional Use Permit or Administrative Approval or the Certificate of Completion, whichever is procedurally needed next.

## **Section 20. Procedural Requirements for a Granting a Conditional Use Permit**

- A. When a Conditional Use Permit is requested, the following procedures shall apply, including those set forth in Section 7.8 of Article 7 of the City's Land Development Ordinance.
- B. The City shall schedule any required public hearing(s) once it finds the Application is Complete and there are no issues of non-compliance or conflict with applicable law, rule or regulation. The City shall not set a date for a hearing if the Application is not Complete or if there are unresolved issues of non-compliance. The City may, at any stage prior to issuing a Conditional Use Permit or Administrative Approval, require such additional information as it deems Necessary and that is not expressly prohibited from being required by applicable law as relates to the issue of the siting, construction or Modification of or at a Wireless Telecommunications Facility or Complex.
- C. Upon Board approval, a Conditional Use Permit shall be issued for a new Tower or Substantially Modified Wireless Support Structure or Substantial Co-location. Notwithstanding the preceding, the Building Permit for a new Tower or other proposed support structure shall not be issued until an Applicant has provided clear and convincing substantiating documentation governing the placement of the first antenna array of a carrier who has committed to use the structure prior to its construction and that carrier has been properly permitted under this Ordinance.

## **Section 21. Action on an Application**

- A. The City will undertake, or have undertaken, a review of an Application pursuant to this Article in a timely fashion, consistent with its responsibilities and applicable law, and shall act within the time required by applicable law.
- B. The City may refer any Application or part thereof to any advisory committee or consultant for a non-binding recommendation.
- C. Either after the public hearing if a hearing is required, or after Administrative review as applicable, and after formally considering the Application, the City may i) approve; ii) approve with conditions; or iii) deny for cause a Permit or Administrative Approval. The decision shall be in writing and shall be supported by substantial evidence contained in a written record, which record may be the minutes of any or all official meetings. Throughout the Application and permitting process, the burden of proof for compliance with this Ordinance or the need for a waiver or relief shall always be upon the Applicant.
- D. An Applicant shall not be permitted to refuse to provide information needed to establish the substantial written record required under federal law and applicable case law. Refusal for more than sixty days without agreement by the Board shall result in denial of the Application or the Application shall be deemed abandoned.
- E. Approval Notification: If the City approves the Conditional Use Permit or Administrative Approval for the Facility or Complex, then the Applicant shall be notified of approval of its Application, including any conditions, within 30 calendar days of the City's action. The Conditional use Permit or Administrative Authorization shall be issued within thirty (30) days after such approval.



- F. Denial Notification: The Applicant shall be notified of a denial of its Application at the Board Meeting, and in writing within 30 calendar days of the Board's action, which notice shall contain the reason or reasons for the denial.

## **Section 22. Transfer or Assignment**

The extent and parameters of a Conditional Use Permit or Administrative Authorization for a Facility or Complex shall be as follows:

- A. Such Conditional Use Permit or Administrative Authorization shall not be assigned, transferred or conveyed without the express prior written notification to the City, such notice to be not fewer than thirty (30) business days prior to the intended assignment, transfer or conveyance.
- B. A transfer, assignment or other conveyance of the Conditional Use Permit or Administrative Authorization shall require the written commitment of the proposed new holder of the Conditional Use Permit or Administrative Authorization to abide by all applicable laws, rules and regulations, including but not limited to this Ordinance.

## **Section 23. Violations**

- A. Following written notice of violation and an opportunity to cure, any Permit or Administrative Approval granted under this Ordinance may be revoked, canceled, or terminated for a violation of the conditions and provisions of the Conditional Use Permit or other applicable law, rule, regulation or order, and if warranted the payment of a fine(s) as is permissible.
- B. If not cured within the time frame set forth in the Notice of Violation, a hearing shall be held upon due prior notice to the Applicant citing the violation and the date, time and place of the hearing, which shall be provided by registered mail to the last known address of the holder of the Conditional Use Permit.
- C. Following the original notice and an opportunity to cure, subsequent or repeated violations of a substantially similar nature shall not require an opportunity to cure prior to the imposition of fines or penalties.

## **Section 24. Removal and Performance Security**

- A. Removal and Performance: The Applicant and the owner of record of any proposed new Tower or other support structure or Complex shall, at its sole cost and expense, be required to execute and file with the City a bond or other form of security that is acceptable to the City as to the type of security and the form and manner of execution, in an amount of at least \$75,000.00 for a Tower or other support structure and with such sureties as are deemed adequate by the City to assure the faithful performance of the terms and conditions of this Section and conditions of any Conditional Use Permit issued pursuant to this Section. The full amount of the bond or security shall remain in full force and effect throughout the term of the Conditional Use Permit and/or until any necessary site restoration is completed to restore the site to a condition comparable to that, which existed prior to the issuance of the original Conditional Use Permit. The amount of the Bond is, in part, determined by the current cost of demolition, removal and site restoration multiplied by the compounding or cumulative effect of a three percent (3%) annual cost escalator over a thirty (30) year projected useful life of the structure.
- B. Performance: The owner of any equipment attached to a support structure or located in a Complex shall be required to execute and file with the City a performance bond or other form of performance security that is acceptable to the City as to the type of security and the form and manner of execution, in the amount of \$25,000.

## **Section 25. Reservation of Authority to Inspect Wireless Telecommunications Facilities**

- A.** In order to verify that the holder of a Conditional Use Permit for a Facility or Complex and any and all lessees, renters, and/or licensees of Wireless Telecommunications Facilities, places, constructs and maintains such facility in accordance with all applicable technical, safety, fire, building codes, zoning codes, laws, ordinances and regulations and conditions of any permit granted under this Ordinance, the City or its designee shall have the right to inspect all facets of said permit holder's, renter's, lessee's or licensee's placement, construction, Modification and maintenance of such facilities, including, but not limited to, Towers, Antennas, buildings and equipment and connections contained therein, or other structures constructed or located on the permitted site.
- B.** Refusal to allow or grant access to the City's representative upon reasonable notice shall be deemed a violation of this Ordinance.

## **Section 26. Liability Insurance**

- A.** A holder of a Conditional Use Permit for a Wireless Telecommunications Support Structure shall secure and at all times maintain public liability insurance for personal injuries, death and property damage, and umbrella insurance coverage, for the duration of the Conditional Use Permit in amounts as set forth below:
  - 1. Commercial General Liability covering personal injuries, death and property damage: \$1,000,000 per occurrence/\$3,000,000 aggregate; and
  - 2. Automobile Coverage: \$1,000,000.00 per occurrence/ \$3,000,000 aggregate; and
  - 3. A \$3,000,000 Umbrella coverage; and
  - 4. Workers Compensation and Disability: Statutory amounts.
- B.** For a Facility or Complex located on City property, the Commercial General Liability insurance policy shall specifically name the City and its officers, Boards, employees, committee members, attorneys, agents and consultants as additional insureds.
- C.** The insurance policies shall be issued by an agent or representative of an insurance company licensed to do business in the State and with an AM Best's rating of at least A.
- D.** The insurance policies shall contain an endorsement obligating the insurance company to furnish the City with at least thirty (30) days prior written notice in advance of the cancellation of the insurance.
- E.** Renewal or replacement policies or certificates shall be delivered to the City at least fifteen (15) days before the expiration of the insurance that such policies are to renew or replace.
- F.** Before construction of a permitted Wireless Telecommunications Facility or Complex is initiated, but in no case later than fifteen (15) days prior to the grant of the Building Permit, the holder of the Conditional Use Permit shall deliver to the City a copy of each of the policies or certificates representing the insurance in the required amounts.
- G.** A Certificate of Insurance that states that it is for informational purposes only and does not confer rights upon the City shall not be deemed to comply with this Section.

## **Section 27. Indemnification**

- A.** Any application for Wireless Telecommunication Facilities that is proposed to be located on City property shall contain a signed statement fully and completely indemnifying the City. Such provision shall require the applicant, to the extent permitted by applicable law, to at all times defend, indemnify, protect, save, hold harmless and exempt the City and its officers, Boards, employees, committee members, attorneys, agents, and consultants from any and all penalties, damages, costs, or charges arising out of any and all claims, suits, demands, causes of action, or award of damages, whether compensatory or punitive, or expenses arising there from, either at

law or in equity, which might arise out of, or are caused by, the placement, construction, erection, Modification , location, products performance, use, operation, maintenance, repair, installation, replacement, removal, or restoration of said Facility or Complex, excepting, however, any portion of such claims, suits, demands, causes of action or award of damages as may be attributable to the negligent or intentional acts or omissions of the City, or its servants or agents. With respect to the penalties, damages or charges referenced herein, reasonable attorneys' fees, consultants' fees, and expert witness fees are included in those costs that are recoverable by the City.

- B. Notwithstanding the requirements noted in subsection A of this section, an indemnification provision will not be required in those instances where the City itself, or an agency or department of the City, applies for and secures a Conditional Use Permit for a Wireless Telecommunications Facility or Complex.

## **Section 28. Fines**

- A. In the event of a violation of this Section, or any Conditional Use Permit or Administrative Approval issued pursuant to this Section, the City may impose and collect, and the holder of the Conditional Use Permit or Administrative Approval for a Wireless Telecommunications Facility or Complex shall pay to the City, fines or penalties as set allowed by State law or as otherwise established by the City.
- B. Notwithstanding anything in this Section, the holder of the Conditional Use Permit or Administrative Approval for a Facility or Complex may not use the payment of fines, liquidated damages or other penalties, to evade or avoid compliance with this Section or any section of this Ordinance. An attempt to do so shall subject the holder of the Conditional Use Permit to termination and revocation of the Conditional Use Permit in addition to the payment of fines. The City may also seek injunctive relief to prevent the continued violation of this Section without limiting other remedies available to the City.

## **Section 29. Default and/or Revocation**

If a support structure, Facility or Complex is repaired, rebuilt, placed, moved, re-located, modified or maintained in a way that is inconsistent or not in compliance with the provisions of this Ordinance or of the Conditional Use Permit or Administrative Approval, then the City shall notify the holder of the Conditional Use Permit or Administrative Approval in writing of such violation. A Permit or Administrative Approval holder found to be in violation may be considered in default and subject to fines as permitted under applicable State law, and if a violation is not corrected to the satisfaction of the City in a reasonable period of time the Conditional Use Permit or Administrative Approval shall be subject to revocation.

## **Section 30. Moving or Removal of Co-located Facilities and Equipment**

- A. If attached to an existing tower or other support structure, unless the Board deems doing so to be in the public interest, it shall be impermissible for a wireless service provider's or carrier's equipment to be relocated from one structure to another without clear and convincing evidence that not to do so would, for technical reasons, prohibit or serve to prohibit the provision of service in the service area served by the existing wireless facility.
- B. If the lease for the existing attachment and use expires and is not renewed, thereby forcing the facility to be moved, such move shall be allowed upon i) the provision of clear and convincing evidence satisfactory to the Board of the need to move or relocate the facility; and ii) clear and convincing evidence satisfactory to the Board of the lack of impact on the neighborhood or area of intended new location. Cancellation or abandonment of a lease by a lessee or refusal to agree to terms of a lease that are not Commercially Impracticable shall not be deemed a permissible reason for relocating.
- C. The owner of any Facility or Complex shall be required to provide a minimum of thirty (30) days written notice to the City Clerk prior to abandoning any Facility or Complex.

- D. Under the following circumstances, the City may determine that the health, safety, and welfare interests of the City warrant and require the removal of Facilities.
  - 1. a Facility or Complex that has been abandoned (i.e. not used as Wireless Telecommunications Facilities) for a period exceeding ninety (90) consecutive days or a cumulative total of one hundred-eighty (180) non-consecutive days in any three hundred-sixty five (365) day period, except for periods caused by force majeure or Acts of God, in which case, repair or removal shall be completed within 90 days of abandonment;
  - 2. A Support Structure or Facility or Complex falls into such a state of disrepair that it creates a health or safety hazard or is deemed an attractive nuisance or a visual blight;
  - 3. A Support Structure or Facility or Complex has been located, constructed, or modified without first obtaining, or in a manner not authorized by, the required Conditional Use Permit, or Administrative Approval, and the Conditional Permit or Administrative Approval may be revoked.
- E. If the City makes such a determination as noted in subsections (2) or (3) of this section, then the City shall notify the holder of the Permit or Administrative Approval for the Facility or Complex that said Facility or Complex is to be removed.
- F. The holder of the Conditional Use Permit or Administrative Approval, or its successors or assigns, shall dismantle and remove such Facility or Complex and all associated structures and equipment from the site and restore the site to as close to its original condition as is possible, such restoration being limited only by physical or commercial impracticability. Restoration shall be completed within ninety (90) days of receipt of written notice from the City. However, if the owner of the property upon which the Facility or Complex is located wishes to retain any access roadway to the Facility or Complex, the owner may do so with the approval of the City.
- G. If a Facility or Complex has not been removed, or substantial progress has not been made to remove the Facility or Complex, within ninety (90) days after the permit holder has received notice, then the City may order officials or representatives of the City to remove the Facility or Complex at the sole expense of the owner or Conditional Use Permit holder.
- H. If the City removes, or causes Facilities to be removed, and the owner of the Facility or Complex does not claim and remove it from the site to a lawful location within ten (10) days, then the City may take steps to declare the Facility or Complex abandoned, and sell them and their components.
- I. Notwithstanding anything in this Section to the contrary, the City may approve a temporary use permit/agreement for the Facility or Complex for no more than ninety (90) days duration, during which time a suitable plan for removal, conversion, or re-location of the affected Facility or Complex shall be developed by the holder of the Conditional Use Permit, subject to the approval of the City, and an agreement to such plan shall be executed by the holder of the Conditional Use Permit or Administrative Approval and the City. If such a plan is not developed, approved and executed within the ninety (90) day time period, then the City may take possession of and dispose of the affected Facility or Complex in the manner provided in this Section and utilize the bond in Section (BB).

### **Section 31. RF Emissions**

- A. To assure the protection of the public health and safety the City expressly reserves the right to require that an Applicant, a user of a Facility or Complex or the owner of the Facility or Complex verify compliance with the FCC's regulations regarding RF emissions cumulatively at the Site, as may be deemed appropriate from time to time, and that all users of the Facility or Complex cooperate with the party responsible for such testing or verification. Failure to cooperate shall be deemed a violation of this Section and subject the non-cooperating party to all applicable and permissible fines and penalties.

- B. With respect to Support Structures other than Towers, if any section or portion of the structure attached to or to be attached to, or any adjacent to the Site, is not in compliance with the FCC's regulations regarding RF radiation, that section or portion must be barricaded with a suitable barrier to discourage approaching into the area in excess of the FCC's regulations, and be marked off with brightly colored plastic chain or striped warning tape, as appropriate, as well as placing RF Radiation signs as needed and appropriate to warn individuals of the potential danger. As deemed warranted by the City at any time, the right of the City is expressly reserved to do itself, or order done, an on-site RF emissions survey.

### **Section 32. Relief**

- A. Any Applicant desiring relief, waiver or exemption from any aspect or requirement of this Section shall address and identify such at the Pre-Application meeting. The relief or exemption must be contained in the submitted Application for either a Conditional Use Permit or Administrative Approval, or in the case of an existing or previously granted Conditional Use Permit or Administrative Approval, a request for Modification of the Facility or Complex and/or equipment. Such relief may be temporary or permanent, partial or complete.
- B. The burden of proving the need for the requested relief, waiver or exemption shall be solely on the Applicant to prove.
- C. The Applicant shall bear all costs of the City in considering the request and the relief, waiver or exemption.
- D. No relief or exemption shall be approved unless the Applicant demonstrates by clear and convincing evidence that, if granted, the relief, waiver or exemption will have no significant affect on the health, safety and welfare of the City, its residents and other service providers.

### **Section 33. Adherence to State and/or Federal Rules and Regulations**

- A. To the extent that the holder of a Conditional Use Permit or Administrative Approval for a Wireless Telecommunications Facility or Complex has not received relief, or is otherwise exempt, from appropriate State and/or Federal agency rules or regulations, then the holder of such a Conditional Use Permit shall adhere to, and comply with, all applicable rules, regulations, standards, and provisions of any State or Federal agency, including, but not limited to, the FAA and the FCC. Specifically included in this requirement are any rules and regulations regarding height, lighting, security, electrical and RF emission standards.
- B. To the extent that applicable rules, regulations, standards, and provisions of any State or Federal agency, including but not limited to, the FAA and the FCC, and specifically including any rules and regulations regarding height, lighting, and security are changed and/or are modified during the duration of a Conditional Use Permit or Administrative Approval for Wireless Telecommunications Facilities, then the holder of such a Conditional Use Permit or Administrative Approval shall conform the permitted Facility or Complex to the applicable changed and/or modified rule, regulation, standard, or provision within a maximum of twenty-four (24) months of the effective date of the applicable changed and/or modified rule, regulation, standard, or provision, or sooner as may be required by the issuing entity.

### **Section 34. Conflict with Other Laws**

Where this Section differs or conflicts with other Laws, rules and regulations, unless the right to do so is preempted or prohibited by the City, State or federal government, the more stringent shall apply.

### **Section 35. Effective Date**

This Section shall be effective immediately upon passage, pursuant to applicable legal and procedural requirements.

# The Center for Municipal Solutions

We are frequently asked what the goals of a *well-crafted* ordinance regulating tower and wireless facilities should be. Here are some suggestions as regards some of the goals a community may wish to achieve in the development of its ordinance. We've found that a key to preventing a successful challenge is that ordinances regulating this issue should **require, limit, prohibit, allow or incent** (*through specific policies*); and should avoid words like *not 'encourage' or 'request'*. While some may disagree, we've found this approach works extremely well and discourages arguments and challenges.

---

Establish an ordinance that contains the ability to create **'Win-Win'** scenarios for all parties when possible. *Only a community that is truly in true control can do this;*

Protect all legal rights and authority allowed under applicable law and does not sacrifice rights a community's legal rights and authority for a 'get along' relationship<sup>1</sup>;

Assure the Community is placed in control and knows **how to use** the ordinance (*to the extent allowed by applicable law*), so that it may then make *informed* decisions and **choose** the extent to which it wishes to exercise that control;

Assure there are **no loopholes** or ways to avoid, evade or circumvent the ordinance, or the Community's intent as expressed in the ordinance;

Assure the ordinance is as **technology neutral** as possible to minimize the need to amend or revise it as technology evolves;

For new towers and other support structures, establish an *enforceable* **'Proof-of-Technical-Need'** requirement for what is requested, as the first 'test', since *everything else should be based on this*;

Minimize the likelihood of **residents' fears, resentment and political dissatisfaction**;

Assure the means to require the **least visually intrusive** facility reasonably possible;

Assure that certain types of facilities, e.g. towers, **do not go in areas not deemed in the public interest** and that the **right** types of facilities (that don't change the **nature, character or property values** of an area) are located in areas where the Community deems the visual intrusiveness to be a concern;

Assure that the **cost to construct is not a factor** that is required to be considered;

Assure that taxpayers' dollars **don't ever have to pay for or subsidize** the processing of applications, **inspections** and the **administration** of the permit;

Assure that **the right safety codes** and standards are required to be complied with, e.g. the latest edition of ANSI EIA/TIA 222. This is *critical*;

Provide a means to identify [previously] **unpermitted facilities** and **unpermitted work** on facilities and remedy the situation;

Assure required compliance with all applicable State and Federal laws and rules;

Assure the ordinance allows the Community to realize the **maximum revenue allowable** from carriers and owners of support structures for the Community;

Minimize the likelihood of successful legal challenges to the ordinance.

## **Contact Info:**

Rusty Monroe  
Phone: (518) 573-8842  
E-Mail: [Lmonroe8@nc.rr.com](mailto:Lmonroe8@nc.rr.com)  
Address: 3113 Billiard Ct.

Examples of Need for Local Governments to Require Safety Inspections & Reports  
as part of the Application Process re Existing Facilities

## This Tower had an ‘Engineered’ Break Point Cell Tower Collapse Could Have Been Prevented

Posted on: 5:53 pm, March 6, 2013, by [George Sells](#), updated on: 06:54pm, March 6, 2013

ST. LOUIS, MO (KTVI)– There are new questions in south St. Louis in the wake of a cellular tower collapse in high winds Tuesday afternoon. FOX 2 has obtained video showing the tower swaying violently in a different wind storm nearly three months earlier. Witnesses say someone apparently tried to make repairs, though the work clearly was not enough.

Martin Howard is a security guard who works at a nearby grocery store. He shot the video in question on his phone back in December. The images show the tower swaying from left to right with a great deal more flexibility than would seem normal. Howard was concerned enough that he had people parked nearby move their cars farther away.

“There was like an uneven seam in it and they had already been out there before to fix it, and the seam was still there and it was swaying and I was saying, that sucker’s gonna snap off because there was nothing tethering it down.”

His prediction came true Tuesday. Gusting winds tore in on the tail end of morning snow showers. The tower apparently flexed again, then snapped.

“I heard a loud crackle and bang,” Howard said of the pole, which was “sliding down and breaking apart and **hitting the brick building**, and then **swinging back up and hitting the other building**.” (emphasis added)

The owner of a nearby business, Ross Watson, owns the brick building that was hit.

“It sounded as if it were incoming howitzer,” he said of the noise.

He wasn’t surprised by the video when we showed it to him.

“I’ve seen this thing in this condition before,” Watson said.

He and Howard both agree it’s miraculous no one was hurt in the incident. And both find it a little disconcerting that it might have been prevented.

FOX 2 attempted to contact the tower's owner, Crown Castle International, both at their St. Louis location and at their corporate offices in Houston, Texas. Our calls were not returned.

---

Certified by PE as Being Structurally Adequate

## North County Communications Affected by Radio Tower Collapse (Excerpt from Complete Article)

By Jack Guerino

iBerkshires Staff

North Adams, Ma.

04:01PM / Sunday, March 30, 2014



*Update: 4:07 p.m. with information from press conference; complete rewrite throughout.*

*Officials report that service should be restored within 24 hours but new towers will have to be installed to permanently fix the situation.*

NORTH ADAMS, Mass. — Two radio towers on Florida Mountain collapsed sometime between midnight and 3 a.m. Sunday morning, causing disruptions in communications throughout North County.

"We are still left in shock by the events of this past week, but I just want everyone to be rest assured that this is being taken care of at a very very high level with all state agencies involved," North Adams Mayor Richard Alcombright said at a press conference Sunday afternoon at City Hall.

The cell towers hold the emergency communications relays for North Adams; the collapses also affected some of the countywide emergency communications.

Fire Director Stephen Meranti said the damage has left limited-to-no cell phone service, however emergency communications have been restored through temporary means.

"Right now we have temporary communications vehicle stationed at the Western Summit [on Route 2], and we are transmitting and receiving through that unit," Meranti said. "Contractors are at the site, and they are working to reinstall the antennas on a temporary pole until the tower can be reconstructed."



The towers are owned by North Adams Tower Co. and space is leased to local carriers. Owner Corydon Thurston was on the scene and working with crews and the Massachusetts Emergency Management Agency to evaluate the situation.

An emergency operations center has been set up at North Adams Ambulance Service and the city is working with the communications and dispatch center at the Berkshire County sheriff's office to ensure contact with Berkshire Medical Center in Pittsfield.

With the closure of the emergency room at North Adams Regional Hospital on Friday, communication with BMC has been critical.

Although 911 services are available, the lack of cell phone service is making emergency communications more problematic. The mayor urged citizens to use alternative methods of communications if they don't have a landline.

He added citizens can post emergencies on the North Adams Police Departments Facebook page or email [napd911@gmail.com](mailto:napd911@gmail.com). Both options are being actively monitored.

"In this day in age everyone depends on that cell phone, but look to your alternate methods of communication for at least the next 24 to 48 hours until we can have some real confidence that we are back up and running," said Lt. Col. Thomas Grady of the Berkshire County sheriff's office.

He'd earlier described the destruction as "a catastrophic failure, there's no nice way to spin this."

"This is Mother Nature at its best," Grady said.

Grady explained that even though temporary antennas are being installed, the restoration of the towers will be a long process. He added that the Department of Public Health must investigate the structural integrity of the towers and the ability to safely work on the site. After this determination the site will be cleaned up and new towers will constructed.

"It's not an overnight fix, and we are looking at the immediate needs, the interim needs, and then the long term needs to get everything up to where it needs to be for the city," Grady said. "The mayor and the two commissioners from police and fire have done a good job in ensuring the city and its residents that public safety has not been compromised."

Earlier Sunday, at the scene of the cell tower collapse, Meranti said radio interference had alerted first-responders to the problem.

"Last night, we had a wind gust, we were getting some interference on our radios trying to locate the problem, where the interference was coming from," said Meranti. "We came up here and found the towers over."

A temporary solution had been set up for now in van parked near the site, he said. "We're actually using that [van] as a relay point for fire, police and EMS."

**Minehold Gap, Buncomb County, N.C.**  
**(Structural Design Signed and Stamped by a P.E.)**  
**Thank goodness no one was walking on the path at the time.**



## Structure design appears to have contributed to Crown Castle monopole collapse in Missouri

March 7, 2013 - A monopole that was either incorrectly installed, under-designed or over-capacity partially **collapsed** Tuesday afternoon in St. Louis, Mo. in wind gusts that were well below required design standards.(emphasis added)

## Two techs remain in serious condition after riding a collapsing tower to the ground

---

October 12, 2012 - Two tower technicians are still in grave condition a week after a tower they were working on **collapsed** in Camuy, located near Puerto Rico's north coast.

Authorities said that Jaime Montero ,48, and Jesus Maldonado, 58, were performing maintenance on the structure last Friday when it fell. They were unable to identify at what height both men were working.

A review of a number of photographs by Wireless Estimator indicates that the men might have been changing out braces near the 30-foot level at the time of the accident.

No redundant bracing appeared to be in place to prevent the 225-foot guyed angle iron tower built in 1981 from collapsing.

---

## Straight line winds topple Minnesota PBS tower

September 6, 2012 - An early morning storm on Wednesday toppled an Austin, Minn. broadcast tower owned by KSMQ-TV, but the station returned to the air at about 8 p.m. using a temporary tower. . .

Its 444-foot tall guyed tower went down (**totally collapsed**) Wednesday in a parking lot in Riverland Community College. . .

Wind speed in Austin gusted to 53 mph at the Austin Municipal Airport and as high as 74 in northwest Rochester, according to the National Weather Service in La Crosse, Wis.

---

## Excerpt from Wireless Industry News – June 30, 2009

. . . Severin said Prelog was at the top of the radio tower, attached by a safety harness lanyard, when t **fell down sideways**, crashing him to the ground. "The tower failed at the base," Severin said.

**Two of three metal legs at the base bent and buckled**, causing the tower to lurch sideways and collapse. It was not immediately known who the tower manufacturer was. The tower was anchored into the ground at the base and stabilized by guy wires, and it is not known what caused the metal braces to give way, Severin said.

Severin said Monday that the tower was 30 feet tall and Prelog was at the top when it **topped over**. Climbing the tower is a common way to install an antennae on a tower of that height, and Prelog was **following proper safety measures**, Severin said.

Prelog died Sunday morning at Borgess Hospital in Kalamazoo from injuries suffered in the fall. He is survived by a wife, two daughters and a son. He was employed as Andrews University's telecommunications manager since 1994.(emphasis added)

## Leaning cell tower of Jefferson County fails inspection, closing school

11/4/13

**ARNOLD** • A leaning cellphone tower near Lone Dell Elementary School has failed a safety inspection, and classes will not be held there today, officials said Wednesday.

The tower owned by US Cellular is on property owned by the Fox School District. The tower and school are in the 2500 block of Tomahawk Drive near Arnold.

The worry isn't that the tower could fall on the school, but rather for cars and buses entering the driveway near the tower, according to a statement posted on the Fox website by Superintendent Dianne Critchlow.

Critchlow said the tower was inspected Tuesday. The results of that inspection were issued Wednesday — it failed, Critchlow said.

The tower failed a stability evaluation, according to the Jefferson County Sheriff's Office. According to District Superintendent Dianne Critchlow, inspectors said there were bolts loose or missing.

Lone Dell students will be picked up today at their usual bus stops, but will be taken to Rickman Auditorium for class. They will also use the district's service center for fall parties. The district asks that parents pack a lunch for their kids, but if that isn't possible, the district will provide a sack lunch.

Tomahawk Drive and Gary Road near the school were closed Wednesday evening but should reopen today.

Deputies and US Cellular employees were to be posted near the tower throughout the night and "protective measures" were under way in case of a collapse, the sheriff's office said.

Parents with questions should call the district at 636-296-8000 or [check its website](#) for more information.

### **Examples of Why Adequate Fall Zones are Critical**

**Note: 'Catastrophic' failure is an industry term for a total collapse**

#### **Risk factors soar as LTE installs overload carriers' antenna mounts**

January 31, 2013 - The issue isn't **whether** new LTE loading on existing antenna mounts will jeopardize the safety of telecom workers and the public, the question is **how soon** will it be before there is a **catastrophic** failure?

Many manufacturers, engineers, carriers and installers will readily acknowledge that **current loading configurations are overstressing scores of mounts that were not designed to handle the additional weight and flat plate loading of remote radio units required for LTE installations.**

Although some carriers are mapping existing structures and requiring new mounts when they've been identified to be inadequate, **in the feverish rush for LTE deployment, others are ignoring the problem and exposing tower technicians to fatal risks, even if they are properly tied off elsewhere on the mount's supporting structure.** (emphasis added)

---

## **Two workers killed in collapse of Kansas cell towers**

[KMAN-AM story](#)

March 26, 2014

Staff *Wichita Business Journal*

Two cell phone towers collapsed Tuesday near Blaine, a town about 50 miles northwest of Topeka, killing two workers who were in the process of dismantling the older tower.

[KMAN-AM reports](#) the workers were reported to be at a height of more than 250 feet when the collapse happened.

Two other workers who were on the ground were not hurt, KAKE News reports.

## ***Two Men Identified, Tower Related Fatalities Increasing In Kansas***

March 26, 2014

**BLAINE, Kan. (WIBW)** The two workers who died after two communications towers collapsed near Blaine Tuesday have been identified and the Federal Occupational and Health Administration is involved in the investigation.

Pottawatomie County Sheriff Greg Riat has identified the men as 25-year-old Seth Garner of Saint Peters, Missouri and 38-year-old Martin Powers of Saint Charles, Missouri.

They died Tuesday while working at the 250 foot level of the telecommunication tower that collapsed. Riat said Powers died at the scene and Garner at a local hospital.

13 News has learned the two men had worked for Wireless Horizon of Saint Louis for less than five months. Wireless Horizon is a subcontractor working for the Union Pacific Railroad.

The two men were dismantling an old tower which was right next to a new tower when the accident happened, destroying both towers.

Michael Moon, Acting Director for OSHA (Occupational Safety and Health Administration), says there were 13 tower related fatalities in Kansas last year and 4 this year.

"They are in a very high risk job. In 2013, we were more than double in the number of fatalities for tower related incidents than we were in 2011 and 2012 combined," said Moon.

This isn't the first time Wireless Horizon employees have been killed. According to [http://www.wirelessestimator.com/breaking\\_news.cfm](http://www.wirelessestimator.com/breaking_news.cfm), in 2005, an Illinois technician was killed after falling 120 feet. Wireless Horizon was fined \$1,500.

And in West Virginia, five people have died on or around cell phone towers in the past eight months.

Their deaths are attributed to towers collapsing and equipment failures, according to <http://www.wvgazette.com>, a West Virginia online newspaper.

"There isn't a specific cause that we can say but they are all preventable, should be preventable, if employers would just simply take a few extra moments and a few extra precautions to check and see what they are doing," said Moon.

Moon told 13 News they had investigators on site Wednesday near highway 16 and Rock Creek Road where the incident happened. He said the investigation could take up to 6 months. Violations could mean a fine anywhere from \$7,000-\$70,000.



**Is this supposed to be the 'engineered' break point?**



**The Maintenance inspectors over the years must have been wearing blindfolds to have missed this.**



The tanker truck driver miraculously escaped injury as the 300-foot guyed tower threaded itself between his cab and the truck's explosive load.

**The driver was the luckiest man in this Illinois town that day!**



**The latest type of car crusher?**



**Oh well, the Chief needed a new car anyway.**



**And they question why adequate 'fall zones' are necessary**



No injuries were reported when a 300-foot self supporting tower fell upon church property. A neighbor's home less than 20-feet away was spared following the cell tower's collapse.

**Thank goodness it wasn't Sunday**



**New back yard freeform sculpture . . . or do they need a permit to start a new junkyard in their back yard?**

**Incorrect Structural Design**  
**Wrong type of foundation design for the type of soils**  
**(Structural Design Signed and Stamped by a P.E.)**



**Imported from Pizza, Italy?**

**Incorrect Structural Design**  
**Wrong type of foundation design for the type of soils**  
**(Structural Design Signed and Stamped by a P.E.)**



**Another Pizza, Italy import?**

**Failed *When it's Most Needed* . . .**

**What Do 'First Responders' and the public do now?**

**Tower did not break at 'engineered' break point**



**Failed *When it's Most Needed* . . .**

**What Do 'First Responders' and the public do now?**

**Tower did not break at 'engineered' break point**



***Failed When it's Most Needed . . .***

**What Do 'First Responders' and the public do now?**

**Tower did not break at 'engineered' break point**



**Failed *When it's Most Needed* . . .**

**What Do 'First Responders' and the public do now?**

**Tower did not break at 'engineered' break point**





## Why is Expert Assistance Needed by Local Officials? Survey Question re Staff Training

Have you or any of your staff been trained in, and are they technically capable of, addressing the **safety** issues vis-à-vis tower-related structural requirements and the physical conditions of the various components of a tower or other support structure as relates to wireless carriers. The question is this:

As a certified planner and/or licensed inspector, have you or members of your staff ever been provided training in the interrelationship among the International Building Code, the State Building Code and the ANSI/TIA 222 code, and applying it in the real world, specifically in relation to communications towers and wireless facilities/antennas, and if so by what organization?

**This is Why (see next page) . . .**

## A Few Examples of Typical Responses to E-Mail Survey

From close to a hundred responses, not a single response said *anyone* had been trained

'No'

Michael D. Harvey AICP, CFO, CZO  
Current Planning Supervisor – Planner III  
**Orange County** Planning Department

---

In response to your question below, no one in the inspections department has received training in the matters you referenced as regards cell towers and the requirements of ANSI/TIA 222.

We are all aware of its reference in Section 3108 (Telecommunication and Broadcast Towers) and in Chapter 35 (Referenced Standards) of the NC Building Code. But as with many portions of the code, *we must rely on third party expert assistance in dealing with the matter.*

David Sudderth CZO, CFM  
**Stokes County**  
Director of Planning & inspections

---

No. That's why we use an outside expert.

Chip Russell, AICP  
Planning Director  
**Wake Forest, NC**

---

The answer to your questions below is, no and no.

Berry Gray  
Planning Director  
Johnston County Planning Department

---

No, and thus the need for an outside consultant to protect the safety of the public and of private property.

Paula Murphy  
Planning Director  
Person County

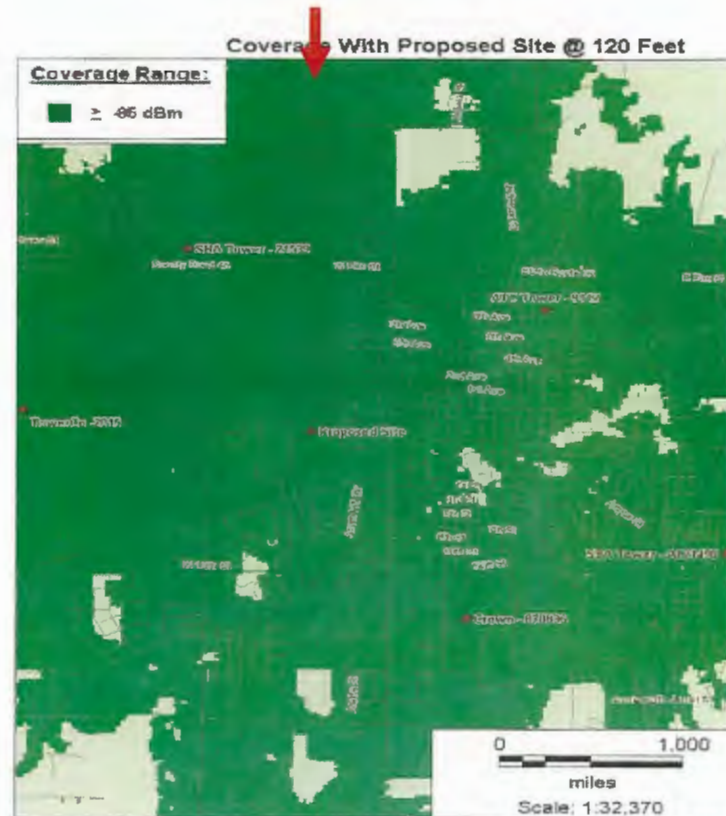
## 'MANIPULATED' PROPAGATION MAP (Oops. Busted!)

SAME SITE, SAME HEIGHT, SAME SIGNAL STRENGTH, DIFFERENT COVERAGE.

Original submittal showing large gaps at 120'



Later submittal, *after an analysis* showed that the original map was 'manipulated' to try to prove that 120' would *not* fill a significant gap when trying to get a 199' tower approved. Note: Large gaps 'miraculously' disappeared after analysis.



This is the bottom-line or underlying issue in most applications for a new facility, as it determines i) the technical need for a proposed new facility in the first place; ii) the need for the proposed location; and iii) the visual intrusiveness (e.g. the need for a tower versus a co-location and the needed height of the tower).

The basic underlying issue is 'Proof-of-Technical Need', which the 1996 Telecommunications Act allows a community to require proof of. The point of this is to demonstrate that *without the modeling information (i.e. inputted variables) used to produce the maps, the map is useless* and should not be relied upon, as it can easily be manipulated to show a pre-determined (desired) outcome, as the original submittal above did.

Manipulating propagation maps to show a desired, pre-determined outcome is an all-too-common practice and results in facilities being permitted for which there is **no technical justification**. All-too-many communities simply take the applicant's word, which is *not recommended as evidenced by the example above*. Avoiding the issue of verifying the technical need for what is requested is *not doing the due diligence officials are supposed to be doing vis-à-vis serving the public interest and protecting the nature and character of the community*. Avoiding the issue of verification of evidence, claims or assertions i) does not fulfill the mandate of local government and ii) can create major political problems when it's discovered.

Session 15-18, a Regular Meeting of the Homer Advisory Planning Commission was called to order by Chair Don Stead at 6:33 p.m. on December 2, 2015 at the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska.

PRESENT: COMMISSIONERS ERICKSON, HIGHLAND, BRADLEY, STEAD, STROOZAS,  
AND VENUTI

ABSENT: COMMISSIONER BOS (EXCUSED)

STAFF: CITY PLANNER ABBOUD  
DEPUTY CITY CLERK KRAUSE

#### APPROVAL OF AGENDA

Chair Stead requested a motion to make the changes as requested by the City Planner.

ERICKSON/VENUTI - MOVED TO AMEND THE AGENDA TO REMOVE STAFF REPORT PL 15-80, ZONING FOR MARIJUANA FROM PUBLIC HEARINGS ITEMS 8 C TO PENDING BUSINESS ITEM 10 A AND STAFF REPORT PL 15-83 TOWER CONSIDERATIONS TO PENDING BUSINESS ITEM 10 B.

There was no discussion.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT.

Motion carried.

Chair Stead called for a motion to approve the amended agenda.

STROOZAS/BRADLEY - SO MOVED.

There was no discussion.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT.

Motion carried.

#### PUBLIC COMMENT

The public may speak to the Planning Commission regarding matters on the agenda that are not scheduled for public hearing or plat consideration. (3 minute time limit).

Chair Stead opened the floor for public comment on regular agenda items.

Kevin Dee, resident, commented on Pending Business Item 10 B. Towers Considerations; he appreciated the information included in the packet, complimented the City Planner for providing the information from the Municipal Solutions Group that points out the technical aspects of towers that really need to be reviewed by experts. He appreciated the graphical evidence in the report showing manipulated propagation map, collapsed towers and all the rest. With the reduced budgets of the Planning Department have the tower companies who want to put up a tower pay for analysis of their proposals; he appreciates the ordinance requiring a technical review and many of the requirements in the model ordinance submitted by Municipal Solutions.

City Planner Abboud reminded the audience that the commission has removed the Public Hearing Item on Marijuana Zoning since it was not noticed properly and this is the time to comment on that topic.

George Frazier, resident, commented that he is a trained industry professional and looking forward to the progress of the cannabis industry developing on the lower Peninsula.

## **Pending Business**

### A. Staff Report PL 15-59 Towers

City Planner Abboud reviewed the most recent revisions to the draft ordinance.

City Planner Abboud would like to come up with language that will encompass a reasonable co-locate and consideration of service being proposed, lines 161-168. It was suggested they could be more specific on the radius depending on what type of service the tower provides. Another suggestion was the applicant has to show what they have done to establish when co-location isn't feasible.

With regard to lines 210-219 co-location and allowing bonus height to encourage co-location, City Planner Abboud expressed concern whether it conflicts with the standards they want and if it will result in a workaround relating to the conditional use permit. It was suggested that the residents may be more supportive of added height to co-locate more services on one tower than not offer the bonus, resulting in additional towers.

Ms. Windt Pearson joined the conversation and explained in situations where GCI finds a location and there is an opportunity for a height bonus for co-location they will generally reach out to the other two major providers to see if they are interested in co-locating. If interested, the other companies would submit a letter of interest that GCI would include in the CUP application to the applicable municipality. She added that other municipalities will do a max for the bonus height, like 10 feet for each additional co-location up to a max of 20 feet or 30 feet. In thinking about the landscape out there in the cell phone tower industry, you would be looking at only 3 providers max on a tower.

It was suggested they could define the zones where bonus height could be allowable and the areas that allow up to 120 feet don't get an option for bonus height. The application would have to provide evidence of the need to be considered to the bonus footage, they could consider requiring a joint application from the users rather than just a letter of intent.

City Planner Abboud touched on the definition of communication tower and his understanding that adding over ten feet to a structure that wasn't built to primarily support the new equipment, something needs to be done to the structure to support the additional capacity. They also addressed general pole standards and adding to power poles or telephone poles, setbacks, and visual impact.

Ms. Windt Pearson suggested that co-locating to a utility pole is something the commission should address because it is a location that carriers may want to consider as it is already a tall structure that may not have as much visual impact as a new one. If it something the commission wants to encourage it should be addressed in a clear and straight forward way that makes it easier to happen.

## **New Business**

### A. Staff Report PL 15-57 Elections for Planning Commission Chair and Vice Chair

Chair Stead opened the floor to nominations for Chair.

8/5/15 Lay down



August 4, 2015

To: Homer Advisory Planning Commission

Re: Revised Proposed Homer Tower Ordinance

Dear Mr. Stead, Mr. Bos, Ms. Bradley, Mr. Venuti, Ms. Highland, Mr. Stroozas, and Ms. Erickson:

Thank you again for the opportunity to contribute comments on the City of Homer's draft Tower Ordinance and to participate in the public process involved in crafting this new portion of the Homer City Code. The revised ordinance addresses many of the areas of concern highlighted in GCI's initial comments. The attached comments address the remaining areas we anticipate being potentially problematic, both for the City and for proponents of tower projects, based upon our work in other areas of the state, and offer suggestions to further fine-tune the existing revisions. Thank you for your consideration.

If you have any questions, please feel free to contact us at the information below.

Sincerely,

Nick Miller  
Director, Wireless Initiatives and Implementation

GCI - Wireless Operations  
Phone 907-868-2576  
Email: nmiller@gci.com

Becky Windt Pearson  
Corporate & Land Use Counsel

GCI - Legal/Regulatory Department  
Phone 907-868-5629  
Email: rwindtpearson@gci.com

**Section 1: Amendment of HCC 21.03.040/Section 3: Amendment of HCC 21.05.030**

- GCI previously commented that “tower height” or “maximum height” should be defined to include only the height of the tower itself, and to exclude any appurtenances, using the example of lightning rods attached to towers. With the edit to structure height language now contained in Section 3 this specific example is addressed. That said, GCI would still suggest limiting “tower height” or “maximum height” to the height of the tower itself, in light of the other potential appurtenances which could further extend above the height of a tower structure, including but not limited to lighting required by the FAA and elements of tower concealment. Further, a tower can often be shorter if an antenna is installed which extends above the height of the tower itself. The trade-off for requiring that an antenna be below the top of a tower structure is that the tower structure itself may need to be higher.

**Section 2: Amendment of HCC 21.05.030**

- From our read, the draft ordinance still appears to not address regulation of wireless communications support structures bearing wireless communications equipment which does extend more than ten feet above the existing structure (the provisions of the draft ordinance addressing maximum height, application requirements, standards, etc., are all specific to “communications towers,” which is not defined to include other types of wireless communications support structures).
- If the intent of the ordinance is also to regulate wireless communications support structures other than towers, we would suggest careful consideration of which provisions of the ordinance should explicitly apply to non-tower structures. For instance, rigid application of the set-back requirement in HCC 21.58.050 to non-tower construction would make the use of power poles as wireless communications support structures functionally impossible.

**Section 4: Repeal of HCC 21.58: Small Wind Energy Systems**

- No comments.

**Section 5: Enactment of HCC 21.58: Towers and Related Structures**

- HCC 21.58.010: As noted above, it is unclear in this language if it is the intent of this ordinance to also regulate wireless communications support structures.
- HCC 21.58.020(b)(1): This language is a great improvement over the last draft, and should permit collocation/replacement as intended. We read (b)(3) to be unnecessary and redundant in light of the revisions to (b)(1), and suggest that it be deleted.
- HCC 21.58.020(b)(4): We would suggest that this language be revised to apply to installations on any wireless communications support structure, to effectively encourage low-impact installations on both utility poles and buildings. The Commission may also

want to consider exempting installations on utility poles which do not extend more than 10 feet above other poles in the same right of way. Again, as noted, this language does not address installations greater than 10 feet in height on existing buildings.

- HCC 21.58.020(b): This entire section is subject to FCC 14-153, which provides a complete definition of the threshold below which a change in an existing structure is not substantial, and thus not subject to further local land use regulation. We suggest a close review of that language or a general reference to “any collocation, removal, or replacement which does not substantially change the physical dimensions of the existing wireless communications support structure or wireless communications equipment, as defined pursuant to federal law.”
- HCC 21.28.030: This section would be a good place to consider an extension of the maximum height permitted as of right for each collocation opportunity on the tower structure. General practice in other municipalities in Alaska is to grant an additional 15 feet of tower height over and above the minimum required for each collocation opportunity provided by the tower. For example, the Fairbanks North Star Borough Code states: “Collocation shall grant an additional 15 feet above the base height for each qualifying antenna to a maximum of 30 feet of additional height.” FNSBC 18.50.155.A.1.
- HCC 21.58.040(b): The standard search radius used in determining the location of a tower, from a technical perspective, is ½ mile. It would be reasonable for the City to request that providers confirm that there are no existing communications towers within a radius of up to this ½ mile distance which would provide a technically feasible collocation opportunity. We would, however, recommend limiting the review to existing communications towers, and not to any possible placement location for wireless equipment (a possibly endless process which could amount to an effective prohibition on wireless service).
- HCC 21.58.040(c): This language is effective in addressing the competing goals of minimizing tower height and minimizing the number of towers constructed. We have no further comments.
- HCC 21.58.040(f): The insertion of set distances for visual impact analysis is very helpful. Is the intent that the analysis be conducted from all four compass directions, or from select locations? Many municipalities elect to specify this. For example, for a major communications tower Fairbanks an applicant must submit analysis at 500 feet, 2,500 feet, and two miles from (to the extent practicable) two of four compass directions. FNSBC 18.50.155.C.1.h.
- HCC 21.58.040(g): We suggest specifying that the City is seeking plans for the tower which are stamped by an Alaska-licensed engineer. In our experience, we are unaware of a certificate which can be issued by an engineer attesting to the items listed, and believe that stamped plans will address the substantive concerns behind this provision.



- HCC 21.58.050(a): This language is still challenging. This requirement will still essentially only permit construction in the very center of many properties, and will prohibit providers from tucking towers out of the way adjacent to existing industrial construction, steep hillsides, bodies of water, and other unbuildable areas. We would suggest considering a standard like that adopted in the Matanuska-Susitna Borough, which provides that a minimum setback for a tower base shall be a distance equal to the height of the tower, but that the reviewing authority “may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare to adjacent property owners.” MSBC 17.67.090(A)(2)(a). This standard addresses the safety concern that we understand to be motivating this requirement, while also allowing flexibility for placing towers in aesthetically and technically advantageous locations. Alternatively, the City could consider a standard such as that used in Anchorage, which requires a minimum setback of 200% of the tower height between the base of the tower and “any principal structure on PLI or residentially-zoned land, or any school or licensed child care center.” AMC 21.05.040.K.2.b (new code); AMC 21.45.265.A.16 (old code). By tying the setback to actual existing structures, this language achieves the safety goal the City is striving for while not unnecessarily regulating tower construction adjacent to unbuildable areas. Generally, a variance process specific to this section will be beneficial to assuring reasonable placement of towers on lots within the City.
- HCC 21.58.050(b): We understand the reasoning behind this language, but it may not serve the purpose the City intends. Whether or not collocation is feasible does not depend entirely on the height of a tower. For example, a 60 foot tower on the top of a ridgeline may have usable space for multiple providers. That same tower on level ground within substantial tree cover may not even be useful for a single provider. Whether an individual provider can use the tower at all will depend upon the frequency the provider uses (GCI’s frequency, for instance, requires taller towers than that utilized by national providers). The goal you are attempting to accomplish here may be better served by the general and more nuanced requirement you have already inserted in HCC 21.58.040.c requiring that an applicant demonstrate that a tower is only as tall as needed to provide coverage and collocation opportunities. In light of that language, and the height limitations in HCC 21.58.030, this section may be entirely redundant.
- HCC 21.58.050(c): Up to fifteen feet (15’) of tower space is generally required for effective collocation. If this language remains here, GCI suggests editing to increase the height allocation for each provider on a potential tower.
- HCC 21.58.070(a)(3): As noted previously, this type of requirement is tremendously difficult for both municipalities and providers to effectively implement, and may have unintended consequences for tower placement. What does it mean to minimize visibility? How is the “least visual impact” measured? Does it depend on the number of neighbors? Or how vocal these neighbors are in a hearing? Providers must balance a number of factors in selecting sites from available alternatives, including RF propagation, feasibility of construction, and willingness of property owners to negotiate a lease, in addition to impacts on adjacent properties other than visual impacts (such as required

## GCI Comments – Revised Proposed Homer Tower Ordinance

trenching to attach a tower site to existing underground fiber). We would suggest deleting this language entirely in light of the provisions in the revised ordinance addressing visual analysis specific to Kachemak Bay views (HCC 21.58.040.f) and tower color (HCC 21.58.050.d). Alternatively, we would suggest limiting this requirement to state that, to the extent technically feasible and reasonably available, the applicant has situated the tower in the area minimizing visual impact on visually sensitive areas, such as public parks. A good example of a clause addressing this point is included in the Matanuska-Susitna Borough Code, and provides that an applicant must demonstrate that “visibility of the tall structure from public parks, trails recognized within adopted Borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available.” MSBC 17.67.080(B)(2).



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: August 5, 2015 - Laydown  
SUBJECT: Response to GCI comments on draft tower ordinance

---

Section 1: Not sure we could come up with an exhaustive list of things that would be above the tower. Nothing limits the height of a tower. The only thing that changes is the process for approval. A seventy foot tower structure with a 10 foot antenna can be gained by just applying for an eighty foot tower.

Section 2: Anything extending more than ten feet does not gain an exclusion from the permitting requirements. The subsection just deals with exclusions.

We can investigate incorporating a reference to a vertical structure **not built** for the primary purpose of supporting communications equipment.

Section 5: 21.58.010: Wireless communication support structures noted above

21.58.020(b)(3): Redundancy noted

21.58.020(b)(4): We really have not had the utility pole conversation. Some opportunities may exist here, but all new power is to be underground.

21.58.020(b): This is lawyer land, will have attorney review.

21.58.030: This gets tough as colocation may have different requirements depending on many factors.

21.58.040(b): I like the ½ mile suggestion for existing towers.

21.58.040(f): Discussion time! Did I capture the unique concern for Homer?

21.58.040(g): Stamped plan good, perhaps requirement for approved equipment could be added in standards section.

21.58.050(a): I agree with that it is still challenging. The use of “no risk to public health safety and welfare” is quite subjective and subject to debate. I am hesitant to create an exception that does not have more definitive standards to prove. I would like the commission to discuss the existing structure language used by Anchorage.

21.58.050(b)&(c): It does seem a bit redundant. I did want to get comments on the concept. This seems to head in the same direction of not having a uniform standard on which to base accommodations for collocate (10 feet, 15 feet depending on location and application?). The proposal for a tower on city property by GCI indicated 10 feet would be adequate in the spit. It seems that the only way to confirm the minimum height needed for a collocate might have to be made on a case-by-case review.

21.58.070(a)(3) actually I believe they meant 21.58.070(a)(4): I hope it is recognized that we could not ask for something that can't be done (technically feasible). We do not think that the effect upon parks is particularly suited to Homer. We do want to make sure that any reasonable location that might not impact as many as another is considered. We are generally talking about minimizing the impact to the view shed based upon how many may be affected by a particular placement.

Submitted by Kevin Dec

# Alaska Dispatch News

Published on *Alaska Dispatch News* (<http://www.adn.com>)

[Home](#) > As neighbors protest a cellphone antenna, more power-pole 'towers' are on the way

[Devin Kelly](#) <sup>[1]</sup>

July 11, 2015

**Main Image:**

[Cell Tower 150707-3x2.JPG-1436668259](#) <sup>[2]</sup>

**Main Image Credit:**

Bob Hallinen / Alaska Dispatch News

**Main Image Caption:**

South Addition neighbors -- including Teresa Arnold, Heather Knowlan, Ezra Clark, Kylie Clark, Rodney Clark and Racheali Feller -- are opposed to GCI installing a cell tower on the top of the power pole in the background near the corner of 13th and E Streets in Anchorage. The Clarks live in the home behind the group. Tuesday, July 7, 2015.

Cellphone antennas could soon be popping up on top of more Anchorage utility poles -- an industry push playing out in a battle between a telecommunications corporation and neighbors worried about safety and aesthetics.

In the South Addition neighborhood just south of downtown, General Communications Inc. wants to put a 10-foot antenna on top of an existing 68-foot utility pole in an alley near 13th Avenue and E Street. A group of neighbors has mounted a vigorous protest and recently filed an appeal with Anchorage Superior Court.

It's rare to see a cellular antenna on top of a power pole in a residential area in Anchorage. The head of the city's long-range planning department, Erika McConnell, said she knew of only one other example, on Aero Drive off West Northern Lights Boulevard. But McConnell said more are expected, and wireless providers are pushing for more city guidelines as technology evolves and mobile phones proliferate, pushing antennas into denser sites in neighborhoods.

In the South Addition case, which has met opposition from neighbors every step of the way, GCI has sought permission from city zoning boards to exceed the maximum height and separation distance for a cellphone tower in a residential district. The company wants to fill in a gap in cellphone coverage in the area, said GCI spokesman David Morris.

Morris said GCI could have gone the traditional route and built its own tower, but topping an existing tower with an antenna seemed less obtrusive for the neighborhood. The pole belongs to Municipal Light & Power, the city-owned electric utility.

Power poles topped with antennas in residential areas are fairly common in the Lower 48. There aren't as many in Alaska. But Morris said he expects that to change.

"As demand and population density increases, you're going to see more and more of these things occur," Morris said.

Elected officials have said the city should revive a dormant effort to rewrite regulations on

RECEIVED

AUG 05 2015

CITY OF HOMER  
PLANNING/ZONING

cellphone towers and introduce more guidelines for antenna-topped utility poles and camouflage or “stealth” towers designed to blend antennas into the surroundings. The city’s first application for a camouflaged tower, by Verizon at Alyeska Ski Resort, is set to be reviewed by the Planning and Zoning Commission later this month.

Those opposing the South Addition GCI project have come up with a different slogan for antenna-topped towers: “Coming soon to a front yard near you.” In this case, they say, they’re especially worried about safety — what would happen if the pole fell over or collapsed? In November, the city Planning and Zoning Commission reinforced that concern when it denied GCI’s permit for the antenna, ruling the cell tower would be located closer to homes than city code allows.

Last month, the commission’s ruling was overturned by the city’s three-member Board of Adjustment after GCI appealed. The board upheld its decision Thursday.

## **Neighbors putting up a fight**

Teresa Arnold and Heather Knowlan’s backyard opens up to the alley where the utility pole is located. They say nine homes are located in the path of the potential tower’s “fall zone.”

“It is so close to people’s homes,” Knowlan said recently, standing in the alley and looking up at the northwest end, where long wires run through the pole. (Morris, of GCI, disputed the safety concerns, saying that if there’s a danger, it’s the existing power pole, not the 10-foot antenna extension).

The pole is 34 feet from one home, Arnold said. City law requires a separation distance equal to 200 percent of the height of a wireless communication tower or pole.

Arnold said aesthetics and property values also are issues for neighbors. She said she and Knowlan have been renovating their home, and the power pole is visible off the back porch. It’s already unsightly, she said, but she doesn’t want it to be worse.

“My perspective is, we live right here, and yeah these wires are ugly, hopefully one day they’ll be buried,” Arnold said. “But let’s not make it more ugly.”

Along with their neighbors Racheali and Timothy Feller, who live across the street from the pole, Arnold and Knowlan have filed an appeal with Anchorage Superior Court based on the Board of Adjustment’s ruling to allow the project to move forward. They’ve also created a Facebook page, posted frequently to the neighborhood website and application [Nextdoor.com](http://Nextdoor.com) <sup>[3]</sup> and canvassed the neighborhood asking about cellphone coverage.

It’s somewhat unusual for an Anchorage cell tower case to go to court. Arnold said none of the four neighbors are lawyers, but they’re prepared to fight it on their own.

The South Addition Community Council has taken a neutral stance on the GCI proposal, voting last year not to contest the plans. Meanwhile, the church that sits on land next to the utility pole has already been receiving payments from GCI for a land lease related to the tower project.

Paul Hartley, the district superintendent for the Alaska district Church of the Nazarene, wouldn’t say how much the church is receiving from GCI, citing a nondisclosure agreement. But he said it’s not a large amount.

“We’re not getting rich off that by any means,” Hartley said. He said the church is leasing land to

GCI for a small power substation.

Hartley said the church's lawyers looked closely at the lease and at the proposal for the cellphone tower before making the deal. He said the church saw the proposed antenna as a positive, and wanted to bring better cellphone coverage to the community.

"That's ultimately our stance: We don't have any issue with the cellphone tower," Hartley said. "If the neighborhood does, they have every right to fight it."

## **Land use issues**

The dispute comes as city planners begin to examine rewriting regulations for cell towers in Anchorage, including guidelines for putting antennas on light poles in residential areas.

Right now, the current rules are "inadequate," said Jillanne Inglis, lead plan reviewer in the city's planning department. She said the city's rules need to differentiate between cellphone towers and light poles with attached antennas and outline the process and criteria for approval.

"In this case," Inglis said, referring to South Addition, "it's fascinating because it's actually a light pole. But suddenly ... it can't be there because of the falldown distance."

The city also needs to give more guidelines on camouflaged towers, or disguising antennas with fake tree branches or other features, Inglis said.

Efforts to rewrite the city's tower regulations, however, have been dormant for years. In 2004, the city's consultant drafted the first version of Title 21, the city's general land-use code, and included more modernized telecommunication tower regulations, said McConnell, the head of the long-range planning section. But the proposed set of new regulations sparked an outcry in the industry, she said.

City planners then agreed to set aside the proposal until the rest of the land-use code had been re-written -- "of course, never imagining the code rewrite would take 12 years," McConnell said. She said planners still haven't had a chance to work on the tower regulations, but there's research underway now.

"The need is recognized, but we have not had an opportunity to start making (the changes)," McConnell said.

At a recent Assembly meeting, several Assembly members voiced frustration at vague rules surrounding cell towers in Anchorage.

"It is a sense of, OK, what are our standards, what are the requirements, what needs to be fulfilled?" said Assembly member Patrick Flynn, who represents downtown.

He said one goal would be to make the process "less painful" for wireless operators, who are spending time and money on proposals that then run into regulatory issues.

Amy Demboski, the chair of the Assembly's committee on land-use regulations, said she expects to focus on tower rules in upcoming committee meetings.

In South Addition, meanwhile, the neighbors said they're nervous about what the eventual outcome of the GCI case could mean for other neighborhoods.

“Basically, what they’re saying ... with the current technology, these towers are going to be popping up everywhere,” Knowlan said.

**Source URL:** <http://www.adn.com/article/20150711/neighbors-protest-cellphone-antenna-more-power-pole-towers-are-way>

**Links:**

[1] <http://www.adn.com/author/devin-kelly>

[2] <http://www.adn.com/image/cell-tower-150707-3x2jpg-1436668259>

[3] <https://nextdoor.com/>



Submitted by Kevin Dee

# Alaska Dispatch News

Published on *Alaska Dispatch News* (<http://www.adn.com>)

[Home](#) > As neighbors protest a cellphone antenna, more power-pole 'towers' are on the way

[Devin Kelly](#) <sup>[1]</sup>

July 11, 2015

**Main Image:**

[Cell Tower 150707-3x2.JPG-1436668259](#) <sup>[2]</sup>

**Main Image Credit:**

Bob Hallinen / Alaska Dispatch News

**Main Image Caption:**

South Addition neighbors -- including Teresa Arnold, Heather Knowlan, Ezra Clark, Kylie Clark, Rodney Clark and Racheali Feller -- are opposed to GCI installing a cell tower on the top of the power pole in the background near the corner of 13th and E Streets in Anchorage. The Clarks live in the home behind the group. Tuesday, July 7, 2015.

Cellphone antennas could soon be popping up on top of more Anchorage utility poles -- an industry push playing out in a battle between a telecommunications corporation and neighbors worried about safety and aesthetics.

In the South Addition neighborhood just south of downtown, General Communications Inc. wants to put a 10-foot antenna on top of an existing 68-foot utility pole in an alley near 13th Avenue and E Street. A group of neighbors has mounted a vigorous protest and recently filed an appeal with Anchorage Superior Court.

It's rare to see a cellular antenna on top of a power pole in a residential area in Anchorage. The head of the city's long-range planning department, Erika McConnell, said she knew of only one other example, on Aero Drive off West Northern Lights Boulevard. But McConnell said more are expected, and wireless providers are pushing for more city guidelines as technology evolves and mobile phones proliferate, pushing antennas into denser sites in neighborhoods.

In the South Addition case, which has met opposition from neighbors every step of the way, GCI has sought permission from city zoning boards to exceed the maximum height and separation distance for a cellphone tower in a residential district. The company wants to fill in a gap in cellphone coverage in the area, said GCI spokesman David Morris.

Morris said GCI could have gone the traditional route and built its own tower, but topping an existing tower with an antenna seemed less obtrusive for the neighborhood. The pole belongs to Municipal Light & Power, the city-owned electric utility.

Power poles topped with antennas in residential areas are fairly common in the Lower 48. There aren't as many in Alaska. But Morris said he expects that to change.

"As demand and population density increases, you're going to see more and more of these things occur," Morris said.

Elected officials have said the city should revive a dormant effort to rewrite regulations on

RECEIVED

AUG 05 2015

CITY OF HOMER  
PLANNING/ZONING

cellphone towers and introduce more guidelines for antenna-topped utility poles and camouflage or “stealth” towers designed to blend antennas into the surroundings. The city’s first application for a camouflaged tower, by Verizon at Alyeska Ski Resort, is set to be reviewed by the Planning and Zoning Commission later this month.

Those opposing the South Addition GCI project have come up with a different slogan for antenna-topped towers: “Coming soon to a front yard near you.” In this case, they say, they’re especially worried about safety — what would happen if the pole fell over or collapsed? In November, the city Planning and Zoning Commission reinforced that concern when it denied GCI’s permit for the antenna, ruling the cell tower would be located closer to homes than city code allows.

Last month, the commission’s ruling was overturned by the city’s three-member Board of Adjustment after GCI appealed. The board upheld its decision Thursday.

## Neighbors putting up a fight

Teresa Arnold and Heather Knowlan’s backyard opens up to the alley where the utility pole is located. They say nine homes are located in the path of the potential tower’s “fall zone.”

“It is so close to people’s homes,” Knowlan said recently, standing in the alley and looking up at the northwest end, where long wires run through the pole. (Morris, of GCI, disputed the safety concerns, saying that if there’s a danger, it’s the existing power pole, not the 10-foot antenna extension).

The pole is 34 feet from one home, Arnold said. City law requires a separation distance equal to 200 percent of the height of a wireless communication tower or pole.

Arnold said aesthetics and property values also are issues for neighbors. She said she and Knowlan have been renovating their home, and the power pole is visible off the back porch. It’s already unsightly, she said, but she doesn’t want it to be worse.

“My perspective is, we live right here, and yeah these wires are ugly, hopefully one day they’ll be buried,” Arnold said. “But let’s not make it more ugly.”

Along with their neighbors Racheali and Timothy Feller, who live across the street from the pole, Arnold and Knowlan have filed an appeal with Anchorage Superior Court based on the Board of Adjustment’s ruling to allow the project to move forward. They’ve also created a Facebook page, posted frequently to the neighborhood website and application [Nextdoor.com](http://Nextdoor.com) [3] and canvassed the neighborhood asking about cellphone coverage.

It’s somewhat unusual for an Anchorage cell tower case to go to court. Arnold said none of the four neighbors are lawyers, but they’re prepared to fight it on their own.

The South Addition Community Council has taken a neutral stance on the GCI proposal, voting last year not to contest the plans. Meanwhile, the church that sits on land next to the utility pole has already been receiving payments from GCI for a land lease related to the tower project.

Paul Hartley, the district superintendent for the Alaska district Church of the Nazarene, wouldn’t say how much the church is receiving from GCI, citing a nondisclosure agreement. But he said it’s not a large amount.

“We’re not getting rich off that by any means,” Hartley said. He said the church is leasing land to

GCI for a small power substation.

Hartley said the church's lawyers looked closely at the lease and at the proposal for the cellphone tower before making the deal. He said the church saw the proposed antenna as a positive, and wanted to bring better cellphone coverage to the community.

"That's ultimately our stance: We don't have any issue with the cellphone tower," Hartley said. "If the neighborhood does, they have every right to fight it."

## **Land use issues**

The dispute comes as city planners begin to examine rewriting regulations for cell towers in Anchorage, including guidelines for putting antennas on light poles in residential areas.

Right now, the current rules are "inadequate," said Jillanne Inglis, lead plan reviewer in the city's planning department. She said the city's rules need to differentiate between cellphone towers and light poles with attached antennas and outline the process and criteria for approval.

"In this case," Inglis said, referring to South Addition, "it's fascinating because it's actually a light pole. But suddenly ... it can't be there because of the falldown distance."

The city also needs to give more guidelines on camouflaged towers, or disguising antennas with fake tree branches or other features, Inglis said.

Efforts to rewrite the city's tower regulations, however, have been dormant for years. In 2004, the city's consultant drafted the first version of Title 21, the city's general land-use code, and included more modernized telecommunication tower regulations, said McConnell, the head of the long-range planning section. But the proposed set of new regulations sparked an outcry in the industry, she said.

City planners then agreed to set aside the proposal until the rest of the land-use code had been re-written -- "of course, never imagining the code rewrite would take 12 years," McConnell said. She said planners still haven't had a chance to work on the tower regulations, but there's research underway now.

"The need is recognized, but we have not had an opportunity to start making (the changes)," McConnell said.

At a recent Assembly meeting, several Assembly members voiced frustration at vague rules surrounding cell towers in Anchorage.

"It is a sense of, OK, what are our standards, what are the requirements, what needs to be fulfilled?" said Assembly member Patrick Flynn, who represents downtown.

He said one goal would be to make the process "less painful" for wireless operators, who are spending time and money on proposals that then run into regulatory issues.

Amy Demboski, the chair of the Assembly's committee on land-use regulations, said she expects to focus on tower rules in upcoming committee meetings.

In South Addition, meanwhile, the neighbors said they're nervous about what the eventual outcome of the GCI case could mean for other neighborhoods.

“Basically, what they’re saying ... with the current technology, these towers are going to be popping up everywhere,” Knowlan said.

**Source URL:** <http://www.adn.com/article/20150711/neighbors-protest-cellphone-antenna-more-power-pole-towers-are-way>

**Links:**

[1] <http://www.adn.com/author/devin-kelly>

[2] <http://www.adn.com/image/cell-tower-150707-3x2jpg-1436668259>

[3] <https://nextdoor.com/>



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603

Planning@ci.homer.ak.us  
(p) 907-235-3106  
(f) 907-235-3118

## Staff Report PL 15-59

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: August 5, 2015  
SUBJECT: Towers

---

### Introduction

As a response to comments received from GCI and after a review by the Planning Commission, I have a revised ordinance. I continue to struggle with perfecting this and some changes may be in order. My largest concerns with policy are bolded below. I am asking for more industry comment and hope to have GCI available for a presentation and comment. The bold and/or strike out language represents in the ordinance changes since the last version. I made a few revisions which are found in red.

### Review

Lines 41-43: adds definition of “wireless communications service”

Lines 55, 56, 58, and 59: cleaning up exclusion language in regards to exclusion for wireless equipment on a building.

Lines 66, 67, and 68: Adds provision to exclude lightning rods from height calculations for towers.

Lines 88-92: cleans up language in order to modify section regarding exemptions.

Line 102: Adds 30 day suggestion from GCI

Line 104: Excludes towers under 35 from this application, it is still required to be permitted under standard requirements found elsewhere.

Lines 108-132: reformats section and makes it clear about towers meeting the standards for what I would call a legal nonconforming (114-115).

Line 160: I did rethink the level 2 site plan requirement for all towers and believe it is best to just consider the site plan requirements for the district in which the tower is located. Level 2 may be inappropriate for towers in residential districts.

**Lines 161-168: these are changes in response to comments received. I am still looking for comments on how this works for the industry. After mapping out the 1000 foot radius it did not seem as far as I thought. It seems to me that a search ring that might be used for tower placement would be larger than this. Thinking 1500+ might be more appropriate. Also would like to review the “3 alternate .. locations (166).**

Lines 169-172: setting expectations for colocation.

Lines 178-187: Responding to comments about the previous vagueness of the last version regarding visual impact considerations. I believe that this is better positioned to address the specific concerns of Homer.

Lines 191-196: Clarification in response to comments, policy is not changed from last version.

**Lines 201-203: Here is the tough policy stuff! I gave out a general parameter to the lawyer about things that I was most concerned regard what might preclude an exception to the 1.1 setback distance. I was surprised when I saw the commercial activities in the list and am not sure that I am so concerned with non-dwelling situations. Most of our towers in commercial and industrial districts could not meet this standard. I imagine a change is in order here.**

**Lines 205-209: This was a standard I found in other codes that actually prescribed the expectation for colocations. In general, this requirement seems minimal in comparison to the heights. I am looking for comments in regards to this.**

**Lines 210-213: Another policy that I am looking forward to seeing industry input. It seems the 10 additional feet for colocation might be interpreted in a less than uniform way.**

Lines 214-219: This clarifies expectations for the towers to blend in with the surroundings in response to comments received.

Lines 247-254: After receiving comments, I found that this actually was a bit redundant as nuisance and abatement policy is found in another section of the title and does apply.

Lines 286-291: Removes language that is now addressed in other section of the ordinance.

**Lines 292-294: Note for legal, concern about how this works I accordance with the 1000 foot requirement found in 161-168 for consistency. This is where the 1000 feet may not be appropriate if other reasonable colocation opportunities exist when the applicant could meet there service goals outside of that range.**

Lines 303-314: Classic legalese language regarding the currently understood specific provision regarding rulings made on the shot clock issue. I was not expecting to go into such detail, but this is my understanding of how this has been ruled on and works. Again, this is not “our” policy but is the current legal expectation at this time.

Lines 318-325: In response to comments, this puts first responsibly on the owner for removal of an unsafe tower.

Lines 390-399: This makes the wind energy policy consistent with the tower regulations.

Lines 414-415: Provision for consistency with other requirement found in the tile.

## **Recommendation**

Pay particular attention to the comments in bold. Give consideration to testimony and comments received on the new draft and make motions as appropriate.

## **Attachments**

1. Attorney draft ordinance 5.0, markup version.

1  
2  
3  
4  
5  
6  
7  
8  
9  
10  
11  
12  
13  
14  
15  
16  
17  
18  
19  
20  
21  
22  
23  
24  
25  
26  
27  
28  
29  
30  
31  
32  
33  
34  
35  
36  
37  
38  
39  
40  
41  
42  
43  
44

CITY OF HOMER  
ORDINANCE 15-xx

Planning Commission

AN ORDINANCE OF THE HOMER CITY COUNCIL AMENDING HOMER CITY CODE 21.03.040, DEFINITIONS USED IN ZONING CODE, HOMER CITY CODE 21.05.030, MEASURING HEIGHTS, AND HOMER CITY CODE 21.70.010, ZONING PERMIT REQUIRED; REPEALING HOMER CITY CODE CHAPTER 21.58, SMALL WIND ENERGY SYSTEMS<sup>7i</sup> AND ENACTING HOMER CITY CODE CHAPTER 21.58, TOWERS AND RELATED STRUCTURES.

THE CITY OF HOMER ORDAINS:

Section 1. Homer City Code Chapter 21.03.040, Definitions used in zoning code, is amended by adding the following definitions:

"Collocation" means the placement or installation of wireless communications equipment on an existing wireless communications support structure or in an existing equipment compound.

"Equipment compound" means the area occupied by a wireless communications support structure and within which wireless communications equipment is located.

"Tower, amateur radio" means a fixed vertical structure used exclusively to support an antenna used by an amateur radio operator licensed by the Federal Communications Commission, plus its accompanying base plates, anchors, guy cables and hardware.

"Tower, communications" means a fixed vertical structure built for the primary purpose of supporting wireless communications equipment, plus its accompanying base plates, anchors, guy cables and hardware.

"Wireless communications equipment" means the set of equipment and network components used in the provision of wireless communications services, including without limitation antennas, transmitters, receivers, base stations, equipment shelters, cabinets, emergency generators, power supply cables, and coaxial and fiber optic cables, but excluding any wireless communications support structure.

"Wireless communications services" means transmitting and receiving information by electromagnetic radiation, by an operator (other than an amateur radio operator) licensed by the Federal Communications Commission.

[**Bold and underlined added.** Deleted language stricken through.]

45 | "Wireless communications support structure" means a structure that is designed to  
46 | support, or is capable of supporting, wireless communications equipment, including a  
47 | communications tower, utility pole, or building.  
48 |

49 | Section 2. Subsection (b) of HCC 21.05.030 is amended to read as follows:  
50 |

51 | b. When measuring height of a building, the following are excluded from the  
52 | measurement:

53 | 1. Steeples steeples, spires, belfries, cupolas and domes if not used for human  
54 | occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads,  
55 | monuments, flagpoles, wind energy systems, television and radio antennas ~~(other than~~  
56 | ~~antennas that are wireless communications equipment)~~, other similar features, and  
57 | necessary mechanical appurtenances usually carried above roof level.

58 | 2. Wireless communications equipment that does not extend more than 10  
59 | feet above the height of the building to which it is attached.  
60 |

61 | Section 3. Subsection (d) of Homer City Code Chapter 21.58, Small Wind Energy  
62 | Systems, 05.030 is repealed. amended to read as follows:  
63 |

64 | ~~Section 4.~~

65 | d. When determining the height of a nonbuilding structure, such as a sign, or fence,  
66 | amateur radio tower, communications tower or wireless communications support  
67 | structure, the height shall be calculated as the distance from the base of the structure at  
68 | normal grade to the top of the highest part of the structure, excluding lightning rods. For this  
69 | calculation, normal grade shall be construed to be the lower of (1) existing grade prior to  
70 | construction or (2) the newly established grade after construction, exclusive of any fill, berm,  
71 | mound, or excavation made for the purpose of locating or supporting the structure. In cases in  
72 | which the normal grade cannot reasonably be determined, structure height shall be calculated  
73 | on the assumption that the elevation of the normal grade at the base of the structure is equal  
74 | to the elevation of the nearest point of the crown of a public street or the grade of the land at  
75 | the principal entrance to the main building on the lot, whichever is lower.  
76 |

77 | Section 4. Homer City Code Chapter 21.58, Small Wind Energy Systems, is repealed.  
78 |

79 | Section 5. Homer City Code Chapter 21.58, Towers and Related Structures, is enacted  
80 | to read as follows:  
81 |

## 82 | CHAPTER 21.58

### 83 | TOWERS AND RELATED STRUCTURES

#### 84 | Article I. Communications Towers and Wireless Communications Equipment

85 | [Bold and underlined added. Deleted language stricken through.]  
86 |  
87 |



88 21.58.010 Purpose and Application; Exceptions.

89 a.—The purpose of this article is to provide standards and procedures for  
90 communications towers, ~~except for those communications towers that are exempt from the~~  
91 ~~provisions of this article under b of this section,~~ and for wireless communications equipment.

92 ~~b. The~~

93 21.58.020 Exemption from regulation.

94 a. Each of the following communications towers ~~are~~ is a permitted principal or accessory  
95 use or structure in each zoning district and is exempt from the provisions of this article:

96 1. A communications tower that is placed temporarily to support wireless  
97 communications equipment that is provided in response to a state of emergency  
98 declared by a federal, state, or local government authority, ~~and that~~ is removed within  
99 12 months after the termination of the state of emergency.

100 2. A communications tower that is placed temporarily to support wireless  
101 communications equipment that is provided for media coverage of a special event, and  
102 that is placed no more than ~~4530~~ days before the special event and removed no more  
103 than 15 days after the end of the special event.

104 3. A communications tower with a height not exceeding 35 feet.

105 4. An amateur radio tower, to the extent that it is exempt from regulation under  
106 AS 29.35.141.

107 ~~21.58.020 Wireless communications equipment exemption from regulation.~~ b. The

108 collocation, removal, replacement or installation of wireless communications equipment is a  
109 permitted principal or accessory use or structure in each zoning district and is not subject to  
110 approval under this title if it meets all of the following requirements:

112 ~~a1.~~ a1. The collocation, removal or replacement is in an existing wireless  
113 communications support structure or existing equipment compound that is in  
114 compliance with the requirements of this title in effect at the time of its construction  
115 and with the terms and conditions of any previous final approval ~~of the wireless~~  
116 ~~communications support structure or equipment compound~~ under this title.

117 ~~b2.~~ b2. The collocation, removal or replacement will not do any of the following:

118 ~~1A.~~ 1A. Increase the overall height of the wireless communications support  
119 structure by more than 20 feet or 10% of its original height, whichever is  
120 greater.

121 ~~2B.~~ 2B. Increase the width of the wireless communications support structure  
122 by more than the minimum necessary to permit the collocation, removal or  
123 replacement.

124 ~~3C.~~ 3C. Increase the area of the existing equipment compound to greater  
125 than 2,500 square feet.

126 ~~€3.~~ €3. The collocation, removal or replacement complies with the terms and  
127 conditions of any previous final approval of the wireless communications support  
128 structure or equipment compound under this title.

129 ~~€4.~~ €4. The installation is on an existing building that is in compliance with the  
130 requirements of this title and with the terms and conditions of any previous final

[Bold and underlined added. Deleted language stricken through.]

131 approval ~~of the building~~ under this title, and the wireless communications equipment  
132 does not extend more than 10 feet above the height of the building.

133  
134 21.58.030 Permission for ~~Communications Towers~~communications towers.

135 a. Except as provided in subsection (b) of this section, a communications tower is  
136 permitted as a principal or accessory use or structure in each zoning district.

137 b. A communications tower that exceeds the following maximum height for the zoning  
138 district in which the communications tower is located is permitted only when authorized by  
139 conditional use permit issued in accordance with Chapter 21.71.

140	<u>District</u>	<u>Maximum Height (feet)</u>
141	CBD	60
142	TC	60
143	GBD	60
144	GC1 (Beluga Lake)	120
145	RO	85
146	UR	60
147	RR	85
148	CONS	60
149	GC2	120
150	EEMU	120
151	MI	120
152	MC	120
153	OSR	60
154	BCWPD	120

155  
156 21.58.040 Application ~~R~~requirements. An application for a zoning permit or conditional  
157 use permit for a communications tower that is subject to regulation under this article shall  
158 include the following information, in addition to information required by other provisions of  
159 this title:

160 ~~a. A level two site plan that shows the location of the communications tower.~~

161 ~~ab.~~ A written narrative explaining the necessity of the why placing wireless  
162 communications tower equipment at the proposed location is necessary to the applicant's  
163 wireless communications services coverage, ~~a description of alternate sites for the including~~  
164 confirmation that there is no available site for collocation of the wireless communications  
165 tower equipment within a radius of 1,000 feet from the proposed location, and why the  
166 proposed site an evaluation of at least three alternate communications tower locations that  
167 the applicant considered and an explanation why the proposed location is the best alternative,  
168 a.

169 ~~b.~~ A demonstration that the height of the communications tower is the minimum  
170 required for the effective operation of the wireless communications equipment that it  
171 supports, plus the present and ~~a description of the communications tower's capacity to~~  
172 accommodate future collocations that it supports.

**[Bold and underlined added. Deleted language stricken through.]**

173 ed. A map showing the locations of the applicant's existing communications towers  
174 that serve customers in the city and of all communications towers that the applicant proposes  
175 to construct to serve customers in the city.

176 de. A description of the wireless communications equipment that the communications  
177 tower will support, and accessory structures such as equipment cabinets and generators.

178 ef. An analysis of the potential visual impacts of the communications tower ~~on property~~  
179 in its vicinity at distances of 500 feet and 1,500 feet from the proposed location, through the  
180 use of photo simulations of the communications tower and the wireless communications  
181 equipment that it will support, ~~from relevant vantage points designated by the Planning~~  
182 Department; The analysis shall include, to the extent practicable, the visual impact along two  
183 lines extending from the shore of Kachemak Bay through the communications tower site that  
184 are separated by an angle of at least 90 degrees, and show the relationship of the  
185 communications tower to structures, trees, topography, and other intervening visual barriers.  
186 The analysis will include recommendations to mitigate adverse visual impacts of the  
187 communications tower on other properties.

188 fg. A certificate from an engineer licensed in Alaska that the communications tower,  
189 and all antennas and other wireless communications equipment located on it, meet industry  
190 standards for their construction, including without limitation the ability to withstand  
191 anticipated wind loads, ~~and will contain only wireless communications equipment meeting~~  
192 applicable Federal Communications Commission requirements and seismic loads.

193 gh. Evidence that all wireless communications equipment supported by the  
194 communications tower meets applicable Federal Communications Commission requirements.

195 i. A determination of compliance with, or exemption from, no hazard to air navigation  
196 for the communications tower issued by the Federal Aviation Administration requirements.

197 h. For a conditional use permit, minutes of each public meeting held under Section  
198 21.58.060(a), and copies of all public comments received under Section 21.58.060(b)(45).

199  
200 21.58.050 Communications tower standards.

201 a. The distance from a communications tower to the closest property line of a lot that  
202 contains a dwelling unit, dormitory, hotel, motel, bar, restaurant, school, day care facility,  
203 church, retail establishment or place of public assembly may not be less than 1.1 times its total  
204 height.

205 b.b. A communications tower shall be structurally sufficient to support, and provide  
206 sites for, collocation of wireless communication equipment, in addition to the wireless  
207 communications equipment for which the tower originally is constructed, as follows:

<u>Height of</u> <u>Telecommunications Tower</u>	<u>Number of</u> <u>Collocation Sites</u>
<u>60-100 feet</u>	<u>1</u>
<u>100-150 feet</u>	<u>2</u>
<u>Over 150 feet</u>	<u>3</u>

209  
[**Bold and underlined added. Deleted language stricken through.**]

210 c. The height of the communications tower shall not be greater than the minimum  
211 height required for the effective operation of the wireless communications equipment and  
212 collocations that it will support upon its initial construction, plus 10 feet for each additional  
213 unoccupied collocation site on the communications tower.

214 d. The communications tower and any related equipment compound are painted or  
215 coated in a color that blends with the surrounding environment, except to the extent that  
216 obstruction marking is required by the Federal Aviation Administration, and the fence or wall  
217 that surrounds the equipment compound at the base of the communications tower, combined  
218 with any landscaping adjacent to its exterior, shall obscure the equipment compound to view  
219 from its exterior.

220 e. All guy wires, cables and other accessory support structures for a communications  
221 tower shall be on the same lot as the tower, but may be located within required setback areas,  
222 and shall be properly jacketed to ensure visibility in accordance with applicable safety  
223 standards.

224 ef. The equipment compound for a communications tower shall conform to the  
225 minimum setback requirements of the zoning district in which it is located.

226 eg. Not less than two off-street parking spaces conforming to the requirements of this  
227 title shall be provided on the lot where a communications tower is located for use in the  
228 operation and maintenance of the communications tower and the wireless communications  
229 equipment that it supports.

230 eh. The equipment compound at the base of a communications tower shall be  
231 surrounded by a fence or wall not less than six feet in height with a secured gate. The lowest  
232 part of a climbing apparatus that provides access to equipment on a communications tower  
233 shall be at least 12 feet above the ground, and the tower shall have no handholds or footholds  
234 below the climbing apparatus.

235 fi. Except for switch type lighting, no artificial lighting shall be mounted on a  
236 communications tower, and a communications tower shall not be illuminated with artificial  
237 lighting, except when required by the Federal Aviation Administration.

238 gj. Signs. No sign, flag or pennant may be attached to a communications tower except  
239 that the following shall be posted in a location that is visible from the ground outside the  
240 equipment compound:

241 1. A sign identifying the party responsible for the operation and maintenance of  
242 the communications tower, with a 24-hour emergency contact telephone number.

243 2. Any antenna structure registration number required by the Federal  
244 Communications Commission.

245 3. Warnings of dangers associated with the communications tower or  
246 equipment that is located on the communications tower.

247 ~~h. No person may operate a communications tower, or equipment on a~~  
248 ~~communications tower, that the City Engineer has found to be unsafe or not in compliance~~  
249 ~~with applicable law until the unsafe condition or noncompliance has been corrected. If~~  
250 ~~corrective action is not taken within six months after notice of the City Engineer's finding, the~~  
251 ~~unsafe communications tower or equipment shall be removed.~~

**[Bold and underlined added. Deleted language stricken through.]**

252 ~~i. The City may abate as a nuisance under HCC 21.90.070 a communications tower~~  
253 ~~supporting only wireless communications equipment that is not operational for a period of at~~  
254 ~~least 12 consecutive months.~~

255  
256 21.58.060 Public notification of communications tower application.

257 a. The applicant for a conditional use permit for a communications tower shall hold at  
258 least one meeting informing the public of the application that conforms to the following  
259 requirements.

260 1. The meeting shall be held at city hall, or at a public facility that is nearer to the  
261 location of the proposed communications tower and capable of seating a minimum of 20  
262 people.

263 2. The meeting shall be held on a day that is not a city holiday at least 15 days  
264 before the applicant submits its application to the city.

265 3. The meeting shall be scheduled to last a minimum of two hours and shall not  
266 start before 5:00 p.m. or after 7:00 p.m.

267 b. The applicant shall notify each record owner of property within 1200 feet of the  
268 parcel that is the site of the proposed communications tower by first class mail at least 15 days  
269 before the meeting of the following:

270 1. The legal description, street address and a map of the vicinity, of the parcel  
271 that is the site of the proposed communications tower;

272 2. A description of the proposed communications tower, including its height,  
273 design, and lighting, the proposed access to the site and the services proposed to be  
274 provided by the tower;

275 3. The date, time, and location of the meeting;

276 4. A contact name, telephone number, and address of the applicant; and

277 5. A form on which to submit written comments, with a comment submittal  
278 deadline and instructions.

279  
280 21.58.070 Action on communications tower application.

281 a. The reviewing authority shall ~~apply the following criteria in acting upon~~approve a  
282 communications tower ~~application only if the applicant demonstrates that it meets the~~  
283 following criteria:

284 1. The communications tower ~~must conform~~conforms to the requirements in  
285 Section 21.58.050, and the other applicable standards in this title.

286 2. ~~In addition to conforming to any applicable height limitation in this article,~~  
287 ~~the height of the communications tower is not greater than the minimum height~~  
288 ~~required for the effective operation of the wireless communications equipment that it~~  
289 ~~supports.~~

290 3. ~~The communications tower is designed, constructed and surfaced in a manner~~  
291 ~~that minimizes its visibility beyond the lot on which it is located.~~

292 4. The coverage for the applicant's wireless services  
293 customers that the communications tower will provide cannot be provided by  
294 collocation on an existing wireless communications support structure.

[Bold and underlined added. Deleted language stricken through.]

295 | 534. Of the : available alternate sites, the selected site provides necessary  
296 | coverage for the applicant's wireless communications services customers with the least  
297 | visual impact on other properties.

298 | b. No action may be taken on a communications tower application ~~may be taken~~ on the  
299 | basis of the environmental effects of radio frequency emissions to the extent that the wireless  
300 | communications equipment that ~~is will be located on~~ the ~~subject of the application tower~~  
301 | complies with ~~the~~ Federal Communications Commission's regulations concerning such  
302 | emissions.

303 | c. The reviewing authority shall act on a communications tower application within a  
304 | reasonable period of time after ~~a complete the~~ application has been filed with the city taking  
305 | into account the nature and scope of the application ~~request, but within no more than 150 days~~  
306 | after the application is complete, but within no more than 150 days after the application is  
307 | filed. The 150-day period excludes (i) any time that begins when the reviewing authority gives  
308 | written notice to the applicant within 30 days of receipt of the application that the application  
309 | is incomplete, clearly and specifically delineating all missing documents or information, until  
310 | the applicant makes a supplemental submission in response to the notice of incompleteness;  
311 | and (ii) any time that begins when the reviewing authority has given written notice to the  
312 | applicant within 10 days of receipt of such a supplemental submission that the supplemental  
313 | submission did not provide the information identified in the original notice delineating missing  
314 | information until the applicant makes another supplemental submission.

315 | d. An action denying a communications tower application shall be in writing and  
316 | supported by substantial evidence contained in a written record.

317 |  
318 | 21.58.080 Communications tower removal requirements.

319 | The owner and the lessee of the property that is the site of a communications tower are  
320 | jointly and severally responsible for its removal:

321 | a. If corrective action is not taken within six months after notice that the City Engineer  
322 | has found the communications tower, or equipment on the communications tower, to be  
323 | unsafe or not in compliance with applicable law.

324 | b. Within 90 days after all wireless communications equipment on a communications  
325 | tower has not been operational for a period of at least 12 consecutive months.

## 327 | Article II. Small Wind Energy Systems

328 |  
329 | 21.58.110 Purpose and application. The purpose of this article is to establish minimum  
330 | health and safety standards for small wind energy systems. It applies to small wind energy  
331 | systems in all districts where they are allowed as permitted or conditional uses.

332 |  
333 | 21.58.120 Installation requirements.

334 | a. The wind turbine of a small wind energy system may be mounted on a building or a  
335 | wind energy system tower.

336 | b. The surfaces of all small wind energy system components that are visible when the  
337 | small wind energy system is in operation shall be painted a nonreflective, neutral color.

**[Bold and underlined added. Deleted language stricken through.]**

VENUTI/HIGHLAND MOVED TO AMEND TO INCLUDE TRAFFIC CALMING.

There was no discussion.

VOTE: (Amendment) YES: VENUTI, BRADLEY, BOS, STEAD, HIGHLAND, STROOZAS  
NO: ERICKSON

Motion carried.

There was no further discussion on the main motion as amended.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

Chair Stead called for a short recess at 8:34 p.m. and the meeting resumed at 8:38 p.m.

### **Plat Consideration**

None

### **Pending Business**

A. Staff Report PL 15-47 Towers Ordinance

City Planner Abboud read through the comments from GCI that were included in the packet, noting the information was sent out to others who agreed with the comments or had no additional input.

Question was raised about being able to add on to the towers. City Planner Abboud explained that the federal regulations allow towers to grow by a certain percent. It raised a challenge regarding the CUP process if a tower is built at a height that is not required to come in for a permit, but then come back later and add more height.

Discussion ensued regarding setback standards and that they may need to take time to address setbacks specific to districts and also considering what the standard is for harmful impact.

Regarding abandonment, City Planner Abboud commented that in a lot of cases people wanting to install a tower will first look at leasing city land and city leases require proper insurance coverage. For towers on private lands it will be challenging to follow up on insurance or bonding.

### **New Business**

A. Staff Report PL 15-48 General Commercial 1 Land Availability

VENUTI/BOS MOVED TO POSTPONE GC1 TO THE NEXT MEETING.



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

### Staff Report PL 15-47

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: June 17, 2015  
SUBJECT: Towers

---

#### Introduction

We have had our ordinance reviewed by a few who work in the wireless industry. I have found some things that could be improved upon after their review.

#### Review

The best information we have is that presented by GCI. There were others who submitted and testified, but they did not bring anything to the table that was not in that letter. I have reviewed the letter and made comments for your review. I will seek the Planning Commission's recommendations based on a conversation about my comments.

#### Recommendation

Discuss responses to GCI correspondence and make recommendations for the update of the ordinance.

#### Attachments

1. Attorney draft ordinance 4.0
2. Comments from GCI including responses



### **Section 1: Amendment of HCC 21.03.040**

- We would suggest specifically defining “tower height” or “maximum height” to include only the height of the tower itself, and to exclude any appurtenances. It is a general best practice in the wireless industry to mount lightning rods on top of towers, for obvious safety reasons. These rods generally extend three to five feet above the height of a tower. If the rods are included in the measurement of “tower height” or “maximum height,” wireless providers will face the difficult proposition of acquiring towers in non-standard heights (e.g. 117 feet), in order to continue to address safety issues. Can do this
- We would suggest revising the definition of “Tower, communications” to include towers other than those supporting wireless communications equipment. As drafted, this ordinance does not address broadcast towers, microwave towers, or towers of any sort other than those specifically supporting wireless communications equipment. If your intent is to provide uniform regulation of tall communications tower structures, there is a gap in your language here. Need to explore – thinking the definition is without limitation includes these as the communicate is without wires

### **Section 2: Amendment of HCC 21.05.030**

- This revision specifically exempts wireless communications equipment that does not extend more than ten (10) feet above the height of the building from regulation. That said, the draft ordinance does not address regulation of wireless communications equipment which does extend more than ten feet above a building (the provisions of the draft ordinance addressing maximum height, application requirements, standards, etc., are all specific to “communications towers,” which is not defined to include other types of wireless communications support structures). This appears to be a gap in the proposed ordinance. Could directly address, generally thinking it would require permit and would require support that falls into tower, communication allowed according to height. Another thought is to speak of up to 35 feet or 10 feet above roof line/ existing structure whichever is less, after which a permit is required.

### **Section 3: Repeal of HCC 21.58: Small Wind Energy Systems**

- No comments.

### **Section 4: Enactment of HCC 21.58: Towers and Related Structures**

- HCC 21.58.010(b): In GCI’s experience, thirty (30) days is required before a special event for the installation of a functioning “cell on wheels,” or temporary communications tower. This time horizon allows for adequate trouble shooting prior to the event, and guarantees that the event organizer will have the cell service they are seeking. Fifteen (15) days for the removal of the tower after the event has concluded is sufficient. Not seeing a problem with this.
- HCC 21.58.020(a): The language of this section could have the unintended consequence of prohibiting collocation on or replacement of any existing towers in Homer. The

language permits collocation/replacement only if the applicable wireless communications support structure complies with the language of this new ordinance (“existing wireless communications support structure or existing equipment compound that is in compliance with the requirements of this title . . .”). This new title imposes several significant new requirements on tower construction. As a specific example, new HCC 21.58.050 requires that all towers be 1.1 times their height from the closest property line. Reading new HCC 21.58.020(a) and 21.58.050 together, an existing tower which is less than 1.1 times its height from a property line would never be an option for collocation, and a provider would be compelled to build a new tower rather than collocate on the existing tower. We would suggest re-phrasing to state that collocation/replacement is permitted on any wireless communications support structure which is in compliance with the previous final approval of the structure and any ordinance requirements in place at the time of original approval. Compliance with title includes nonconformity. If it qualifies for nonconformity (was developed within regulations applicable at inception) it would qualify for exemption as specified.

- HCC 21.58.020(d): As noted above, the ordinance does not address the regulation of installations greater than 10 feet in height on existing buildings.
- HCC 21.58.040(b): We see two potential challenges arising out of the proposed language of this section:
  - The language requiring “a description of alternate sites for the communications tower and why the proposed site is the best alternative” is tremendously broad and could potentially lead to endless exploration which is both unhelpful for the Planning Commission and functionally prohibitive for providers seeking to expand their coverage. Potential alternatives which might serve the same function but be more concrete and feasible for both parties are:
    - A description of the existing towers a provider has in the area, and an explanation of why a tower is needed in this specific area; Good
    - A description of other existing towers in the region, and an explanation of why collocation is not an alternative to new construction; Perhaps a specified radius could be prescribed, 1000ft ?
    - A description of the alternate sites the provider looked at (general industry practice is to pinpoint at least three alternatives), and a description of why the proposed site was chosen.
  - The language requiring that each tower be “the minimum required for the effective operation of the wireless equipment that it supports” will potentially lead to providers proposing to build more, shorter towers, rather than fewer, taller towers. A tower must be a certain height to be useful for any provider. If collocation is to be possible on the tower, it will need to be taller for each additional provider on the tower. The City is, clearly, empowered to decide whether more short towers or fewer tall towers is a better alternative for Homer. That said, if the City would like fewer cell towers, we would recommend revising this language. General practice in other municipalities in Alaska which have decided they prefer fewer towers is to grant an additional 15 feet of tower height over and above the minimum required for each collocation opportunity provided by the tower. For example, the Fairbanks North Star Borough Code states:

“Collocation shall grant an additional 15 feet above the base height for each qualifying antenna to a maximum of 30 feet of additional height.” FNSBC 18.50.155.A.1. Minimum required could include amount needed for two or more collocation. Minimum required for operation including considerations for collocation. The “equipment that it supports” would include other carriers or projected use in the future. FBNS code can be considered but perhaps in 10 ft increments which coincidentally is parallel with allowance for exception in HCC 21.58.020 (b)(1).

- HCC 21.58.040(e): The requirement of this section that a provider submit an analysis of potential visual impacts “from relevant vantage points designated by the Planning Department” could lead to inconsistent application of this requirement to the detriment of both the Homer community and providers hoping to enter the market. General practice in other municipalities is to set out specific requirements for a visual impact analysis which both sides can adhere to. For example, for a major communications tower Fairbanks an applicant must submit analysis at 500 feet, 2,500 feet, and two miles from (to the extent practicable) two of four compass directions. FNSBC 18.50.155.C.1.h. Reasonable with one of the compass direction being bayward.
- HCC 21.58.040(f): We suggest specifying that the City is seeking plans for the tower which are stamped by an Alaska-licensed engineer and a commitment from the provider that equipment will be FCC-certified. In our experience, we are unaware of a certificate which can be issued by an engineer attesting to the items listed, and believe that stamped plans and FCC-certified equipment will address the substantive concerns behind this provision. A certificate from an engineer licensed in Alaska that the communications tower will meet industry standards related to proposed use and local load requirements and (assurance) from applicant that equipment will be certified by FCC./meet applicable FCC requirements.
- HCC 21.58.040(g): We suggest specifying that the City is seeking a Determination of No Hazard to Air Navigation from the Federal Aviation Administration. Good
- HCC 21.58.050: As a general matter, we are concerned that there is no allowance in this section, or elsewhere in the proposed ordinance, allowing for a variance from the strict application of the tower requirements. As with all zoning matters, there are times when variation from the strict application of the language will be crucial to make a project possible, or may allow a project to better address community concerns. We would suggest building a variance process into the ordinance. Exception with provision of no harmful impact to adjoining properties, or property that has easement, or nor readily available for development due to physical constraints or statement from owner? Would also like to consider differing standards according to districts.
- HCC 21.58.050(a): Strict adherence to this requirement may make tower construction all but impossible in Homer, and will definitely lead to construction proposals which will not be the most desirable from a community perspective. This requirement will essentially only permit construction in the very center of properties, and will prohibit providers from tucking towers out of the way adjacent to existing industrial construction, steep hillsides, bodies of water, and other unbuildable areas. We would suggest considering a standard like that adopted in the Matanuska-Susitna Borough, which provides that a minimum setback for a tower base shall be a distance equal to the height of the tower, but that the

reviewing authority “may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare to adjacent property owners.” MSBC 17.67.090(A)(2)(a). Like concept, not sure of best criteria for measuring, consider concept and example language from MSBC listed above. This standard addresses the safety concern that we understand to be motivating this requirement, while also allowing flexibility for placing towers in aesthetically and technically advantageous locations.

- HCC 21.58.050(h): We have several questions about this section:
  - Will a provider have the opportunity to respond to or appeal a determination of the City engineer? It is possible that, with additional information from the tower owner, the City may want to reconsider a determination. All title 21 is appealable to the planning commission
  - What happens if a provider is in the process of repairing an unsafe condition when the six-month time horizon expires? With the length of Alaska winters, it is possible that an issue could arise with a tower in late fall which is un-fixable until summer. Does mention that corrective action must be taken, not completed. I imagine that this is likely an imminent danger situation, perhaps insert something referring to health safety and welfare.
  - Will the City perform the removal or simply order the provider to remove the equipment at issue? City interference with a tower could result in damage to service provided by the tower owner and other providers. City removal would always be a last resort and only performed to ensure safety of citizens.
- HCC 21.58.050(i): This section cross-references HCC 21.90.070, allowing for City removal of towers which are not operational for twelve months. We understand the concern, but suggest that Homer follow the lead of other Alaska municipalities in requiring providers to agree to remove the tower if it remains unused for 12 months (see FNSBC 18.50.155 C.1.g, AMC 21.45.265.A.8). This avoids sticky situations which could arise from direct City intervention on a tower property, while still protecting the City’s interests. We could state this, but would not preclude the option as it is an option in any nuisance situation.
- HCC 21.58.070(a)(1): As noted above, we suggest the inclusion of a variance process to allow for applications which do not strictly adhere to the requirements of HCC 21.58.050.
- HCC 21.58.070(a)(2): As noted above, this requirement will effectively prohibit collocation and lead to the construction of a higher number of shorter towers in Homer. We suggest considering whether this is the desired outcome and potentially adding a height “bonus” allocation for collocation. Try that it ‘is designed to support’, back to additional collocates mentioned above.
- HCC 21.58.070(a)(3) and (5): These types of requirements are tremendously difficult for both municipalities and providers to effectively implement. What does it mean to minimize visibility? How is the “least visual impact” measured? Does it depend on the number of neighbors? Or how vocal these neighbors are in a hearing? In lieu of these open-ended standards, we would suggest listing concrete criteria that the City would like to see for each tower, including:
  - The applicant has provided screening fencing and/or landscaping for ground-level facilities. Good

## GCI Comments – Proposed Homer Tower Ordinance

- The applicant has considered possible alternatives for minimizing the visual impact of the tower (e.g. tower color). A good example of a clause addressing this point comes from the Kenai Municipal Code, which requires that “Towers and antennas must be painted or coated in a color that blends with the surrounding environment. Muted colors, earth tones, and subdued hues, such as gray, shall be used.” KMC 14.20.255(c)(4)(G). Good
- To the extent technically feasible and reasonably available, the applicant has situated the tower in the area minimizing visual impact on visually sensitive areas, such as public parks. A good example of a clause addressing this point is included in the Matanuska-Susitna Borough Code, and provides that an applicant must demonstrate that “visibility of the tall structure from public parks, trails recognized within adopted Borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available.” MSBC 17.67.080(B)(2). Will review with Commission.
- HCC 21.58.070(c): In October of 2014, the Federal Communications Commission determined that the one hundred and fifty day “shot clock” for consideration of tower applications by local zoning authorities begins to run on the date an application is submitted, not on the date it is complete (though the clock can be tolled if certain specific notice provisions and timelines are adhered to for completing an application). This language in the ordinance should be updated to match the federal standard. See WT Docket No. 13-238, 11-59, 13-32, Report and Order Adopted October 17, 2014 at paragraph 258 (available online at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2014/db1021/FCC-14-153A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1021/FCC-14-153A1.pdf)). Yes, shot clock would stop when notified that the application is not complete until it is resubmitted. Submitted in accordance with 2009 Declaratory Ruling?

VOTE. YES. STROOZAS, BOS, BRADLEY, HIGHLAND  
NO. VENUTI, STEAD, ERICKSON

Motion carried.

B. Staff Report PL 15-41, Towers Ordinance

Chair Stead introduced the item into the record. City Planner Abboud reviewed his report and commented on the appropriate sized area needed for a fall zone for a 120 foot tower, he noted technical issues that were provided in the laydown materials and advised the commission that it deserved consideration and review by the commission.

Commissioner Erickson recommended that they review the information with Staff comments at a worksession or next meeting.

Commissioner Highland asked about the tower that is to be placed on the end of the spit.

Commissioner Erickson left the table at 8:37 pm. Chair Stead called for a brief recess. The meeting was called back to order at 7:44 pm.

City Planner Abboud responding to Commissioner Highland that the City has made a recommendation for a proposal to construct a 120 foot tower on a lot but it is not 1:1, there are many issues, but there has to be some way to be prudent. City Planner Abboud stated that they may not find the lot that works. It is not often, it is more that something falls off the tower than the tower falling, not sure how they would accomplish their goals with this.

Commissioner Erickson noted that breaking points within the height of the tower to alleviate the need for the space can be incorporated into towers. City Planner Abboud stated that it would be good to talk with someone about that technology and there is a possibility that that may work.

Chair Stead opened the public hearing for testimony.

Josh Reynolds, Chief Information Officer for SpitwSpots, a fixed wireless provider located in Homer, our view after reading the submitted materials SpitwSpots comments and recommendations would be virtually the same. Mr. Reynolds stated that it was apparent that the commission's intent is to establish and make concrete guidelines and terminology definitions and it has kind of veered into safety and visual impact. If you look at what this ordinance is going to make happen though is instead of having one - three towers in large height that makes visual impact and what this ordinance will do is create more towers, because they are not allowed to have the appropriate height or location due to the 1:1 requirement. This ordinance will accomplish what the commission is actually trying to prevent. He stated that there is language that has already been brought down in Federal Court, SpitwSpots is not going to take it up with the City but if AT&T, Verizon or another larger company requires a tower they will take it up with the city and make it a legal battle. If you to make the limit 40 feet then you can only use the top of the tower therefore if you have 5 companies needing a tower instead of co-location you end up with 5 towers.

Chair Stead closed the public hearing and asked for a motion to adopt Staff Report PL 15-41

Commissioner Highland requested clarification on motion content. City Planner Abboud responded that she could move to adopt the Staff Report.

HIGHLAND/BOS - MOVED TO ADOPT STAFF REPORT PL 15-41, TOWERS ORDINANCE AND POSTPONE THE PUBLIC HEARING TO BRING IT BACK FOR REVISIONS.

Discussion on requesting information from professionals in the field for the next review of the commission so that the commission can make informed decisions on possible revisions to the draft ordinance. Discussion also included seeing more than two comments on this and input from the industry professionals would be added value, he further stated that most of Homer is a view shed and he would like to see some requirement for blending into nature.

Commissioner Highland asked about amending line 147-148 on page 33 of the packet to add "ice" since that would be a big deal here. Staff can add that note and make the motion at the next meeting.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT.

Motion carried.

Chair Stead clarified that the Staff Report has been adopted and the commission will see the ordinance again with minor revisions at the next meeting, with more public comment.

C. Staff Report PL 15-42, Site Development Standards

Chair Stead read the title into the record. City Planner Abboud read his report.

Chair Stead opened the public hearing for comment. Seeing no public present the public hearing was closed.

BOS/ERICKSON - MOVED TO ADOPT DRAFT ORDINANCE 15-08, SITE DEVELOPMENT STANDARDS AND FORWARD TO CITY COUNCIL FOR PUBLIC HEARING.

Commissioner Highland noted line 11, space needed between words "BY" and "AUGUST" and a comma was needed in line 32 after the word "months".

Commissioner Venuti, questioned line 36, requesting clarification for "other means" once clarification was provided then it was discussed that it does not allow time for the developer to re-vegetate since the ordinance states that it must be re-vegetated by native or other means. Commissioner Erickson pointed out the use of the word "that" in line 34 before nine month period provides definition of the period allowed for a cleared area to be re-vegetated. There was a brief discussion on the enforcement of the area being re-vegetated in the 9 month time period.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT

Motion carried

#### PLAT CONSIDERATION

There were no plat considerations.

#### PENDING BUSINESS

A. Staff Report PL 15-43, Waddell Way

Chair Stead read the title into the record. City Planner Abboud reviewed his report and requested recommendations from the commission.

ERICKSON/BOS - MOVED TO ADOPT OPTION A

Laydown 6/3/15



June 3, 2015

To: Homer Advisory Planning Commission

Re: Proposed Homer Tower Ordinance

Dear Mr. Stead, Mr. Bos, Ms. Bradley, Mr. Venuti, Ms. Highland, Mr. Stroozas, and Ms. Erickson:

General Communications, Inc. (GCI) is an Alaska-based telecommunications company with a long history of serving rural and urban Alaska communities through the provision of cable, wireless, broadband, and other telecommunications services. As a part of our wireless work, we have collaborated with local jurisdictions seeking to implement tower regulation ordinances in order to assist those municipalities in understanding the practical impact of their drafting choices on the wireless industry and to preemptively address problem areas known to us through our work in other areas of the state. In this spirit, we respectfully submit the attached comments on the City of Homer's draft Tower Ordinance. Thank you for your consideration of our perspective.

If you have any questions, please feel free to contact us at the information below.

Sincerely,

Nick Miller  
Director, Wireless Initiatives and Implementation

GCI - Wireless Operations  
Phone 907-868-2576  
Email: nmiller@gci.com

Becky Windt Pearson  
Corporate & Land Use Counsel

GCI - Legal/Regulatory Department  
Phone 907-868-5629  
Email: rwindtpearson@gci.com

RECEIVED

JUN 03 2015

CITY OF HOMER  
PLANNING/ZONING



### **Section 1: Amendment of HCC 21.03.040**

- We would suggest specifically defining “tower height” or “maximum height” to include only the height of the tower itself, and to exclude any appurtenances. It is a general best practice in the wireless industry to mount lightning rods on top of towers, for obvious safety reasons. These rods generally extend three to five feet above the height of a tower. If the rods are included in the measurement of “tower height” or “maximum height,” wireless providers will face the difficult proposition of acquiring towers in non-standard heights (e.g. 117 feet), in order to continue to address safety issues.
- We would suggest revising the definition of “Tower, communications” to include towers other than those supporting wireless communications equipment. As drafted, this ordinance does not address broadcast towers, microwave towers, or towers of any sort other than those specifically supporting wireless communications equipment. If your intent is to provide uniform regulation of tall communications tower structures, there is a gap in your language here.

### **Section 2: Amendment of HCC 21.05.030**

- This revision specifically exempts wireless communications equipment that does not extend more than ten (10) feet above the height of the building from regulation. That said, the draft ordinance does not address regulation of wireless communications equipment which does extend more than ten feet above a building (the provisions of the draft ordinance addressing maximum height, application requirements, standards, etc., are all specific to “communications towers,” which is not defined to include other types of wireless communications support structures). This appears to be a gap in the proposed ordinance.

### **Section 3: Repeal of HCC 21.58: Small Wind Energy Systems**

- No comments.

### **Section 4: Enactment of HCC 21.58: Towers and Related Structures**

- HCC 21.58.010(b): In GCI’s experience, thirty (30) days is required before a special event for the installation of a functioning “cell on wheels,” or temporary communications tower. This time horizon allows for adequate trouble shooting prior to the event, and guarantees that the event organizer will have the cell service they are seeking. Fifteen (15) days for the removal of the tower after the event has concluded is sufficient.
- HCC 21.58.020(a): The language of this section could have the unintended consequence of prohibiting collocation on or replacement of any existing towers in Homer. The language permits collocation/replacement only if the applicable wireless communications support structure complies with the language of this new ordinance (“existing wireless communications support structure or existing equipment compound that is in compliance with the requirements of this title . . .”). This new title imposes several significant new requirements on tower construction. As a specific example, new HCC 21.58.050 requires

that all towers be 1.1 times their height from the closest property line. Reading new HCC 21.58.020(a) and 21.58.050 together, an existing tower which is less than 1.1 times its height from a property line would never be an option for collocation, and a provider would be compelled to build a new tower rather than collocate on the existing tower. We would suggest re-phrasing to state that collocation/replacement is permitted on any wireless communications support structure which is in compliance with the previous final approval of the structure and any ordinance requirements in place at the time of original approval.

- HCC 21.58.020(d): As noted above, the ordinance does not address the regulation of installations greater than 10 feet in height on existing buildings.
- HCC 21.58.040(b): We see two potential challenges arising out of the proposed language of this section:
  - The language requiring “a description of alternate sites for the communications tower and why the proposed site is the best alternative” is tremendously broad and could potentially lead to endless exploration which is both unhelpful for the Planning Commission and functionally prohibitive for providers seeking to expand their coverage. Potential alternatives which might serve the same function but be more concrete and feasible for both parties are:
    - A description of the existing towers a provider has in the area, and an explanation of why a tower is needed in this specific area;
    - A description of other existing towers in the region, and an explanation of why collocation is not an alternative to new construction;
    - A description of the alternate sites the provider looked at (general industry practice is to pinpoint at least three alternatives), and a description of why the proposed site was chosen.
  - The language requiring that each tower be “the minimum required for the effective operation of the wireless equipment that it supports” will potentially lead to providers proposing to build more, shorter towers, rather than fewer, taller towers. A tower must be a certain height to be useful for any provider. If collocation is to be possible on the tower, it will need to be taller for each additional provider on the tower. The City is, clearly, empowered to decide whether more short towers or fewer tall towers is a better alternative for Homer. That said, if the City would like fewer cell towers, we would recommend revising this language. General practice in other municipalities in Alaska which have decided they prefer fewer towers is to grant an additional 15 feet of tower height over and above the minimum required for each collocation opportunity provided by the tower. For example, the Fairbanks North Star Borough Code states: “Collocation shall grant an additional 15 feet above the base height for each qualifying antenna to a maximum of 30 feet of additional height.” FNSBC 18.50.155.A.1.
- HCC 21.58.040(e): The requirement of this section that a provider submit an analysis of potential visual impacts “from relevant vantage points designated by the Planning Department” could lead to inconsistent application of this requirement to the detriment of both the Homer community and providers hoping to enter the market. General practice in other municipalities is to set out specific requirements for a visual impact analysis which

both sides can adhere to. For example, for a major communications tower Fairbanks an applicant must submit analysis at 500 feet, 2,500 feet, and two miles from (to the extent practicable) two of four compass directions. FNSBC 18.50.155.C.1.h.

- HCC 21.58.040(f): We suggest specifying that the City is seeking plans for the tower which are stamped by an Alaska-licensed engineer and a commitment from the provider that equipment will be FCC-certified. In our experience, we are unaware of a certificate which can be issued by an engineer attesting to the items listed, and believe that stamped plans and FCC-certified equipment will address the substantive concerns behind this provision.
- HCC 21.58.040(g): We suggest specifying that the City is seeking a Determination of No Hazard to Air Navigation from the Federal Aviation Administration.
- HCC 21.58.050: As a general matter, we are concerned that there is no allowance in this section, or elsewhere in the proposed ordinance, allowing for a variance from the strict application of the tower requirements. As with all zoning matters, there are times when variation from the strict application of the language will be crucial to make a project possible, or may allow a project to better address community concerns. We would suggest building a variance process into the ordinance.
- HCC 21.58.050(a): Strict adherence to this requirement may make tower construction all but impossible in Homer, and will definitely lead to construction proposals which will not be the most desirable from a community perspective. This requirement will essentially only permit construction in the very center of properties, and will prohibit providers from tucking towers out of the way adjacent to existing industrial construction, steep hillsides, bodies of water, and other unbuildable areas. We would suggest considering a standard like that adopted in the Matanuska-Susitna Borough, which provides that a minimum setback for a tower base shall be a distance equal to the height of the tower, but that the reviewing authority “may reduce the setback to a distance less than the height of the tower, if the applicant demonstrates there is no risk to public health, safety, or welfare to adjacent property owners.” MSBC 17.67.090(A)(2)(a). This standard addresses the safety concern that we understand to be motivating this requirement, while also allowing flexibility for placing towers in aesthetically and technically advantageous locations.
- HCC 21.58.050(h): We have several questions about this section:
  - Will a provider have the opportunity to respond to or appeal a determination of the City engineer? It is possible that, with additional information from the tower owner, the City may want to reconsider a determination.
  - What happens if a provider is in the process of repairing an unsafe condition when the six-month time horizon expires? With the length of Alaska winters, it is possible that an issue could arise with a tower in late fall which is un-fixable until summer.
  - Will the City perform the removal or simply order the provider to remove the equipment at issue? City interference with a tower could result in damage to service provided by the tower owner and other providers.
- HCC 21.58.050(i): This section cross-references HCC 21.90.070, allowing for City removal of towers which are not operational for twelve months. We understand the concern, but suggest that Homer follow the lead of other Alaska municipalities in requiring providers to agree to remove the tower if it remains unused for 12 months (see

FNSBC 18.50.155 C.1.g, AMC 21.45.265.A.8). This avoids sticky situations which could arise from direct City intervention on a tower property, while still protecting the City's interests.

- HCC 21.58.070(a)(1): As noted above, we suggest the inclusion of a variance process to allow for applications which do not strictly adhere to the requirements of HCC 21.58.050.
- HCC 21.58.070(a)(2): As noted above, this requirement will effectively prohibit collocation and lead to the construction of a higher number of shorter towers in Homer. We suggest considering whether this is the desired outcome and potentially adding a height “bonus” allocation for collocation.
- HCC 21.58.070(a)(3) and (5): These types of requirements are tremendously difficult for both municipalities and providers to effectively implement. What does it mean to minimize visibility? How is the “least visual impact” measured? Does it depend on the number of neighbors? Or how vocal these neighbors are in a hearing? In lieu of these open-ended standards, we would suggest listing concrete criteria that the City would like to see for each tower, including:
  - The applicant has provided screening fencing and/or landscaping for ground-level facilities.
  - The applicant has considered possible alternatives for minimizing the visual impact of the tower (e.g. tower color). A good example of a clause addressing this point comes from the Kenai Municipal Code, which requires that “Towers and antennas must be painted or coated in a color that blends with the surrounding environment. Muted colors, earth tones, and subdued hues, such as gray, shall be used.” KMC 14.20.255(c)(4)(G).
  - To the extent technically feasible and reasonably available, the applicant has situated the tower in the area minimizing visual impact on visually sensitive areas, such as public parks. A good example of a clause addressing this point is included in the Matanuska-Susitna Borough Code, and provides that an applicant must demonstrate that “visibility of the tall structure from public parks, trails recognized within adopted Borough plans, and water bodies has been minimized to the extent that is technically feasible and potentially available.” MSBC 17.67.080(B)(2).
- HCC 21.58.070(c): In October of 2014, the Federal Communications Commission determined that the one hundred and fifty day “shot clock” for consideration of tower applications by local zoning authorities begins to run on the date an application is submitted, not on the date it is complete (though the clock can be tolled if certain specific notice provisions and timelines are adhered to for completing an application). This language in the ordinance should be updated to match the federal standard. See WT Docket No. 13-238, 11-59, 13-32, Report and Order Adopted October 17, 2014 at paragraph 258 (available online at [http://transition.fcc.gov/Daily\\_Releases/Daily\\_Business/2014/db1021/FCC-14-153A1.pdf](http://transition.fcc.gov/Daily_Releases/Daily_Business/2014/db1021/FCC-14-153A1.pdf)).

Laydown 6/3/15

2211 Lincoln Ave.  
Anchorage, Alaska

June 2, 2015

Rick Abboud  
Planning & Zoning  
City of Homer  
491 Pioneer  
Homer, Alaska

Re: Proposed repealing and enacting Chapter 21.58, Towers and Related Structures

Dear Rick:

I lived near Wasilla for five years, working as a Professional Land Surveyor, and followed some of the activity surrounding the Mat-Su Borough's various tall tower ordinances. I noticed that some of the language of the proposed City of Homer ordinance borrowed from the latest MSB effort. I offer the following comments and suggestions, representing my personal opinion as an individual:

1) I suggest you define tower height. Does it include any antennas extending from the top of the tower structure?

2) **Line 157-158 21.58.050 a**

***"The distance from a communications tower to the closest property line may not be less than 1.1 times its total height."***

The property line setback requirement in the Mat-Su Borough's ordinance created a great amount of discussion. The setback provision was added as an amendment during the final discussion of the ordinance, along with a built-in ability to grant an exception to the setback.

The major complaint against tall towers is interference with view shed, and a large setback line does not always solve that complaint.

The Mat-Su borough has many large sized parcels as compared to the City of Homer. A 120' tall tower would need to be placed in the center of a 1.6 acre square shaped parcel to meet the proposed setback requirement. A 100' tall tower would require a 1.1 acre square shaped parcel to meet the proposed setback.

If the purpose of the setback requirement is to protect structures should the tower fall over, it would be advantageous to locate a proposed tower by a feature such as a highway right of way, ocean, lake, river or some other non-buildable area such as a swamp. Normally the limits of these features are property lines, and under the proposed setback towers would not be allowed near these structure-free areas.

Consider exempting some zoning districts from the setback requirement, such as the MI or MC zones.

This proposed setback would have significant economic impact of the cost of a tower site which would limit the incentive for a carrier provider to install a tower for a high level of service, and/or would result in an increased cost to the carrier's subscribers.

Other cities have run into conflict with Federal FCC Regulations through overly restrictive regulations which limit cell tower permits. A balance must be struck between the City's local zoning powers and a telecommunication company's right to fully build out their network under federal law.

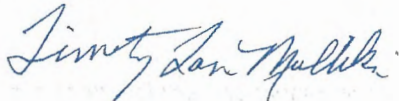
A Geographic Information System (GIS) desktop exercise to see how many parcels can contain a 132' radius circle (to determine how many parcels within the City limits would be eliminated through the implementation of the proposed setback radius) may help the City evaluate the impact of the proposed setback.

**3) Line 149, 21.58.040. f. "... and will contain only wireless communications equipment meeting applicable federal Communications Commission requirements."**

I suggest wording: "... and any such wireless communications equipment will meet applicable federal Communications Commission requirements."

**4) Line 241, 21.58.070. c.** The 150 day limit seems unnecessarily long.

Sincerely,



Timothy L. Mullikin

RECEIVED

JUN 02 2015

CITY OF HOMER  
PLANNING/ZONING



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603

Planning@ci.homer.ak.us  
(p) 907-235-3106  
(f) 907-235-3118

## Staff Report PL 15-41

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: June 3, 2015  
SUBJECT: Towers

---

### Introduction

After a year's work we now have a draft ordinance ready for public comment.

### Brief of tower ordinance

Currently, code has no definition of towers and they fall under the general CUP procedures. This is quite problematic for several reasons. With no definition of what constitutes a tower, staff is left to apply regulations as they seem fit. This has meant that only very large towers that constitute the primary use of a lot were getting CUP's. It also meant that issues unique to towers were decided by the various commission and staff. This could leave an applicant uncertain of what they might have to address in a meeting and could cause delays as a commission discovered they wished to address items that the applicant had not presented in the application.

This ordinance provides definition of towers and the information needed for application. In some instances towers will be exempt from regulation including that no addition permits will be necessary for equipment placed on a building up to ten feet above the roof line. Federal regulation specifies opportunities for existing towers to expand. If a tower is below the height in the table, they are allowed to permit through the planning office. If tower height is above the height in the table a procedure unique for towers is prescribed.

The ordinance set standards for review. We propose considering the need for a tower and evidence that it cannot be located on an existing tower. Consideration must be given to the visual impact. The lot on which it is located must support a fall zone equal to 1.1 times the height of the proposed tower. Towers must also provide evidence that they comply with engineering and other agency requirements. Towers that need a CUP will require a neighborhood meeting prior to the CUP hearing.

### Recommendation:

Hold public hearing and receive comments. Motion to revise if so desired. Hold additional public hearing next meeting.

### Attachments

1. Attorney draft ordinance 4.0
2. Memo 15-04



## City of Homer

www.cityofhomer-ak.gov

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603

Planning@ci.homer.ak.us  
(p) 907-235-3106  
(f) 907-235-3118

### Memorandum PL 15-04

TO: HOMER ADVISORY PLANNING COMMISSION

FROM: RICK ABBOUD, CITY PLANNER

DATE: JUNE 6, 2015

SUBJECT: AN ORDINANCE OF THE HOMER CITY COUNCIL AMENDING HOMER CITY CODE 21.03.040, DEFINITIONS USED IN ZONING CODE, HOMER CITY CODE 21.05.030, MEASURING HEIGHTS, REPEALING HOMER CITY CODE CHAPTER 21.58, SMALL WIND ENERGY SYSTEMS, AND ENACTING HOMER CITY CODE CHAPTER 21.58, TOWERS AND RELATED STRUCTURES.

---

**This memo contains the planning staff review of the zoning code amendment as required by HCC 21.95.040.**

**21.95.040 Planning Department review of code amendment.** The Planning Department shall evaluate each amendment to this title that is initiated in accordance with HCC 21.95.010 and qualified under HCC 21.95.030, and may recommend approval of the amendment only if it finds that the amendment:

**a.** Is consistent with the comprehensive plan and will further specific goals and objectives of the plan.

Discussion: Comprehensive Plan Chapter 8, Goal 4: "Encourage technology related business such as information science, software development, and the entertainment industry." The accompanying implementation strategy includes "Improving Homer's information technology infrastructure ... This amendment is directly correlated toward accomplishing this goal.

*Staff response:* This amendment is consistent with the Comprehensive Plan.

**b.** Will be reasonable to implement and enforce.

*Staff response:* This code amendment will be reasonable to implement and enforce. It makes the requirements and expectations for development of towers clearer.



**c.** Will promote the present and future public health, safety and welfare.

*Staff response:* The public health, safety and welfare are not compromised, standards unique to towers have been considered.

**d.** Is consistent with the intent and wording of the other provisions of this title.

*Staff response:* This amendment is consistent with the intent and wording of other provisions of this title. The amendments have been reviewed by the City Attorney and are deemed consistent with the intent and wording of the other provision of this title.

**21.95.010 Initiating a code amendment.**

*Staff response:* The City Planner initiated the code amendment. Per HCC 21.95.010(d).

**21.95.030 Restriction on repeating failed amendment proposals.**

*Staff response:* This section of code is found to be not applicable.



## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

May 28, 2015

Alaska Wireless Network, aka GCI  
Becky Windt Pearson  
1550 Denali St. Suite 1000  
Anchorage, AK 99503

**This letter was sent to 6 companies who were on the bid holders list for the Spit wireless communication tower.**

Dear Ms. Pearson,

The Homer Advisory Planning Commission will hold public hearings on a proposed ordinance that will regulate communications towers and wireless communications equipment under Homer Zoning Code. As a proposal holder for the recent Homer spit property lease for a wireless communication tower, you have been identified as an interested party on this proposal. We would like to invite you to participate in the public discussion by offering your valuable input on the proposed ordinance.

Two public hearings are scheduled as follows:

**June 3** at 6:30 pm in Cowles Council Chambers at City Hall

**June 17** at 6:30 pm in Cowles Council Chambers at City Hall

Please find the draft ordinance at our website:

<http://www.cityofhomer-ak.gov/planning/towers-ordinance-such-cell-towers>

Public testimony can be presented at the meeting or submitted in advance to the Planning Office in person, by email or by mail. Please submit written testimony to the Planning Office by 4pm of the day of the public hearing.

If you have any questions please give us a call.

Sincerely,

Rick Abboud, City Planner

**REQUEST FOR PROPOSALS**  
**By the City of Homer, Alaska**  
**For Homer Spit Property Lease for an Owner-Operated/Subleased Wireless Communication Tower**

1. Alaska Wireless Network, aka General Communications Inc. (GCI) 04/20/15 mj  
Paul McLendon Addendum #1 05/07/15  
2550 Denali St. Suite 1000  
Anchorage, AK 99503  
Ph 907-868-5693 Fax 907-868-9963  
Email: [pmclendon@gci.com](mailto:pmclendon@gci.com)
  
2. Dryden & LaRue 04/20/15 mj  
Timothy Mullikin Addendum #1 05/07/15  
3305 Arctic Blvc. Suite 201  
Anchorage, AK 99503  
Ph 907-646-5197 Fax 907-770-7749  
Email: [tmullikin@drydenlarue.com](mailto:tmullikin@drydenlarue.com)
  
3. SpitwSpots, Inc. 04/29/15 mj  
Aaron Larson Addendum #1 05/07/15  
369 E. Pioneer Ave. Suite B  
Homer, AK 99603  
Ph 907-299-0920 Fax 800-464-4046  
Email [aaron@spitwspots.com](mailto:aaron@spitwspots.com)
  
4. SpitwSpots, Inc. 04/29/15 mj  
Beauregard Burgess Addendum #1 05/07/15  
PO Box 2311  
Homer, AK 99603  
Ph 907-299-8280 Fax 800-464-4046  
Email [burgess@spitwspots.com](mailto:burgess@spitwspots.com)
  
5. Alaska Wireless Network, aka General Communications Inc. (GCI) 5/4/15 mj  
Becky Windt Pearson Addendum #1 05/07/15  
2550 Denali St. Suite 1000  
Anchorage, AK 99503  
Ph 907-868-5629 Fax 907-868-9963  
Email: [rwindtpearson@gci.com](mailto:rwindtpearson@gci.com)
  
6. Alaska Wireless Network, aka General Communications Inc. (GCI) 5/4/15 mj  
Nick Miller Addendum #1 05/07/15  
6831 Arctic Blvd.  
Anchorage, AK 99518  
Ph 907-868-2576 Fax 907-274-3112  
Email: [nmiller@gci.com](mailto:nmiller@gci.com)

**PENDING BUSINESS**

A. Staff Report PL 15-36, Towers Ordinance

Chair Stead read the title into the record and noted the laydown received from Mr. Kevin Dee on the Tower ordinance. He invited the City Planner to open discussion.

Mr. Abboud noted the draft of the ordinance that is further along and commented on the following items:

- Height calculations on line 43-53
- Excludes wireless communications equipment lines 100-103
- Changing the timeline to 45 days Line 201
- Typos were corrected
- Technical Review requirement
- Cluster designations
- Requiring the use of municipal owned land

Staff recommended moving the ordinance to public hearings or further review

ERICKSON/BOS - MOVE TO FORWARD THIS ORDINANCE TO PUBLIC HEARINGS.

There was a brief discussion.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT.

Motion carried.

B. Staff Report PL 15-37, Ordinance 15-08, Site Development Standards

Chair Stead introduced and brought the item to the floor.

City Planner Abboud provided background to date on the ordinance. They had a presentation on invasive weeds and the importance of plantings. Staff recommended the commission review and discuss Lines 29/30 and 32/33 and expressed concerns regarding enforcement of weed free materials, currently there is no source of weed free gravel or fill on this part of the peninsula. This amendment to the ordinance was made by Council at the meeting.

Staff recommendations were to discuss the amendments on the record and forward to public hearing.

Commissioner Stroozas questioned the use of the word "Natural" in line 33 and opined that all vegetation is natural. He asked if it should not follow the use of the word "native" as in line 29. Chair Stead requested a motion.

ERICKSON/VENUTI - MOVE TO CHANGE "NATURAL" IN LINE 33 AND 34 TO "NATIVE" AND FORWARD FOR PUBLIC HEARINGS.

Discussion followed on the wording for legislative purposes and enforcement of the sentiment "weed free plants with no invasive species"; the time limit of nine months to re-vegetate was to protect against erosion; weeds will never be eradicated but they can minimize them.

STROOZAS/BOS (amendment) - MOVED TO AMEND LINE 29 TO DELETE THE WORD "PLANTINGS", AND AMEND LINE 30 TO DELETE "AND WEED FREE PLANTS WITH NO INVASIVE SPECIES" INSERT "OR PLANTINGS TO MINIMIZE INVASIVE SPECIES."

There was no discussion on the amendment.

VOTE. YES. NON-OBJECTION. UNANIMOUS CONSENT.

Laydon : HAPC Meeting 5/20/15

TO: Homer Advisory Planning Commission

RE: Towers Ordinance

FROM: Kevin Dee

DATE: May 20, 2015

RECEIVED

MAY 20 2015

CITY OF HOMER  
PLANNING/ZONING

I recently attended the staff report on towers on Wednesday May 6, 2015 at the Advisory Planning Commission meeting. I am pleased at the progress that is being made however, there are several areas that may be pitfalls for the direction this ordinance is taking and I wanted to be on record to hopefully avoid them. I hope you will keep an open mind to these suggestions to avoid future conflicts where either industry or citizens become angered over towers.

Some background might be in order. As you may be aware I own a consulting firm that provides business, process and organizational development services to clients (kmdconsulting.biz). I count among my clients several that provide telecommunications infrastructure and services in Alaska and outside of Alaska. In the last few months I have been polling them informally on towers and cell services in general. I have learned many things with one overriding theme being repeated. That is, that **Industry wants a fair and definitive set of procedures and processes from whichever locale they are working in, that they can rely on, when planning and applying for and building out towers and telecommunications services.** In other words, no surprises.

When at the meeting last Wednesday I heard the comment that "nothing precludes us from getting a professional review of a tower application" I believe this the wrong direction to go as it introduces ambiguity into the process. The criteria you used in your comments was "if we feel we couldn't handle it..., Nothing precludes us....". This is exactly the kind of ambiguity that discourages Industry development. Will they or wont they be required to get a review? To burden the Planning department to become expert in the very technical world of towers and telecommunications is onerous.

I have tried several times to support the planning office and the Advisory Planning Commission with research and technical resources that would assist in creating a good ordinance. While some ideas such as; collocation and some other standards have been embraced, the proposed ordinance has also lowered the bar significantly and in my mind and is detrimental to Homers Comprehensive plan. While we all become used to many things over time, our tourism appeal and the general appeal of Homer stands to be diminished with towers that are not necessary and clutter up the view. Why would we want to unnecessarily raise the heights and amounts of towers throughout Homer?

Specifically my concerns include;

- **Raising tower height standards that qualify for a zoning permit instead of a conforming use permit.** These fast track standards will likely result in a whole host of complaints as citizens see towers that are greenlighted without much notice or input from neighbors. This means anyone can put up a tower of 65' anywhere essentially by filling out a form, regardless of technical need or view shed etc. Please keep tower height in alignment with no more than 10 feet above surrounding buildings unless approved by a Conforming Use Permit.

- **Not requiring technical review?** It seems the city spends a lot of money on lawyers and defending itself from citizens and businesses trying to live and make a living in Homer. I truly do not understand why the city would not want to make it a requirement for all industrial telecommunications (not for private use) subject to a technical review. I certainly do not and I am quite sure most people do not want to have something that affects their view or property values without good reason. A reasonable required technical review assures a level of due diligence before towers are built rather than relying on biased communications companies who if allowed will often build out a bigger tower than is needed on speculation.
- **Why not designate specific areas and cluster areas?** The designation of areas (many already in place) that could host towers minimizes the possibility of visual tower pollution.
- **Missed opportunity for revenue for the city?** Many municipalities require towers to be placed on municipal lands and receive lease payments for doing so. In an ever cashed strapped city budget, everything helps.

In conclusion, I want to acknowledge the efforts so far of the planning office and the Advisory Planning Commission. If the changes above are incorporated you can count on my support of this ordinance. Thank you for your consideration



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603  
[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)  
(p) 907-235-3106  
(f) 907-235-3118

## Staff Report PL 15-36

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: May 20, 2015  
SUBJECT: Towers

---

### Introduction

This is an opportunity for further review and public comment prior to the public hearing. As we have had a few thorough reviews of the ordinance at prior meetings, I am not recommending any more changes at this time. Being on the agenda does allow the Commission to make motions warranted.

### Summary of Changes since last draft

Lines 43-53

Makes exclusion to the height calculations for wireless communications equipment that is not mentioned in the list of current exclusions from height calculations. I have been told to have equipment much higher than 10 feet will require the inclusion of a tower or additional structural support, which would then fall in the category of "Tower, Communications".

Lines 100-103

Excludes wireless communications equipment that is ten feet or less from the top of a building from regulations found in this ordinance.

Line 201

Shortens the timeline of the public meeting process required prior to a CUP application for tall towers. After I asked for review of the 45 day timeline from the Attorney, we thought that the 45 days requirement for the meeting to be held prior to the CUP application added an undue amount of time to the process.

Typos were also corrected.

### Recommendation:

I suggest that we hold at least two public hearings prior to making a recommendation to council. With the Commission's approval, we will advertise and consider outreach for the public hearings. Give the draft ordinance a thorough review and discuss any issues you may have with the regulations or understanding of the ordinance. Make motions to amend and consider motion to move to public hearing(s).

### Attachments

1. Attorney draft ordinance 4.0

Chair Stead asked if the section line easement raises issue. Mr. Bloom responded that it's an issue for the owner in the sense they have a section line easement that doesn't really connect to anything. The Bayview side was vacated as part of their plat and it was overlooked. The parent plat for this Highlook Subdivision didn't even show the section line and the title report didn't show it. When he got the original patent from the federal government, it showed the section line easement which is how they realized it was there. There is sufficient area for the applicant to do what she needs. He will recommend his client contact the Planning staff to talk about a setback waiver for the house on proposed lot 5A.

There were no public comments.

STROOZAS/BRADLEY MOVED TO APPROVE STAFF REPORT PL 15-31 EAST HIGHLANDS SUB.NO. 2 2015 PRELIMINARY PLAT WITH STAFF COMMENTS AND RECOMMENDATIONS.

Question was raised whether the information Mr. Bloom provided was adequate or if they need to take more action. Chair Stead commented that he thinks it is adequate as it was acknowledged and in the record and the Borough will have it when it goes forward.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

### **Pending Business**

#### **A. Staff Report PL 15-33 Towers Ordinance**

City Planner Abboud reviewed the staff report and the commission went through the review points addressed in the staff report.

There was brief discussion regarding the exemptions listed in HCC 21.05.030 and that the recommendation that wireless communication equipment mounted to an existing structure and doesn't exceed 10 feet seems reasonable.

Commissioner Erickson expressed concern about ensuring the proposed maximum height requirements are appropriate. City Planner Abboud noted that they can be taller than what's listed through the conditional use permit process. Applicants would have to justify the necessity of the larger structure.

Commissioner Highland questioned if the wind energy systems are in here because of the towers and if there will be a separate one for small wind energy systems. City Planner Abboud said it is included because they are on tall towers but it doesn't change anything that is already there.

The Commission didn't make any recommendations.

#### **B. Staff Report PL 15-34 Site Development Standards**





## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

### Staff Report PL 15-33

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: May 6, 2015  
SUBJECT: Towers

#### Introduction

Now we have a more polished ordinance. I am still looking for more eyes to spot inconsistency and to make sure all the recommendations have been captured.

#### New consideration

As I am reviewing the ordinance, I continually try to think how this will work. The CUP process seems solid as it provides us the opportunity to consider not just safety but view shed and performance standards, as far as one wishes to go down that route. I then consider the by-right permitting. It seems that the concerns are warranted for larger free-standing towers. My concern is about where we really start to expect permitting.

The definition of "tower, communication" is how we couch the regulations regarding towers. It is pretty wide reaching. As I read it, this is any structure that supports the broad unlimited category of "wireless communications equipment", as defined. There is no physical constraint. This could be as simple as a few two-by-fours supporting a marine radio antenna. So, what are we really concerned about enough to make someone go through the permitting process?

I believe that we should consider an additional exemption. What we are really concerned about is large things sticking up in the air. We already exclude many things from the height calculations:

*HCC 21.05.030. When measuring height of a building, the following are excluded from the measurement: steeples, spires, belfries, cupolas and domes if not used for human occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads, monuments, flagpoles, wind energy systems, television and radio antennas, other similar features, and necessary mechanical appurtenances usually carried above roof level.*

Looking at this list, we may have to add communication equipment or whatever would be the appropriate word for items in our ordinance.

I would like you to give consideration for the exception of the permitting requirement of wireless communication equipment that does not exceed a specified height when mounted to or on an existing structure, perhaps up to ten feet. An example of something that would not be subject to this ordinance would be the equipment found on city hall or on some of the spit buildings that have marine radio equipment and such.

## **Review**

Section 1, lines 14-39, Definitions: I am not seeing much to comment on here just defining terms not currently found in code.

Section 2 repeals the current code relating to Wind Energy Systems (WES). This was done to move the regulations into this section of code. Article II, lines 223-287 is where you will find the carry-over code pertaining to WES's.

Section 3: This is divided into Articles I and II. Article I deals with communication towers. You will see a reference to 'communication' in every section. Again Article II is regulation with relation to WES's in particular.

21.58.020. Purpose and Exceptions: Exceptions are made for temporary use of communication equipment and amateur radio as provided in Alaska Statute.

21.58.020. Wireless communication equipment exemption from regulation. This addresses items that are subject to the recent interpretation of federal regulations regarding communication towers, basically expansion or replacement of current facilities.

21.58.030. Heights above which a CUP would be required. This is always worth more consideration, remember no public notice just a zoning permit for those below.

21.58.040. Application Requirements. These have been worked over by the attorney. Consider with an eye for the useful application and consider any other information you might want to see.

21.58.050. Communication tower standards. Thing to remember that this is "tower, communications" as defined, so it is just a structure built for the "primary purpose" of supporting communication equipment.

21.58.060. Notification. This is for towers that exceed the heights stated in 21.58.030, not necessary for by-right permit.

21.58.070. Action on communications tower applications.. These are the things we are (a) looking to answer in the application and (b, c, & d) other items in response to federal guidelines.

Article II, Small Wind Energy Systems. This is the place that current code regarding WES is moving.

## **Recommendation:**

Give the draft ordinance a thorough review and discuss any issues you may have with the regulations or understanding of the ordinance. May motions to amend and consider motion to move to public hearing(s).

## **Attachments**

1. Attorney draft ordinance 3.0

P:\PACKETS\2015 PCPacket\Ordinances\Tall Structures-Towers\SR 15-33 Towers 5.6.15.docx

Question was raised about delaying the plat until some of the questions are resolved, like the right of way requirement from the state and the ACOE permit for the other side of the road. Mr. Mullikin responded that it's his understanding that those aren't required at this stage.

It was recommended they contact HEA regarding the electric service crossing new lot lines proposed in the plat.

There was discussion to clarify location of the septic's and that contour lines are not required except in areas where the slope is over 20%. They also talked about the request for exceptions and that the borough will be scrutinizing the requests along with staff report included for their review. The shop next to the road and the well may be looked at by the state.

City Planner Abboud couldn't confirm an exception to 3:1 ratio would be approved if the soil samples came back as satisfactory, staff would want to review the soil report first. They also discussed DEC and borough code requirements relating to usable area of property necessary for onsite septic.

HIGHLAND/BOS MOVED TO APPROVE STAFF REPORT PL 15-25 HODNIK SUBDIVISION PRELIMINARY PLAT WITH STAFF COMMENTS AND RECOMMENDATIONS.

Discussion ensued confirming that the amendments to staff report 15-25 provided in the laydown are part of this recommendation. It further clarifies opposition to the 3:1 ratio is included in the recommendations. Several Commissioners' felt this preliminary plat is premature because of the information that is still needed. It was also noted that concern regarding bluff erosion is addressed in the amendments relating to not recommending the 3:1 ratio exception.

VOTE: YES: STEAD, HIGHLAND, VENUTI, STROOZAS  
NO: BOS

Motion carried.

Chair Stead called for a brief recess at 8:26 p.m. and the meeting resumed at 8:30 p.m.

### **Pending Business**

A. Staff Report PL 15-26 Towers Ordinance

City Planner Abboud and the Commission reviewed staff report, draft tower ordinance, and the article *Federal Cell Tower Zoning: Key Points and Practical Suggestions*.

There was brief discussion about view shed, camouflage, and height. The Commission took no action during ordinance review.

### **New Business**

### **Informational Materials**



## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603  
[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)  
(p) 907-235-3100  
(f) 907-235-3111

### Staff Report PL 15-26

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: April 15, 2015  
SUBJECT: Towers

#### Introduction

I have asked the City Attorney to provide a tower ordinance based on the decision we have already processed. He gave me a starting point that includes some of the items in our previous review. I am reviewing what he has provided with an eye to incorporate the Commission's previous decisions.

I have included what I believe is one of the most useful articles in regards to communication towers. You really are on your way to becoming experts! Please consider the points of the article as you consider the draft ordinance.

I have included my suggestions based on previous input to the draft ordinance in bold type. I mentioned a few technical legal issues related to my understanding of tower regulations to the attorney and he said he would respond to them in the next version he produces. I will get information from the attorney for the next draft regarding the recently mandated regulation on network improvements and reconstructions. What I am trying to do is to provide all the information to the attorney that is necessary for completion of a draft ordinance.

#### Recommendation:

Give the draft ordinance a thorough review and discuss any issues you may have with the regulations or understanding of the ordinance.

#### Attachments

1. Attorney draft ordinance – markup
2. Telecommunications – Zoning Practice

B. Staff Report PL 15-16, Towers

The Commission briefly discussed the information from The Center for Municipal Solutions, an organization that has industry experts, is set up to assist with the creation of ordinances, and can do review, enforcement, or whatever we would need them to do. The idea is their review is paid by the applicant, so it wouldn't cost the city, but it is a significant amount of money. It was suggested this may be cost prohibitive to an applicant, and point was raised that putting up a tower is very costly to begin with, so it may not. City Planner Abboud wasn't sure of the cost of their service for Alaska.

City Planner Abboud and the Commission reviewed the ordinance information and revisions included in the staff report.

Discussion included:

- Essential services shouldn't be an exemption and telecommunications could be considered an essential service. The Environmental Protection Agency will require any utility or service using federal funds to construct will have to go through an environmental assessment. If an essential service wants to build a tower in excess of our height requirement, they should still have to come in for a CUP.
- The 1.1x setback is agreeable.
- 12 months is acceptable relating to reconstruction and replacement and also abandonment.
- Including review by a group like The Center for Municipal Solutions within the standards for approval of new tall structures. This company shouldn't be called out by name in code as there may be others offering the service.
- Continue working on and getting legal review of the draft ordinance, height requirements, and restrictions.

**New Business**

A. Staff Report Pl 15-15, Zoning for Marijuana

City Planner Abboud reviewed the staff report.

There was discussion that the City can adopt local regulations but they can't make them less restrictive than the state regulations. Opposition was expressed to cultivation being allowed in the GC1 and EEMU districts.

They acknowledged the work the state is doing and that it may be beneficial to wait to see what the legislators come up with first. It seems many of the other communities are stepping back to see what the state and larger cities are doing. Forming a local advisory board would be a good step in the process as it will allow a group of people time to focus on the topic and allow the city and residents to be actively engaged in the process.

HIGHLAND/BOS MOVED THAT THE COMMISSION RECOMMENDS COUNCIL FORM A LOCAL ADVISORY BOARD FOR MARIJUANA REGULATIONS.

HOMER ADVISORY PLANNING COMMISSION  
REGULAR MEETING MINUTES  
FEBRUARY 18, 2015

The Commission discussed current mitigation plan information and impervious coverage. City Planner Abboud said the idea is to get a mitigation plan that addresses a 10 year three hour storm, and he can look at other plans where driveways have been excluded depending on engineer certification.

STROOZAS/BOS MOVED TO AMEND LINE 45 OF THE DRAFT THAT STATES "FOR THE PURPOSE OF CALCULATING IMPERVIOUS COVERAGE ON LOTS SMALLER THAN TWO AND ONE HALF ACRES, DRIVEWAYS AND WALKWAYS MAY BE PARTIALLY OR FULLY EXCLUDED FROM THE CALCULATION DEPENDING UPON THEIR DEGREE OF IMPERVIOUSITY IF CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH A MITIGATION PLAN SUBMITTED AND APPROVED IN ACCORDANCE WITH SUBSECTION (A)(3) OF THIS SECTION.

City Planner Abboud suggested something directing the Planner to make more objective standards for determination of exclusion of items in this paragraph.

There was brief discussion regarding the wording of the motion.

Commissioner Highland called for the question.

There was no objection to the call for the question.

VOTE: YES: ERICKSON, STROOZAS

NO: BOS, STEAD, HIGHLAND, VENUTI, BRADLEY

Motion failed.

HIGHLAND/STROOZAS MOVED TO RETURN NUMBER ONE UNDER ITEM B ON LINE 45 BACK TO THE PLANNER TO CREATE MORE OBJECTIVE STANDARDS FOR EXCLUSION FROM IMPERVIOUS CALCULATION.

There was no further discussion.

VOTE: YES: HIGHLAND, ERICKSON, STEAD, VENUTI, STROOZAS, BRADLEY

NO: BOS

Motion carried.



## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Plannir

491 East Pioneer Aven  
Homer, Alaska 996

Planning@ci.homer.ak.

(p) 907-235-31

(f) 907-235-31

### Staff Report PL 15-16

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: February 18, 2015  
SUBJECT: Towers

---

### Recap

We did review the entire staff report at the last meeting. I have noted in bold and underline the additions and concerns that were expressed. I have not received input or a sample ordinance from the City Attorney yet. At this meeting, I would like to review and consider definitions. Definitions cannot be put into context until we see a draft ordinance, but we may consider some of the implication and provide input. The entirety of the staff report from last meeting is retained with the addition of notes and definitions.

I am also including some correspondence from the Center for Municipal Solutions. I have been asked to explore this option and am providing the material that was provided to me for your review. This organization is set up to assist with the creation of the ordinance and is staffed with industry professionals whose job it is to keep up on all legislation and process the applications. This type of situation would support the technical review of the application for necessity, which is not part of the ordinance as proposed. The advantage to this would be to "truth" the application and ensure that the proposal is not being any more intrusive than absolutely necessary. The cost of the review would be borne by the applicant and would not be insignificant. I will set up a teleconference if more information is requested.

### Introduction

I have decided to break down the subjects found in my example ordinance from Mat Su for discussion.

Homer certainly values our scenic environment and also seeks to encourage the advancement of technology. I have included what I found in the Comprehensive Plan in relation to the subject. I have also broken down the Mat Su code for your review and discussion. I believe the best way to approach this is to become familiar and discuss the proposal section by section and assign standards where necessary. I have included the Mat Su Ordinance again, the zoning table and an article from APA on the subject. Please highlight your areas of concern or things that may need further explanation so that we might address them at the work session and be ready for motions at the regular meeting.

## **Homer Comprehensive Plan**

### **Chapter 4, Land Use**

#### **GOAL 2: Maintain the quality of Homer's natural environment and scenic beauty.**

Homer's natural setting provides many benefits but also creates significant constraints. The characteristics of the physical setting need to be respected in guiding the location, amount, and density of development.

This plan takes two general approaches to guide development in relation to environmental conditions. One is to "overlay" information regarding environmental constraints and opportunities onto the Land Use Recommendations Map. This means, for example, that some portions of an area identified for development would be limited by the site-specific presence of steep slopes, wetland areas, drainage channels, etc. The second broad strategy is to recommend that appropriate standards be adopted so that where development does occur it is designed to respect environmental functions and characteristics. Examples in this category include site development polices for drainage, vegetation, and grading.

A need exists for the community to take seriously the issue of shoreline stabilization and the implications of allowing ongoing shoreline development. A process should be launched to examine the issue and put proposed solutions before the citizens.

### **Chapter 5, Economic Vitality**

#### **GOAL 4: Encourage technology related businesses such as information science, software development, and the entertainment industry.**

Homer's beautiful scenery and quality of life can help attract technology related business ventures. Expanding this economic activity could create new skilled jobs, with few negative impacts.

#### **Implementation Strategies**

1. Solicit and encourage businesses to relocate to Homer.
2. Improve Homer's information technology infrastructure in order to provide opportunities for small business entrepreneurs to operate globally (low cost high bandwidth internet services).
3. Create a tech/media promoter person to work with the community to promote tourism, using endowment and grant funds to work independently. The city could partner with another organization.

### **OUTLINE FOR CODE LANGUAGE (organized from Mat Su Ordinance)**

#### **Purpose and intent**

- Establish regulation for tall structures
- Orderly build-out while promoting health, safety, and welfare
  - o Facilitating the organized deployment of tall structures
  - o Minimizing overall number by encouraging collocation
  - o Encourage citizen involvement early so that concerns can be mitigated
  - o Require consideration with Homer Comprehensive Plan and other regulations
  - o Minimize potential hazards
  - o Minimize negative effects on the visual and scenic resources



### **Applicability**

- Here we may set a minimum height for regulation, Matsu used 85 feet. This most likely will be variable in the various districts and will require legal review for formatting into the code.

### **Exemptions**

- Church spires, religious icons, and flag poles displaying official government of religious flags (We have HCC 21.05.030(b) When measuring height of a building, the following are excluded from the measurement: steeples, spires, belfries, cupolas and domes if not used for human occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads, monuments, flagpoles, wind energy systems, television and radio antennas, other similar features, and necessary mechanical appurtenances usually carried above roof level).
- Temporary tall structures: under 12 months, construction related.
- Temporary telecommunications facilities: emergency communication, disaster and such.
- Temporary telecommunications facilities: special event.
- **Essential service utilities: electrical: not sure we have this referenced in code anywhere.**
- Lighting: Harbor lights, ROW lighting. Would be good to set height limit: harbor lights are 150ft. I can't imagine would want to support this height elsewhere.
- Ham radio unless commercial use
- Addition, removal or reorientation of transmission equipment (perhaps some legal guide for boundaries associated with definition of equipment, whether it is on the tower or ground and of such a size on the ground.
- Routine maintenance and repair of tall structure and components.

### **Types of permit available**

1. Administrative/by right – this is a permit issued by the planning office. Generally it would be for new towers. I would expect that we would have some standards associated with the various districts that are tied to a maximum height and perhaps some setback standard. Example: towers up to 125ft. in the Marine Commercial District.
2. CUP – For those towers that exceed an allowance for maximum height and perhaps addressing some standard for setbacks. Example: towers exceeding 125ft. and where fall-zone fall may include private properties.
3. Network Improvement – This is largely set by requirements to adhere to federal rules and would be issued by the Planning Office.

### **Pre-application requirements for new tall structures (CUP) (may want to meld with box store standards per HCC 21.57.110)**

- Community meeting
  - o City hall
  - o At least 15 days after notification
  - o 5-7pm
  - o Notification
    - Legal of lot
    - Description of development including height, design, lighting, and access

- Date time and location of meeting
- Contact info: name telephone and address
- Form created by city describing comment deadline and options for submitting comments
- Notification requirements
  - Within 1200ft.
  - **1/8 page ad in local newspaper one week prior to meeting**
  - **On-site notification (details of signage to be determined)**
- Written report including
  - Date of meeting
  - Summary of notification methods. Mailings, notices, and etc...
  - Sign in sheet for meeting including contact information and that of any interested parties
  - Number of people attending meeting
  - Copies of written comments
  - Certified mailing of all who were notified
  - Written summary including
    - Substance of concerns, issues and problems
    - How the applicant intends to address concerns
    - Concerns that the applicant has not addressed and why

#### **General permit process for tall structures**

- Incomplete application. Rejection in writing within 15 days stating specific deficient items
  - notification per code except that:
    - 1200ft notice area
    - Will include anyone who were notified or submitted comments of pre-application meeting
  - Determination. Written findings of fact and determination including conditions (legal review in accordance with CUP standards)
  - Conditions of approval may include (legal review for incorporation with CUP)(may want to incorporate some of these items into requirements of ordinance)
    - height limitations
    - **increased height or structural capacity to accommodate future collocation **conversation of "colocation if possible" (being that all requirements may not be able to determined for the future)****
    - mitigation of drainage concerns
    - tower type (monopole, lattice, guyed)
    - color
    - landscaping
    - **parking **staff thought one, but commission was thinking at least 2****
    - screening
    - signage
    - lighting **only FAA required on the tower**

- setback **talk of 1.1x tower height with some exceptions based on brake point technology or easement – we then received testimony to give .5x tower height consideration because the most likely danger could be from equipment falling and not the tower itself – I have seen some examples of “no habitable” structures within the fall zone**
- process timeline
  - hearing within 60 days of completed application
  - decision within 30 days of hearing
  - 60 days for administrative review

#### **General application requirements for new tall structures**

- Completed application (per HCC 21.70.020)
- Scale drawings by engineer or architect
- Fee
- Citizen participation report
- Site plan (level 1, HCC 21.50.020)
- FAA no hazard determination
- Information about breakpoint technology, if employed

#### **Standards for approval of new tall structures**

- Permit must meet these standards in addition to any other required in title
- Findings must demonstrate (language is particularly tough)
  - To the extent technically **feasible**, the location of the structure **minimizes** the negative effect on visual and scenic resources of all surrounding properties
  - Visibility of structure from recognized public parks and impact on view of the bay? Is **minimalized** as **technologically feasible**
  - Does not interfere with airport
  - **Will not be harmful to public health, safety, convenience, and welfare**

**(problems with nature of standards underlined, without a highly technical review, we just don't know these facts and would have to take the applicants word for it)**

#### **Operation standards new for tall structures**

- All towers
  - Setback of equipment compound **(as in code)**
  - Setback of tower
    - Fall zone **(1.1x tower, but in consideration of previous fall zone conversation)**
    - Exception for easement and ROW for fall zone
  - Parking, one or one per provider or one per tower **(2 or more)**
  - Wind Energy Regulations per HCC21.58.030

### Network improvement permits

- Allow legally existing towers to be replaced or modified in a manner that increases the overall height of the existing tower in accordance with this section.
- Does not require notification of the surrounding property owners
- Base of replacement tower not to be located further than 50 feet from base of original tower (and must meet setback requirements) Original tower shall be removed within 90 days of completion of replacement tower
- More than one network improvement may be obtained although cumulative height may not increase more than the greater of 10% or 20 feet
- Application of Network improvement permit shall include requirements found in HCC 21.70.020 and:
  - o Application signed by property owner and applicant
  - o Description of proposed modifications including height, type, and lighting of new or modified structure and the existing structure
  - o Level one site plan (HCC 21.50.020)
  - o Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect
- In granting the permit the following findings shall be made in addition to HCC 21.70.030 and:
  - o The development conforms to setback requirements **(Legal: are we bound to federal definition of improvements even when they may conflict with our common codes? –see language two bullets down)**
  - o The existing tower was accepted as legal at time of application for network improvement permit
  - o The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit the height of the structure
- A network improvement permit shall be approved within 60 days from time of application if meeting the requirements of this section.
- Telecommunication towers permitted shall conform with operation standards set in this title (code number here)
- Replacements or modifications of a telecommunication tower in accordance with this section are not subject to application or pre-application requirements for that of a new tower under this chapter.

### Reconstruction and replacement

- This section shall only apply to legally permitted structures or those that have obtained pre-existing legal nonconforming status
- Property owner responsible ..... (legal)
- May be replaced or reconstructed to improve structural integrity or in the case of accidental damage or collapse
  - o Reconstruction or replacement shall not
    - Increase lighting
    - Change type of lighting
    - Change type of tower
    - Change location of tall structure

- Increase height of tall structure
- In case of accidental damage or collapse, reconstruction or replacement must commence within one year or it is considered abandon (legal check) **(commission may need to make motion in consideration of two years as used in current abandonment of nonconforming)**
- Reconstruction or replacement shall conform with previous permits or legal nonconforming determination

#### **Abandonment**

- Abandoned after 12 months of nonoperation **(commission may need to make motion in consideration of two years as used in current abandonment of nonconforming)**
- Shall be removed within 90 days of abandonment
- Addition 90 days when demonstrating good cause

#### **Transfer of permit**

- Permit runs with land

#### **Nonconforming uses**

- Per HCC

#### **Violations, enforcements, and penalties**

- Per HCC

#### **Appeal procedure**

- Per HCC

#### **New – Definitions**

“Ancillary structure” means any form of development associated with a telecommunication facility, including but not limited to: foundations, concrete slabs on grade, guy wires, guy anchors, generators, and transmission cable supports; however, specifically excluding equipment cabinets.

“Antenna array” means a group of antennas and associated mounting hardware, transmission lines, or other appurtenances which share a common attachment support structure for the purpose of transmitting or receiving electromagnetic waves.

“EIA/TIA 222” means the most current structural standards for steel antenna towers and antenna support structures published by the Telecommunication Industry Association and accredited by the American National Standards Institute.

“Equipment compound” means the area occupied by a tower including areas inside or under the following: an antenna-support structure’s framework, equipment cabinets, and ancillary structures such as equipment necessary to operate the antenna on the tower including: cabinets, shelters, pedestals, and other similar structures, and access ways.

“Fall radius” means the circular area measured from the base of the tower outward in a circular pattern (radius) for a distance of 100 percent of the proposed or existing tower’s height including appurtenances.

“Height, tall structure” means the vertical distance measured from finished grade to the highest point of the tall structure, not including appurtenances or equipment affixed thereto.

“Search ring” means a geographic area identified by the communications service provider as necessary to locate a wireless facility in order to enhance or expand their service.

“Telecommunication facility” means any unmanned facility established for the purpose of providing wireless transmission of voice, data, images, or other information including, but not limited to, cellular telephone service, personal communications service, paging service, and television or radio communications. Telecommunication facilities may include one or more towers, antennas, equipment cabinets, feed lines, ancillary structures, and fencing.

“Telecommunications tower” means a tower built for the sole or primary purpose of supporting any FCC licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul contained within a telecommunication facility.

“Tower base” means the foundation, usually concrete, on which the tower and other support equipment are situated.

“Tower site” means the land area that contains, or will contain, a proposed tower, support structures, and other related buildings and improvements.

“Width of a structure” means the horizontal distance measured from the outermost points of the structure including attachments and structural supports but excluding guy wires and transmission lines strung between towers as in the case of electrical power lines.

“Transmission Equipment” means equipment that facilitates transmission for any FCC licensed or authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optic cable, and regular backup power supply.

### **Attachments**

1. Proposed height by district table
2. CMS ordinance goals
3. CMS overview

**Proposed Height By District Table**

<b>District</b>	<b>Height at which a CUP is needed (feet)</b>	<b>Max Height</b>
CBD	60	
TC	60	
GBD	60	
GC1 (Beluga Lake)	120	
RO	85	
UR	60	
RR	85	
CONS	60	
GC2	120	
EEMU	120	
MI	120	
MC	120	
OSR	60	
BCWPD	120	

# The Center for Municipal Solutions

Our website serves as a national clearinghouse for information related to the regulation of towers and wireless facilities. As such, it is relied upon by hundreds of municipal attorneys and officials. CMS is also the author of more than 800 local ordinances in 34 states and the administrator of the ordinances in more than 700 communities in those states, and as such we are frequently asked what the goals of a *well-crafted* ordinance regulating tower and wireless facilities should contain and accomplish. Here are some suggestions as regards some of the goals a community may wish to achieve in the development of its ordinance. Over 15 years with never a successful challenge, we've found that a key to preventing a successful challenge is that ordinances regulating this issue should **require, limit, prohibit, allow or incent (through specific policies)**; but not 'encourage' or 'request'. While some may disagree, we've found this approach works extremely well and makes the ordinance and its intent rational, practical, unambiguous, enforceable, defensible and discourages challenges.

---

Establish an ordinance that contains the ability to create '**Win-Win**' scenarios for all parties when possible.  
*Only a community that is truly in true control can do this;*

Protects all legal rights and authority allowed under applicable law and does not sacrifice rights a community's legal rights and authority for a 'get along' relationship<sup>1</sup>;

Assure the Community is placed in control and knows **how to use** the ordinance (*to the extent allowed by applicable law*), so that it may then make *informed* decisions and **choose** the extent to which it wishes to exercise that control;

Assure there are **no loopholes** or ways to avoid, evade or circumvent the ordinance, or the Community's intent as expressed in the ordinance;

Assure the ordinance is as **technology neutral** as possible to minimize the need to amend or revise it as technology evolves;

Establish an *enforceable* '**Proof-of-Technical-Need**' requirement for what is requested, as the first 'test', since *everything else should be based on this*;

Minimize the likelihood of **residents' fears, resentment and political dissatisfaction**;

Assure the means to require the **least visually intrusive** facility reasonably possible;

Assure that certain types of facilities, e.g. towers, **do not go in areas not deemed in the public interest** and that the **right** types of facilities (that don't change the **nature, character or property values** of an area) are located in areas where the Community deems the visual intrusiveness to be a concern;

Assure that **cost of permitting is not a factor** that is required to be considered;

Assure that taxpayers' dollars **don't ever have to pay for or subsidize** the processing of applications, **inspections** and the **administration** of the permit;

Assure that the **right safety codes** and standards are required to be complied with, e.g. the latest edition of ANSI EIA/TIA 222. This is *critical*;

Assure required compliance with all applicable State and Federal laws and rules;

Assure the ordinance allows the Community to realize the **maximum revenue allowable** from carriers and owners of support structures for the Community;

Minimize the likelihood of successful legal challenges to the ordinance.

#### Contact Info:

L.S. (Rusty) Monroe  
Phone: (919) 266-5990  
Mobile: (518) 573-8842  
E-Mail: [Lmonroe8@nc.rr.com](mailto:Lmonroe8@nc.rr.com)

---

<sup>1</sup> Example: In one state recently the League of Municipalities 'negotiated' a model ordinance with the tower and wireless industries that (unintentionally) transfers control of a number of issues to the industry.



# An Overview of

## **The Center for Municipal Solutions**

A National consultancy specializing in placing *COMMUNITIES* in Control for almost 2 Decades

3113 BILLIARD CT. WAKE FOREST, NORTH CAROLINA 27587

E-Mail: [Lmonroe8@nc.rr.com](mailto:Lmonroe8@nc.rr.com)

*Phone (518) 575-8842*

Web Site: [www.telecomsol.com](http://www.telecomsol.com)

Specializing in Regulating Towers & Wireless Facilities

The *most* experienced organization of its kind in the nation (almost 4,000 application reviews)

Advising and Assisting more than 800 communities in 34 states

# THE CENTER FOR MUNICIPAL SOLUTIONS (CMS)

REGULATING TOWERS & WIRELESS FACILITIES  
FOR OVER 800 COMMUNITIES IN 34 STATES FOR MORE THAN 16 YEARS

## WHAT WE ARE

- For almost two decades we have advised and assisted local governments in 34 states with the regulation of towers and wireless facilities and negotiated leases for them.
- To our knowledge, we are the *oldest, most experienced* firm of our kind in the nation and have the *largest team of experts* among firms that *exclusively* serve local governments.
- We have represented and assisted more than 800 communities.
- CMS has reviewed and made recommendations on more than 4,000 applications, *none of which have been successfully challenged*.
- We draft and revise local tower and wireless facility ordinances and regulations.
- There is *no cost ever* to governmental clients for our services. Since it's the applicant who is creating the need for assistance, the applicant or lessee gives the client the money (up front) to pay for our services.

## WHAT WE DO

### Application Review

- Assure compliance with the community's regulations
- Assure compliance with the national safety standards (critically important) and state and local building codes
- Assure clients are able to make *informed* decisions, so the client knows about any less intrusive or less objectionable alternatives to what is proposed, and if what they're being told (on any matter) is the *complete* truth and the *whole* story.

### Provide Ordinance/Regulations

- Develop or revise wireless facility regulatory ordinances. Approximately 2,000 communities have either adopted or used CMS' model ordinance as the basis for their own.
- Customize the model ordinance for each community to reflect its choice of policies and practices.
  - The model ordinance has *never been successfully challenged*, in whole or in part.
  - The ordinance *places the community in control* so it can *create 'win-win' situations*.
  - There is *never a charge* to clients for drafting the ordinance, customizing it and attending meetings and hearings related to its adoption, other than out-of-pocket travel costs. Yes, this is *totally free* to clients!

### Negotiate Leases

- Our lease negotiators are *former industry executives* who used to negotiate the industry's leases and thus *typically obtain at least twice the amount* the community was been able to negotiate before our involvement.

## TEAM MEMBERS

- CMS was founded by two former Industry Executives who have 'done it all', from the capital budgeting and design of networks through site selection, permitting and the actual construction of towers and

wireless facilities and operating the networks, and who for almost 2 decades have dedicated their careers exclusively to helping local governments.

- We have professionals from *all disciplines* involved in the issue, including professional engineers, former industry safety specialist, former industry attorney, award-winning planners, local government member of both Planning and Telecommunications Commissions, and former industry government affairs/regulatory specialists.

### **No Conflict of Interest:**

CMS and its team members work *exclusively* for local governments and have *no business ties, direct or indirect, with any member of the tower or wireless industry*, thus eliminating even the appearance of a conflict of interest.

### **Unsurpassed Track Record**

CMS welcomes a comparison of the following to *any* organization in the Nation that assists and advises local governments on the issue of towers, wireless equipment and other (alternative) support structures.

**In business for almost 2 decades (since 1997)**

**Assisted more than 800 communities in 34 states**

**Reviewed and analyzed more than 4,000 applications**

**Never had a recommendation successfully challenged (batting 1,000)**

**Majority of new tower applications turned into co-locations**

**95% of traditional co-locations changed to (*truly*) *camouflaged* facilities**

### **The Team – The Reason for CMS’s Track Record**

The preceding track record is largely due to its team of experts, such as:

Former industry executives

Former industry attorney

Former industry Director of Operation

Former industry network designers/RF engineers

Former industry site acquisition/permit specialists

Professional Engineers

Former Industry Negotiators

Planners

City Planning Board Member and Chairman of County  
Telecommunications Commission

### **What local officials very often aren’t aware of**

## RF Analysis

The Truth versus What They Originally Said was the Truth

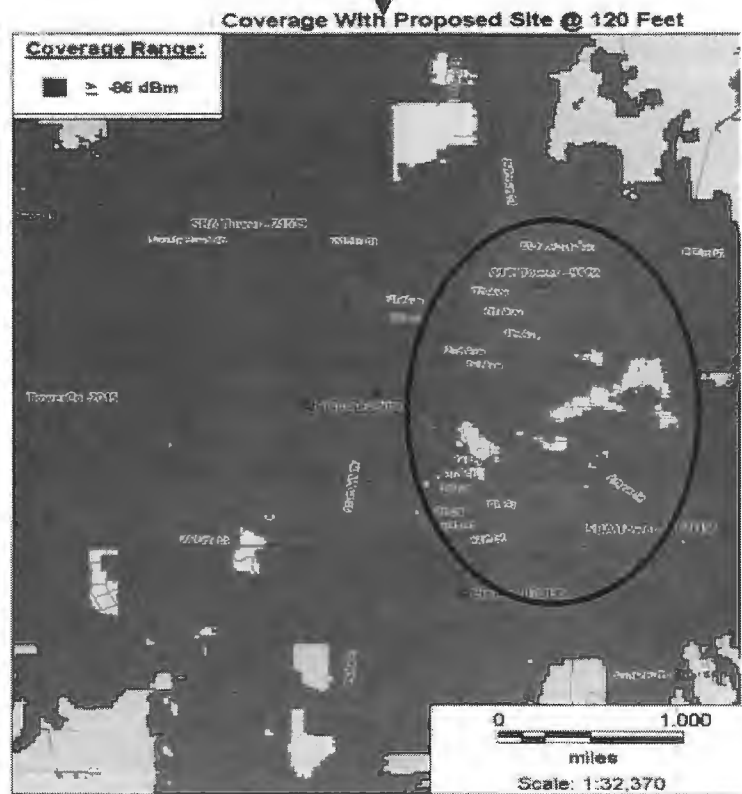
### 'MANIPULATED' PROPAGATION MAP

SAME SITE, SAME HEIGHT, SAME SIGNAL STRENGTH, DIFFERENT COVERAGE.

Original submittal showing large gaps remaining at 120'



Resubmittal, after CMS analysis showed the original map was 'manipulated' to [try to] show that 120' tall tower would not substantially fill a gap when trying to get a 199' tower approved. Note: After CMS analysis the large gap 'miraculously' disappeared at 120'



This is the bottom-line or underlying issue in most applications for a new facility, as it determines i) the technical need for a proposed new facility at all; ii) the need for the specific proposed location; iii) the visual intrusiveness (e.g. the need for a tower versus a co-location); and iv) the needed height of the tower).

The basic underlying issue is '**Proof-of-Technical Need**', which the 1996 Telecommunications Act allows a community to require proof of. The point of this is to demonstrate that *without the modeling information (i.e. inputted variables) used to produce the maps, the map is useless* and should not be relied upon, as it can easily be manipulated to show a pre-determined (desired) outcome, as the original submittal above did.

Manipulating propagation maps to show a desired, pre-determined outcome is an all-too-common practice and results in facilities being permitted for which there is **no technical need or justification**. All-too-many communities simply take the applicant's word, which is *not recommended as evidenced by the example above*. Avoiding the issue of verifying the technical need for what is requested is *not doing the due diligence officials are supposed to be doing vis-à-vis serving the public interest and protecting the nature and character of the*

Eliminate the 'Porcupine' Effect

Instead of buildings looking like this . . .



You can have buildings with clean, uncluttered roof lines like this



Why allow this . . . when, with the right knowledge & experience



You can have this?



---

## Biographies of Team Members

### Lawrence (Rusty) Monroe

Mr. Monroe is the owner of Monroe Telecom Associates, LLC (MTA) and co-founder of the Center for Municipal Solutions ("CTS"), a dba for MTA, which provides services exclusively to local governments and the public sector relative to the regulation of the siting, placement, construction, and modification of wireless telecommunications facilities and their support infrastructure.

He holds a Bachelor of Arts degree from Penn State University. Mr. Monroe has thirty-nine (39) years of experience in the telecommunications industry, including having been responsible for overseeing the siting and construction of numerous towers in several states.

Public Sector: Mr. Monroe has drafted and designed tower and wireless siting ordinances that are now in effect in literally hundreds of communities in thirty-four (34) states and that have been copied and adopted in one form or another in what have been reported to be hundreds of other communities and are often encountered already being used by new CTS clients. He has reviewed, analyzed and critiqued scores of other wireless and tower regulatory ordinances and after review of his qualifications has been officially accepted as a qualified expert on the subject by local governments throughout the nation.

Over almost 2 decades he has reviewed and analyzed and more than a thousand applications and has approved the final report and recommendation of several thousand applications for towers and wireless facilities and has personally inspected many of these facilities after construction. He has analyzed thousands of submittals of technical 'Proof-of-Need' claims, including but not limited to Propagation Studies vis-à-vis coverage issues, and other information submitted in support or defense of 'Proof-of-Need' submittals for both coverage and/or capacity. None of the findings and conclusions of these analyses has been successfully legally challenged. He is considered an expert in the regulation, siting/location, permitting, construction, modification, safety issues and inspection of wireless facilities and their support structures.

In addition to new tower situations, he has analyzed more than a thousand modification/upgrade applications for compliance with applicable safety regulations, e.g. structural reports, ANSI EIA/TIA 222 safety reports dealing with the physical condition of the facility and RF emissions reports, and has never had his conclusions or recommendations successfully challenged. Based on his experience, he has been officially deemed a qualified expert in hundreds of instances.

He has both designed and analyzed the design of numerous cable systems (thousands of miles), which are based on and function using RF technology, as well as AML microwave systems and fiber-optics. While cable is a closed system and there is no propagation involved when operating compliantly, the basic RF principles are the same as with wireless. He has also personally investigated and been responsible for the resolution of RF "Leakage" of cable systems, which once 'outside' the confines of the cable *do* propagate similarly to wireless RF signals.

The "siting and permitting process" recommended by CTS, including the preparation of a regulatory ordinance, has been endorsed by such organizations as the Pennsylvania State Association of Township Supervisors, the New York Supervisors and Legislators Association and the West Virginia Municipal League.

CTS's web site, for which he is primarily responsible, is used as a Clearinghouse by local governments nationwide for information regarding the regulating wireless communications facilities and the needed support infrastructure, e.g. towers and alternatives to towers.

He has been asked, as an expert, to conduct educational and training seminars and workshops at numerous conferences for local governmental organizations on the regulation of the siting, construction, modification and permitting of towers and wireless facilities. Some of these organizations include:

National Institute of Municipal Lawyers Association (the predecessor of the International Municipal Lawyers Association);  
National Association of Telecommunications Officers and Advisors (NATOA);  
Southeastern Telecommunications Officers and Advisors (SETOA)  
North Carolina Association of Planners;  
Numerous regional Councils of Governments (COG's) in various states;  
New York State Association of Towns;  
The New York State Supervisors and County Legislators Association;  
South Carolina Association of Counties;  
Florida Municipal League;  
Florida City and County Managers' Association;  
Florida Association of Counties;  
Florida Institute for Government;  
Pennsylvania State Association of Township Supervisors;  
Alabama Association of Mayors and City Clerks;  
Alabama Revenue Officers Association; and  
Numerous other municipal and county organizations.

In addition, he has been asked to conduct seminars/workshops for scores of individual local government officials and their staffs on the regulation of towers and wireless facilities.

#### **Richard (Dick) Comi**

Mr. Comi is the owner of Comi Telecommunications and is a graduate of the United States Military Academy at West Point and holds an MBA from Syracuse University. He has over 30 years of telecommunications experience. He is a former Director of Network Operations New York Telephone and NYNEX and the former Vice President and COO of Cellular One of Upstate New York. His knowledge of the telephone and wireless industries is virtually unique in the arena of consultants that exclusively serve local governments. The result is the loss of the monopoly of knowledge previously held by the industry when dealing with local officials. He has prevented numerous communities from making costly and virtually irreversible mistakes. In addition, his ability to deal with wireless operators as a true equal has resulted in gains for municipalities that they never thought possible. Mr. Comi is a regular lecturer to various state and national municipal organizations and has served as an expert witness in the area of wireless telecommunications and regulating wireless facilities.

#### **Robert Ross – Radio Frequency/ Wireless Telecommunications Expert**

Bob Ross is truly *unique* in the nation among public sector consultants. Among his credentials is graduating from some of the nation's most demanding and sophisticated technical and engineering programs with credentials that no one exclusively serving the public sector has.

This combination of education, training and real-world experience is literally unequalled among technical experts exclusively serving the public sector. His type and level of technical expertise, coupled with his experience as a local official, is what local governments often say they wish they knew existed.

MBA in Telecommunications from Eldorado College

Retired Communications Specialist from the U.S. Marine Corps.

Graduate of the NATO ( North American Treaty Alliance) Frequency Engineering School

Graduate of the NSA (National Security Agency) Daily Changing Frequency and Call Sign School

Southern California Military Frequency Manager (the principal upon which cellular technology operates) for the U.S. military in Southern California.

Frequency Management for Space Shuttle Recovery at Edwards AFB with NASA



Development and design of the military's SCIF (Sensitive Compartmental Information Facilities), involving extremely sophisticated high-level secret communications (otherwise known as 'Spook' communications).

Joint Military Task Force Frequency Manager for the 1984 Olympic Games in Los Angeles, CA.

Subsequent to his retirement from the military he was the Wireless RF evaluation consultant for PacTel Cellular (now Verizon Wireless) in California.

Experience as a municipal official, includes

Planning Commissioner;

Chairman of Telecommunications Committee; and

Vice Chairman of the San Diego County Cable TV and Telecommunications Review Committee.

There simply is *no one* serving the public sector with the combination of the necessary political sensitivity/governmental regulatory/policy-making experience and real-world technical expertise that only serving in capacities such as these can bring. It is Bob's combination of experience as a local official regulating both hardline and wireless telecommunications facilities, coupled with his knowledge of what is technically feasible, that enables him to create "Win-Win" situations for both the applicants and CMS's clients.

#### **Albert Tagliaferri, Esq.**

Mr. Tagliaferri has a Bachelor of Science degree from New York Institute of Technology, a Law Degree from CUNY School of Law and is a member of the New York State Bar. He is a practicing attorney in the area of land use with direct industry experience regarding zoning, permitting and the development of wireless communications facilities. He was closely involved with the project management and development for Omnipoint's NY-Westchester market. Responsibilities included search area feasibility determination, site acquisition and all aspects of zoning and permitting. He has successfully developed and managed dozens of current on-air sites from conception through construction, which has gained him extensive knowledge of local municipal zoning codes, local land use policies and the industry's site acquisition due diligence process. He represented Omnipoint in scores of Planning Board and City Council meetings throughout Westchester, Rockland and Orange Counties, as project manager and coordinator. This experience has given him the ability to recognize the balance between the needs of the municipality and those of the carrier(s), and set a standard for best practices where the needs of all parties are achieved. Prior to working in the wireless industry, he had 10 years experience working with public agencies, serving the needs of families in crisis.

#### **Cristopher Schrader, PE**

Cris Schrader was formerly an RF engineer for the wireless industry. He is now the Principal Engineer for Sustainable Engineering & Environmental Design, PLLC (SEED) a civil and environmental engineering firm with a focus on renewable energy. He obtained a Bachelor of Science in Environmental Engineering from Rensselaer Polytechnic Institute (RPI) and has completed graduate coursework in construction at Columbia University. He is a licensed and registered Professional Engineer in the State of New York. His diverse background in engineering and environmental, health and safety (EHS) includes engineering review for RF (radio frequency) emissions, environmental permitting including Phase I Environmental Site Assessments, National Environmental Policy Act (NEPA) and State Historic Preservation Office (SHPO) compliance review, as well as numerous geotechnical investigations for the telecommunications industry. He has completed OSHA's 40 Hour Hazpower course, OSHA's 10 Hour Construction Safety and OSHA's Site Supervisor training. He has worked and interacted with numerous representatives from all levels of government including local municipalities and always strives to ensure the protection of public health and safety while providing increased non-tax revenue for municipalities.

Mr. Schrader added his knowledge of industry practices and its needs versus its desires to CTS's team in 2009 and has raised the bar even further as regards the depth and breadth of CTS's team.

#### **Robert Naumann, PE**

Mr. Naumann has been involved in the wireless telecommunications industries for over 20 years. He obtained a Bachelor of Science in Civil Engineering from South Dakota State University and is a registered civil and structural engineer. He has designed and inspected hundreds of towers including the supporting telecommunications facilities at the base of these towers across the United States. He has helped the wireless providers' site facilities using conventional as well as stealth technology, for hundreds of wireless facilities. He understands the design issues, and technologies of the wireless providers. His background and experience provide an in-depth understanding of wireless facilities that will benefit the public sector. As the Chairman of a Planning Commission for over 10 years, Mr. Naumann understands the interests of local governments, and issues of the communities they represent. He understands the balance required between the need for wireless facilities to serve the community and the potential visual impact of the construction of these facilities. As an owner of his own engineering firm he works continuously with local governments and is exposed to the shortage of revenue resources and the constant challenge to address the growing needs within the community. He appreciates the need for local governments to maximize revenue growth without additional taxation.

### **Jackie Hicks**

Ms. Hicks is the Atlantic Coast Regional Director for CMS and has immediate responsibility for projects from southeastern Pennsylvania through Florida. She has been responsible for the review and permitting of more than a thousand (1,000) applications for towers and wireless facilities. Ms. Hicks was the first member of the team to be "custom-trained" by CMS's founders and came up through the ranks, having proven to be invaluable, both to clients and CMS. She is well-known among local governments and the industries and is particularly valued for her ability to demystify for clients the numerous technical issues involved in the siting and construction of towers and wireless facilities. Ms. Hicks deals directly with all clients in the Atlantic Coast Region and simplifies the entire matter for client staff, allowing them to devote all but a minimal amount of their limited time to other matters of importance. *Her record of being able to work out win-win situations, including truly camouflaged facilities and co-locations on existing structures as opposed to the construction of new towers, is better than 9:1, i.e. 90%.* Her understanding of the difference between a carrier's technical need, as opposed to its desires in the context of gaining a competitive advantage, is largely what enables clients to be in control. She has also contributed significantly to redrafting CMS's Model Ordinance to keep it up-to-date as regards the technology and the law and more "user-friendly" and easily understood by the industry's site/permit acquisition people, and more easily interpreted and administered by clients. This is critical to the success of CMS satisfying clients' needs and desires. In short, she helped make the best even better.

### **Phil McKenna – Planner McKenna Associates**

Phil McKenna is the owner of McKenna Associates, a multi-disciplinary community planning and design consultant that provides an array of specialized services to municipalities since 1978. McKenna has been cited with numerous professional planning, design and business awards and is the Midwest's largest community planning consulting firm. The firm employs 25 specialists in sustainable urban planning, landscape architecture, community and economic development or redevelopment, urban design, market studies, recreation planning, graphics, mapping, public relations, municipal project management, form-based codes, expert zoning testimony, public participation, temporary municipal services, building department administration and building infrastructure inspection.

Mr. McKenna and members of this team of professionals are frequent speakers at educational conferences of professional organizations on the subjects of community redevelopment, sustainable community design, municipal economics, public relations and design regulations.

The firm is headquartered in Downtown Northville, Michigan (near Detroit) with branches in Downtown Kalamazoo, Michigan and Cleveland Heights, Ohio.

### **David Dyer**

David Dyer is a former executive of BellSouth Wireless and has more than thirty (30) years of corporate experience in business creation, management, marketing and sales. Following his retirement as an executive from BellSouth, he spent nearly a decade in higher education administration at Mercer University. He served

as Senior Advisor to the President of Mercer University and as a member of the Mercer University President's Executive Group he provided guidance on technical and rural economic development initiatives.

David currently provides consulting services for Venture X Group, located in Atlanta, GA, on rural economic development initiatives. David has also consulted for the Georgia Department of Economic Development on projects such as the Georgia Agritourism Association, Connect One Georgia, and the Aerospace Innovation Center of Excellence. David also provides consultative services for the Consortium for Internet Imaging and Database Systems, College of Agriculture and Environmental Sciences, University of Georgia on the Distance Diagnostics through Digital Imaging initiative. He provides leadership on economic development initiatives in Monticello and Jasper County, Georgia as Chair of the Technology Committee, Chair of the Agritourism Committee, member of Southeast Regional Agritourism Association and Southeast Agritourism Council. David is a member of the board for the Development Authority of Jasper County. He is a member of the Downtown Macon Rotary Club in Macon, GA and is past-President of the Monticello/Jasper County Kiwanis Club in Monticello, GA. David owns and manages Garland's Ridge Farm in Hillsboro, Ga.

### **Mignon Bowers**

Ms. Bowers is a retired Master Municipal Clerk with 25 years experience working with the City of Athens, AL. In addition to serving as City Clerk/Treasurer, she worked with the Planning Department, Planning Commission, Building Department and Zoning Board of Adjustments to assure that City ordinances were enforced in a fair and equitable manner. She was appointed by the City Council in 1999 to serve as the designated telecommunications representative for the City. In that position she worked with the ownership of CTS in the regulation of the location and co-location of telecommunication facilities. She is a strong advocate of local government and its need to facilitate the provision of high quality, cost-effective telecommunications services to citizens and she also understands the need for local governments to utilize their resources to maximize revenue growth. Her experience in both local government and throughout the State enhances her ability to provide insight and understanding to the benefit of local governments in Alabama. MS. Bowers has also held numerous elected positions in a number of state-wide organizations.

### **Mel Patterson**

Mr. Patterson has over 30 years in the telecommunications industry. He spent 17 years with a large Southeastern power company building, operating, and maintaining the second largest privately owned microwave network in the United States. The last 13 years were spent in the engineering, construction, and operations of major fiber optic networks for large regional telecommunications companies. In this role, he worked with many cities, counties, and government entities to obtain permits, construct, and operate telecommunications facilities within public rights-of-way. He understands the goals and technologies of the telecommunications industry. These industry experiences enhance his ability to provide insight and understanding to the benefit of the public sector. Mr. Patterson graduated cum laude with a BS in Business Information Systems from Samford University.

### **Dan Lang**

Dan R. Lang is President of The Lang Gang, Inc. an urban planning consulting firm founded to assist communities with planning today for a better tomorrow. He has a degree in Natural Resources from the University of Missouri at Columbia and has spent 30 years in the planning profession. He is experienced in all phases of community development, management, administration, comprehensive planning, zoning and subdivision regulations, site planning, and planning commission member training. Mr. Lang spent 18 years in municipal government and as such has invaluable insights into the key elements of municipal management and growth. For five years, Dan served as Chapter President of the Missouri Chapter of the American Planning Association. In 2002 he was honored to receive the Distinguished Leadership Award from the Missouri Chapter as one of only several persons to ever receive the award. Lastly, he has worked on seven projects which have received an Excellence in Planning award.

Which situation do you think your residents would prefer?  
Which situation protects property values?



Without Expert Assistance



with Expert Assistance

### Siting in Residential Neighborhoods



Without Expert Assistance



with Expert Assistance

# Client Survey Results

## What clients think about CMS and the benefit of Expert Assistance

### What do others have to say about CMS?

The following are representative responses from around the nation received from a client survey recently conducted, as well as some industry representatives. They provide a perspective opinions and experiences, both with CMS and our Ordinance-drafting work. While the list of responses is too large to provide all of them (CMS has more than 800 clients in 34 states), we tried to select a *geographically diverse* representation. Complete responses for any given client can be provided upon request. Note that there was not a single expression of less than extreme satisfaction received from any client, even though criticism was expressly solicited.

I hereby attest that the following are true and accurate transcriptions of statements made in writing by CMS clients in response to a recently conducted client survey and that there were no negative or critical responses.

## WHAT DO THE MEMBERS OF THE INDUSTRY WHO ACTUALLY DEAL WITH CMS THINK?

### DOES CMS REALLY CREATE WIN-WIN SCENARIOS?

**From:** Melissa Helland [mailto:melissa@apeiron-re.com]  
**Sent:** Friday, April 26, 2013 2:04 PM  
**To:** 'L. S. (Rusty) Monroe'  
**Subject:** Thank you!

Hi Rusty,

Thank you so much for the call this morning! You have been so great to work with. As you know, both of the VZW projects I am working on are of high priority and I am so grateful you are assisting me with expediting the processes. You have been very responsive and quick to answer all of my questions and concerns in a timely fashion.

In addition, I wanted to say thank you for scheduling the pre-application on the mountain so quickly and walking me through each requirement of the code. This will be very helpful in getting exactly what they need in order to move forward in an expeditious manner. I look forward to working with you as we get these projects permitted. In the meantime, please do not hesitate to contact me with any questions that come up. Thank you again and have a nice weekend!

Sincerely,

Melissa Helland  
**Apeiron Real Estate, Inc.**  
425-308-8710 (mobile)  
425-606-4351 (fax)  
melissa@apeiron-re.com

**From:** Carina Ritz [mailto:carinaritz@cbrtelecom.com]  
**Sent:** Tuesday, February 23, 2010 12:40 AM  
**To:** 'Rusty Monroe'; 'Jackie Hicks'  
**Subject:** CMS Sites

Dear Rusty and Jackie,

I wanted to tell you what a pleasure it has been working with both of you on these 4 Alabama sites. We found both of you to be extremely knowledgeable and helpful with our many (and let me emphasize many) requests and very willing to go the extra mile to make sure we would not miss the deadlines.

Thank you for helping make the industry safer. We hope to have more sites to be filed with your company.

**Carina Ritz**

CBR Telecom, Inc.  
Site Development and Project Management

3121 Amesbury Way | Duluth, GA 30096  
Ph: (404) 630-4186 | Fax: (678) 682-8752  
[carinaritz@cbrtelecom.com](mailto:carinaritz@cbrtelecom.com) | [www.cbrtelecom.com](http://www.cbrtelecom.com)

---

**From:** Carina Ritz [mailto:carinaritz@cbrtelecom.com]  
**Sent:** Wednesday, March 24, 2010 11:22 PM  
**To:** 'Jackie Hicks'  
**Subject:** RF Emissions Letter

Hi Jackie. Nice talking to you and Rusty today. Please let me know if the letter is acceptable. In the meantime, RF is revising the checklists for us.

Thanks so much for all the help you and Rusty give us all the time.

**Carina Ritz**  
CBR Telecom, Inc.  
Site Development and Project Management

---

**From:** Thurman.E.Dudley@uscg.mil [mailto:Thurman.E.Dudley@uscg.mil]  
**Sent:** Tuesday, June 14, 2011 1:55 PM  
**To:** lmonroe8@nc.rr.com  
**Cc:** hicksja@nc.rr.com; Shane Black  
**Subject:** RE: Athens, Al

Thank you for the quick turn around and action required on our earlier questions and concerns. Your thoughts and professional courtesy have been most graciously received and appreciated.

Regards,  
*Ted Dudley*  
Project Manager (USCG - NDS)  
C4IT/SFLC/SILC Engineering and Technical Services  
Allied Technology Group, Inc. / NorthStar Technology Systems, LLC

---

**From:** Grigg, Thomas [mailto:TGrigg@engineeringassociates.com]  
**Sent:** Monday, March 26, 2012 3:21 PM  
**To:** Jackie Hicks  
**Cc:** stimulus@bitbroadband.com  
**Subject:** FW: Buggs Island Telephone@ Victoria 99343 : Lunenburg County Ordinance Requirements

As promised by American Tower, enclosed are their Twist and Plumb measurements. I believe that this was the only item still pending for the Victoria site. It was a pleasure working with you on this project and I appreciate your recommendation to the County that allowed construction to proceed while American Tower was completing these final measurements.

Thomas Grigg, P.E.  
Senior Systems Engineer

On a scale of 1 to 10, with 10 being the best, how would you rate CMS's service as regards delivering what was promised?

"10"  
**Walkersville, Md.**

"10"  
**Lincoln County, NM**

"I rate the overall service as a 9.5. With only a small change in the format of invoices the result would be a 10."  
**Wake Forest, NC.**

"10. Excellent service that I would recommend to any community."  
**Sarpy County, Ne.**

"I don't think anyone is perfect, so I would rate them as 9+."  
**Stokes County, NC.**

"10"  
**DeFuniak Springs, Fl.**

"10+."  
**Opelika, Al.**

"10+."  
**Yankton, SD.**

"I would give them a 20. I could not be happier with their service to the community. If I have a question, they will drop everything to answer my question, no matter how small it might be. They are extremely knowledgeable on the subject and my Planning Board and the County Commissioners would be lost without them. It is interesting to watch the cell tower people squirm when CMS catches them not telling the truth, which is quite often."  
**Person County, NC.**

"A 10"  
**Orange County, NC.**

"10 (Higher if the scale allowed it)."  
**Jackson County, NC.**

**Overall, how has your experience with CMS been, i.e. has it been a help as was promised? Please list a few specific benefits . . . or problems . . . associated with CMS handling wireless applications.**

"Working with CMS has been a pleasure. More thorough reviews are conducted with problems identified before the fact when they're more easily addressed. CMS has also assured the inspection of all new *and* aging facilities (the latter being a particular problem now as towers have aged), and with appropriate engineering reports for public safety and most importantly actually resolving the safety-related issues."

**Wake Forest, NC**

"CMS has taken the ever-increasing burden of dealing with the ever changing telecommunications industry off of our list of things to do and freed up staff to do what it's trained to do. The specific benefits are a professional, knowledgeable staff that evaluates a request from a vendor in relation to our adopted ordinance, which they wrote, in a timely manner. The service has been prompt and the recommendations made have been backed up with concise factual information. This has allowed our governing boards the ability to make educated, informed decisions concerning telecommunication facilities. They have brought 'peace' to this previously contentious issue that prior to their involvement was headed down the road to continuous litigation."

**Stokes County, NC**

"We could not process these applications without the benefit of CMS. They have the expertise to answer all of the technical questions that our Boards address. Our staff is limited and their help saves us numerous hours of preparing staff reports."

**Person County, NC**

"We at the City of DeFuniak Springs have had nothing but the most professional, courteous and prompt help from CMS. We have greatly benefited from CMS's expertise."

**DeFuniak Springs, FL**

CMS has provided technical services and expertise to Jackson County that would not have otherwise been available. They assisted with development of appropriate ordinances regulating cell tower construction and wireless facilities within our county. The county has been kept abreast of new legislation and given guidance to be sure we were providing the best opportunity for cellular communications in a safe and efficient manner.

**Jackson County, NC**

"Great"

**Lincoln County, NM**

"CMS has met or exceeded all of the requirements of our contract with them. They have continuously supplied the expertise in the siting and building of cell towers and co-locations. By using CMS within the scope of our contract, we have maintained control over locations used by cell tower companies and this has been very much appreciated by our citizens."

**Opelika, AL**

"We have had only excellent service from CMS."

**Orange County, NC**

"Our experience has been outstanding. We couldn't be more pleased with CMS' services. CMS has always provided fair and accurate information in a timely manner. As a municipality that does not have the capability to have specialized personnel on staff, we rely heavily on the expertise of CMS."

**Sarpy County, Ne.**



"We would not have been able to handle the requirement of allowing wireless providers in our town without the help of CMS. We have found the expertise of CMS invaluable, including helping us generate new non-tax revenue.

**Walkersville, MD**

"My experience with CMS has found them to be professional and highly knowledgeable of the industry. My office has experienced no problems in their handling of the wireless applications."

**Yankton, SD**

**In your opinion, do communities need expert assistance to regulate this issue and, if so, why?**

"Absolutely. As a planner, I am trained to be a planner, but that does not include knowing about technical issues such as cell towers, RF engineering, structural engineering, safety requirements unique to towers and wireless antennas or applicable law. I thought that originally I could handle this, but it is great to have someone who understands what should be required from the cell tower people and what they're capabilities really are. I have learned that the cell tower people will tell you whatever you want to hear in order to get what they want, including a tower, when there are alternatives they never tell you about, even when you ask. You need someone to protect your community and its citizens and that is not the cell tower industry. They are here to make the most money they can and nothing else."

**Person County, NC**

"Absolutely - we do not have the staff or resources to handle the complexity of the siting requirements."

**Walkersville, Md.**

"From a great deal of experience I absolutely and completely believe that all communities need expert assistance to regulate the placement of wireless telecommunications facilities due to the complicated and technical nature of the issue. This expert assistance assures that appropriately placed facilities provide the best service to the community, with the least visual impact to protect the nature and character of the community and it's done in a professional, non-contentious manner."

**Wake Forest, NC**

"Yes. Every community needs specialized staff to review specialized applications and these are very technical applications. There are a variety of issues related to wireless applications and only a trained individual will understand those issues. The bottom line is that it is critical to the safety and general welfare of the public to fully understand wireless facilities and their associated applications. Only a trained expert can provide the necessary review and keep a community from being legally challenged as CMS has done."

**Sarpy County, Ne.**

"Yes. Unless you have someone on your staff who has a great deal of expertise in the area of telecommunications, you may end up having to accept things in your community based on what the industry says is appropriate versus what really is appropriate and feasible. CMS has been an advocate for us in dealing with the telecommunications industry. They have balanced the need for the services provided and the needs of the County to maintain orderly development and the aesthetic quality of the community."

**Stokes County, NC**

"The way CMS operates is a win-win situation. The community wins by not incurring costs dealing with a very complex issue and gets, in effect, free expertise, costing our citizen taxpayers nothing; the wireless industry gets what it's always asking for: clearly understandable regulatory language using the industry's own nomenclature, and fair and consistent rules. Smaller communities with perhaps less knowledge about the wireless industry can especially benefit from having expertise from a company whose purpose is to help assure a win-win situation with each party's needs met."

**DeFuniak Springs, FI**

"Yes. Neither I nor anyone else employed with the city has the expertise to deal with the cell tower companies. However, it has become obvious because of past experience that the tower companies would love to deal only

with non-experts. As they showed many times before CMS began helping us, they realize our lack of expertise and would like to take advantage of that weakness.”

**Opelika, Al.**

“Yes- as technologies change, unless you have experts and RF and structural engineers on staff, it is not possible for local government to be aware and cognizant of the changes or the numerous less intrusive options available. A few months ago, a cell site went up outside of this county’s jurisdiction. Long story short, the carrier took advantage of a small town. There was and is no where for the residents to voice concern or, even be aware of the site being placed so close to homes.”

**Yankton, SD.**

“Yes we do, because the expertise to understand the complexity of the technical engineering solutions and safety issues is not available within the County staff and would cost us much more than our taxpayers can afford.”

**Orange County, NC.**

“Absolutely. The county can’t afford to hire the several employees on a full time basis with the necessary skills and technical knowledge required for enforcement of these regulations. Contracting with CMS has been a good cost-free solution.”

**Jackson County NC**

“Yes ... They need assistance to ensure their citizens are not taken advantage of.”

**Lincoln County, NM**

The industry argues that detailed regulations and application reviews can slow down the deployment and the technical upgrade of service. Have the number and frequency of applications increased or decreased since the involvement of CMS?

“Increased”

**Walkersville, Md.**

“We’ve had more applications since our agreement with CMS.”

**Wake Forest, NC**

“Applications have increased.”

**Sarpy County, Ne.**

“The applications have increased”

**Stokes County, NC**

“Since CMS, often we have several applications at one time.”

**Opelika, Al**

“Increased.”

**Yankton, SD**

“Increased”

**Jackson County, NC**

“Significantly increased”

**Person County, NC**

“It is rare when we don’t have at least one application in process and often more than one. Currently we have 9 applications from just a single carrier to upgrade its facilities to 4G.”

**Johnston County, NC**

**Presentations**

None

**Reports**

A. Staff Report PL 15-09, City Planner's Report

City Planner Abboud reviewed the staff report.

There was discussion that Enstar hasn't provided an asbuilt of the second phase of installation and that they are obligated to bring gas to properties that are assessed. They also touched on the Council's strategic doing schedule.

**Public Hearings**

Testimony limited to 3 minutes per speaker. The Commission conducts Public Hearings by hearing a staff report, presentation by the applicant, hearing public testimony and then acting on the Public Hearing items. The Commission may question the public. Once the public hearing is closed the Commission cannot hear additional comments on the topic. The applicant is not held to the 3 minute time limit.

None

**Plat Consideration**

None

**Pending Business**

A. Staff Report PL 15-10, Towers

Chair Stead opened the floor to public comments.

Aaron Larson, local business owner, commented that he is here to listen to the discussion about tower regulations. He appreciates that they are looking at regulating it as a matter of structure safety.

City Planner Abboud reviewed the staff report.

Discussion points included:

- Get an early start on public feedback with the Mat-Su ordinance.
- Consistency with other tower regulations around the state on key items.
- They can't prohibit towers in districts but can prioritize where they prefer towers to be located and have applicants justify why they can't be placed in the preferred areas.
- Review of the definition of "tall structure" and "tower" from Mat-Su ordinance.
- Applicant responsibilities in pre-application requirements.
- Notification requirement of 1200 feet seems like a good place to start. It may be need to be more on the taller structures.
- FAA outlines lighting requirements.

Session 15-03, a Regular Meeting of the Homer Advisory Planning Commission was called to order by Chair Stead at 6:30 p.m. on February 4, 2015 at the City Hall Cowles Council Chambers located at 491 E. Pioneer Avenue, Homer, Alaska.

PRESENT: COMMISSIONERS BOS, BRADLEY, ERICKSON, HIGHLAND, STEAD, VENUTI

ABSENT: STROOZAS

STAFF: CITY PLANNER ABOUD  
DEPUTY CITY CLERK JACOBSEN

### **Approval of Agenda**

Chair Stead called for a motion to approve the agenda.

VENUTI/HIGHLAND SO MOVED.

There was no discussion.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

### **Public Comment**

The public may speak to the Planning Commission regarding matters on the agenda that are not scheduled for public hearing or plat consideration. (3 minute time limit).

### **Reconsideration**

#### **Adoption of Consent Agenda**

All items on the consent agenda are considered routine and non-controversial by the Planning Commission and are approved in one motion. There will be no separate discussion of these items unless requested by a Planning Commissioner or someone from the public, in which case the item will be moved to the regular agenda and considered in normal sequence.

- A. Approval of Minutes of January 21, 2015 meeting
- B. Decision and Findings for CUP 2015-01 for 7 cottages at 2315 East End Road

Chair Stead called for a motion to approve the consent agenda.

BOS/VENUTI SO MOVED.

There was no discussion.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

- Collocation requirements. It will be challenging to expect a provider to overbuild because they aren't going to know what they will be accommodating. Generally it is a goal to collocate on towers and it must be allowed if possible.
- Starting point for parking requirements at least 2. They may need to have more and on collocated towers may need to say parking spaces per carrier.
- Setback of at least one, 1.1 may be better.
- Network improvement permit information is based on FCC regulations.
- Bonding versus insurance requirements relating to abandonment.

City Planner Abboud will bring back a copy from the attorney with line numbers. He will also invite people who have worked in the industry and who have dealt with regulations.

Chair Stead opened the floor to public comments.

Aaron Larson commented that their concerns relating to fall zone should focus on things falling off the tower rather than the tower falling over. It is more likely that parts will fall off the tower. He suggested half the distance of the tower as a setback.

Josh Reynolds from SpitwSpots commented that there are very extensive regulations by the FCC and FAA regarding tower lighting and color and it takes lawyers to get through those regs. Generally lighting isn't required less than 150 feet. He reiterated that the likelihood of a tower falling is minimal, noting there are some that were built in the 50's for purposes of national security that are still standing. Requiring a bond is something that could be discouraging to small business investment. There has to be insurance to protect people and their assets. He thinks what the largest community interest is going to be is what defines a tower. They will have to be careful because there are things they can't regulate. He referenced the Over the Air Device Reception law that says property owners can put up antennae and structures for them 12 feet above their roofline to receive signal.

### **New Business**

A. Staff Report PI 15-11 Draft Ordinance for Site Development Requirements

City Planner Abboud reviewed the staff report.

ERICKSON/VENUTI MOVED TO REDUCE THE 16 MONTH TIME LIMIT TO 9 MONTHS.

There was discussion that it will come back for a public hearing.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

B. Staff Report PL 15-12 BCWPD recommendations to City Council

City Planner Abboud reviewed the staff report.

HOMER ADVISORY PLANNING COMMISSION  
REGULAR MEETING MINUTES  
FEBRUARY 4, 2015

ERICKSON/HIGHLAND MOVED THAT IN THE BRIDGE CREEK WATERSHED WE WAIVER ALL CITY PLATTING FEES WHEN VACATING LOT LINES TO INCREASE THE LOT SIZES WITHIN THE DISTRICT.

There was brief discussion in support of this recommendation to Council.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

Commissioner Bos noted that some of these things aren't going to make much difference in helping property owners better use their lots and kind of seem a bit like a slap in the face.

HIGHLAND/VENUTI MOVED THAT THE CITY INCREASE EFFORTS TO PURCHASE KEY PROPERTIES.

ERICKSON/HIGHLAND MOVED TO AMEND TO SAY BUY ONE PROPERTY A YEAR.

There was brief discussion of merit and process of the city purchasing property.

VOTE: (Amendment): NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

- VOTE: (Main motion as amended): NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

HIGHLAND/BRADLEY MOVED TO RECOMMEND EXAMINING DITCH CLEANING POLICIES AND WORK WITH DOT ON SKYLINE DRIVE MAINTENANCE INCLUDING MINIMIZING ROAD DITCH CLEARING TO MINIMIZE POSSIBLE NEGATIVE EFFECTS TO THE WATERSHED.

There was discussion supporting this recommendation.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

The Commission took a break at 8:51 p.m. and the meeting reconvened at 8:54 p.m.

VENUTI/HIGHLAND MOVED TO ASK PUBLIC WORKS NOT TO USE CALCIUM CHLORIDE FOR DUST CONTROL IN THE BRIDGE CREEK WATERSHED PROTECTION DISTRICT.

There was no discussion.

VOTE: NON OBJECTION: UNANIMOUS CONSENT

Motion carried.



## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 9960  
Planning@ci.homer.ak.us  
(p) 907-235-310  
(f) 907-235-311

### Staff Report PL 15-10

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: February 4, 2015  
SUBJECT: Towers

### Recap

At the January 21, 2015 HAPC meeting we filled out a starting point for CUP consideration. I have included an updated spreadsheet. We still have a long list of items for consideration, but should have a good deal of time to spend with them as business is short this meeting. Please bring your Matsu Ordinance for reference.

### Introduction

I have decided to break down the subjects found in my example ordinance from Mat Su for discussion.

Homer certainly values our scenic environment and also seeks to encourage the advancement of technology. I have included what I found in the Comprehensive Plan in relation to the subject. I have also broken down the Mat Su code for your review and discussion. I believe the best way to approach this is to become familiar and discuss the proposal section by section and assign standards where necessary. I have included the Mat Su Ordinance again, the zoning table and an article from APA on the subject. Please highlight your areas of concern or things that may need further explanation so that we might address them at the work session and be ready for motions at the regular meeting.

At this meeting we can concentrate on 'New Towers' through page 5.

### Homer Comprehensive Plan

#### Chapter 4, Land Use

#### **GOAL 2: Maintain the quality of Homer's natural environment and scenic beauty.**

Homer's natural setting provides many benefits but also creates significant constraints. The characteristics of the physical setting need to be respected in guiding the location, amount, and density of development.

This plan takes two general approaches to guide development in relation to environmental conditions. One is to "overlay" information regarding environmental constraints and opportunities onto the Land Use Recommendations Map. This means, for example, that some portions of an area identified for development would be limited by the site-specific presence of steep slopes, wetland areas, drainage channels, etc. The second broad strategy is to recommend that appropriate standards be adopted so that where development does occur it is designed to respect environmental functions and characteristics. Examples in this category include site development polices for drainage, vegetation, and grading.

A need exists for the community to take seriously the issue of shoreline stabilization and the implications of allowing ongoing shoreline development. A process should be launched to examine the issue and put proposed solutions before the citizens.

## **Chapter 5, Economic Vitality**

**GOAL 4:** Encourage technology related businesses such as information science, software development, and the entertainment industry.

Homer's beautiful scenery and quality of life can help attract technology related business ventures. Expanding this economic activity could create new skilled jobs, with few negative impacts.

### **Implementation Strategies**

1. Solicit and encourage businesses to relocate to Homer.
2. Improve Homer's information technology infrastructure in order to provide opportunities for small business entrepreneurs to operate globally (low cost high bandwidth internet services).
3. Create a tech/media promoter person to work with the community to promote tourism, using endowment and grant funds to work independently. The city could partner with another organization.

### **OUTLINE FOR CODE LANGUAGE (organized from Mat Su Ordinance)**

#### **Purpose and intent**

- Establish regulation for tall structures
- Orderly build-out while promoting health, safety, and welfare
  - o Facilitating the organized deployment of tall structures
  - o Minimizing overall number by encouraging collocation
  - o Encourage citizen involvement early so that concerns can be mitigated
  - o Require consideration with Homer Comprehensive Plan and other regulations
  - o Minimize potential hazards
  - o Minimize negative effects on the visual and scenic resources

#### **Applicability**

- Here we may set a minimum height for regulation, Matsu used 85 feet. This most likely will be variable in the various districts and will require legal review for formatting into the code.

#### **Exemptions**

- Church spires, religious icons, and flag poles displaying official government of religious flags (We have HCC 21.05.030(b) When measuring height of a building, the following are excluded from the measurement: steeples, spires, belfries, cupolas and domes if not used for human occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads, monuments, flagpoles, wind energy systems, television and radio antennas, other similar features, and necessary mechanical appurtenances usually carried above roof level).
- Temporary tall structures: under 12 months, construction related.
- Temporary telecommunications facilities: emergency communication, disaster and such.
- Temporary telecommunications facilities: special event.
- Essential service utilities: electrical: not sure we have this referenced in code anywhere.



- Lighting: Harbor lights, ROW lighting. Would be good to set height limit: harbor lights are 150ft. I can't imagine would want to support this height elsewhere.
- Ham radio unless commercial use
- Addition, removal or reorientation of transmission equipment (perhaps some legal guide for boundaries associated with definition of equipment, whether it is on the tower or ground and of such a size on the ground.
- Routine maintenance and repair of tall structure and components.

### **Types of permit available**

1. Administrative/by right – this is a permit issued by the planning office. Generally it would be for new towers. I would expect that we would have some standards associated with the various districts that are tied to a maximum height and perhaps some setback standard. Example: towers up to 125ft. in the Marine Commercial District.
2. CUP – For those towers that exceed an allowance for maximum height and perhaps addressing some standard for setbacks. Example: towers exceeding 125ft. and where fall-zone fall may include private properties.
3. Network Improvement – This is largely set by requirements to adhere to federal rules and would be issued by the Planning Office.

### **Pre-application requirements for new tall structures (CUP) (may want to meld with box store standards per HCC 21.57.110)**

- Community meeting
  - o City hall
  - o At least 15 days after notification
  - o 5-7pm
  
  - o Notification
    - Legal of lot
    - Description of development including height, design, lighting, and access
    - Date time and location of meeting
    - Contact info: name telephone and address
    - Form created by city describing comment deadline and options for submitting comments
  - o Notification requirements
    - Within 1200ft.
  - o Written report including
    - Date of meeting
    - Summary of notification methods. Mailings, notices, and etc...
    - Sign in sheet for meeting including contact information and that of any interested parties
    - Number of people attending meeting
    - Copies of written comments
    - Certified mailing of all who were notified

- Written summary including
  - Substance of concerns, issues and problems
  - How the applicant intends to address concerns
  - Concerns that the applicant has not addressed and why

### **General permit process for tall structures**

- Incomplete application. Rejection in writing within 15 days stating specific deficient items
  - o notification per code except that:
    - 1200ft notice area
    - Will include anyone who were notified or submitted comments of pre-application meeting
  - o Determination. Written findings of fact and determination including conditions (legal review in accordance with CUP standards)
  - o Conditions of approval may include (legal review for incorporation with CUP)(may want to incorporate some of these items into requirements of ordinance)
    - height limitations
    - increased height or structural capacity to accommodate future collocation
    - mitigation of drainage concerns
    - tower type (monopole, lattice, guyed)
    - color
    - landscaping
    - parking
    - screening
    - signage
    - lighting
    - setback
  - o process timeline
    - hearing within 60 days of completed application
    - decision within 30 days of hearing
    - 60 days for administrative review

### **General application requirements for new tall structures**

- Completed application (per HCC 21.70.020)
- Scale drawings by engineer or architect
- Fee
- Citizen participation report
- Site plan (level 1, HCC 21.50.020)
- FAA no hazard determination
- Information about breakpoint technology, if employed

### **Standards for approval of new tall structures**

- Permit must meet these standards in addition to any other required in title
- Findings must demonstrate (language is particularly tough)

- To the extent technically feasible, the location of the structure minimizes the negative effect on visual and scenic resources of all surrounding properties
- Visibility of structure from recognized public parks and impact on view of the bay? Is minimalized as technologically feasible
- Does not interfere with airport
- Will not be harmful to public health, safety, convenience, and welfare

#### **Operation standards new for tall structures**

- All towers
  - Setback of equipment compound
  - Setback of tower
    - Fall zone
    - Exception for easement and ROW for fall zone
  - Parking, one or one per provider or one per tower
  - Wind Energy Regulations per HCC21.58.030

#### **Network improvement permits**

- Allow legally existing towers to be replaced or modified in a manner that increases the overall height of the existing tower in accordance with this section.
- Does not require notification of the surrounding property owners
- Base of replacement tower not to be located further than 50 feet from base of original tower (and must meet setback requirements) Original tower shall be removed within 90 days of completion of replacement tower
- More than one network improvement may be obtained although cumulative height may not increase more than the greater of 10% or 20 feet
- Application of Network improvement permit shall include requirements found in HCC 21.70.020 and:
  - Application signed by property owner and applicant
  - Description of proposed modifications including height, type, and lighting of new or modified structure and the existing structure
  - Level one site plan (HCC 21.50.020)
  - Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect
- In granting the permit the following findings shall be made in addition to HCC 21.70.030 and:
  - The development conforms to setback requirements
  - The existing tower was accepted as legal at time of application for network improvement permit
  - The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit the height of the structure
- A network improvement permit shall be approved within 60 days from time of application if meeting the requirements of this section.
- Telecommunication towers permitted shall conform with operation standards set in this title (code number here)
- Replacements or modifications of a telecommunication tower in accordance with this section are not subject to application or pre-application requirements for that of a new tower under this chapter.

### **Reconstruction and replacement**

- This section shall only apply to legally permitted structures or those that have obtained pre-existing legal nonconforming status
- Property owner responsible ..... (legal)
- May be replaced or reconstructed to improve structural integrity or in the case of accidental damage or collapse
  - o Reconstruction or replacement shall not
    - Increase lighting
    - Change type of lighting
    - Change type of tower
    - Change location of tall structure
    - Increase height of tall structure
  - o In case of accidental damage or collapse, reconstruction or replacement must commence within one year or it is considered abandon (legal check)
  - o Reconstruction or replacement shall conform with previous permits or legal nonconforming determination

### **Abandonment**

- Abandoned after 12 months of nonoperation
  - o Shall be removed within 90 days of abandonment
  - o Addition 90 days when demonstrating good cause

### **Transfer of permit**

- Permit runs with land

### **Nonconforming uses**

- Per HCC

### **Violations, enforcements, and penalties**

- Per HCC

### **Appeal procedure**

- Per HCC

### **Attachments**

1. Proposed height by district table

to be more specific on the direction this should be going. They also touched on different avenues for funding to acquire properties.

### **Plat Consideration**

### **Pending Business**

#### **A. Staff Report PL 15-08, Towers**

City Planner Abboud reviewed the staff report.

Discussion ensued regarding tower height, fall zones, and conditional use. They used the table included in the packet and plugged in the following heights as a starting point for consideration of conditional use:

UR, OSR, CONS, CBD and TC – greater than 60' requires CUP

RR and RO – greater than 85' requires CUP

MI, MC, GC2, EEMU- greater than 120' requires CUP

GC1 - greater than 120' or FAA requirement

BCWP (outside city) – greater than 150' requires CUP

No suggestions were made yet on the maximum height.

### **New Business**

### **Informational Materials**

#### **A. Resolution 15-001 Interim City Manager**

#### **B. City Manager's report for January 12, 2015 Council Meeting**

### **Comments of the Audience**

Members of the audience may address the Commission on any subject. (3 minute time limit)

None

### **Comments of Staff**

City Planner Abboud commented that he will work on this and they will look at the Comprehensive Plan in relation to the Strategic Doing process the Council is working on.

### **Comments of the Commission**

Commissioner Highland commented about the CUP tonight. It is difficult for her when people come in and have issues with a proposal. That area is moving out of rural residential, and when she first started and looked at rural residential, she didn't realized how much is allowed there. It was a good meeting, they got a lot done.



## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603

Planning@ci.homer.ak.us  
(p) 907-235-3106  
(f) 907-235-3118

### Staff Report PL 15-08

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: January 21, 2015  
SUBJECT: Towers

---

### Introduction

I have decided to break down the subjects found in my example ordinance from Mat Su for discussion.

Homer certainly values our scenic environment and also seeks to encourage the advancement of technology. I have included what I found in the Comprehensive Plan in relation to the subject. I have also broken down the Mat Su code for your review and discussion. I believe the best way to approach this is to become familiar and discuss the proposal section by section and assign standards where necessary. I have included the Mat Su Ordinance again, the zoning table and an article from APA on the subject. Please highlight your areas of concern or things that may need further explanation so that we might address them at the work session and be ready for motions at the regular meeting.

At this meeting we can concentrate on 'New Towers' through page 5.

### Homer Comprehensive Plan

#### Chapter 4, Land Use

#### **GOAL 2: Maintain the quality of Homer's natural environment and scenic beauty.**

Homer's natural setting provides many benefits but also creates significant constraints. The characteristics of the physical setting need to be respected in guiding the location, amount, and density of development.

This plan takes two general approaches to guide development in relation to environmental conditions. One is to "overlay" information regarding environmental constraints and opportunities onto the Land Use Recommendations Map. This means, for example, that some portions of an area identified for development would be limited by the site-specific presence of steep slopes, wetland areas, drainage channels, etc. The second broad strategy is to recommend that appropriate standards be adopted so that where development does occur it is designed to respect environmental functions and characteristics. Examples in this category include site development polices for drainage, vegetation, and grading.

A need exists for the community to take seriously the issue of shoreline stabilization and the implications of allowing ongoing shoreline development. A process should be launched to examine the issue and put proposed solutions before the citizens.

### **Chapter 5, Economic Vitality**

**GOAL 4:** Encourage technology related businesses such as information science, software development, and the entertainment industry.

Homer's beautiful scenery and quality of life can help attract technology related business ventures. Expanding this economic activity could create new skilled jobs, with few negative impacts.

#### **Implementation Strategies**

1. Solicit and encourage businesses to relocate to Homer.
2. Improve Homer's information technology infrastructure in order to provide opportunities for small business entrepreneurs to operate globally (low cost high bandwidth internet services).
3. Create a tech/media promoter person to work with the community to promote tourism, using endowment and grant funds to work independently. The city could partner with another organization.

### **OUTLINE FOR CODE LANGUAGE (organized from Mat Su Ordinance)**

#### **Purpose and intent**

- Establish regulation for tall structures
- Orderly build-out while promoting health, safety, and welfare
  - o Facilitating the organized deployment of tall structures
  - o Minimizing overall number by encouraging collocation
  - o Encourage citizen involvement early so that concerns can be mitigated
  - o Require consideration with Homer Comprehensive Plan and other regulations
  - o Minimize potential hazards
  - o Minimize negative effects on the visual and scenic resources

#### **Applicability**

- Here we may set a minimum height for regulation, Matsu used 85 feet. This most likely will be variable in the various districts and will require legal review for formatting into the code.

#### **Exemptions**

- Church spires, religious icons, and flag poles displaying official government of religious flags (We have HCC 21.05.030(b) When measuring height of a building, the following are excluded from

the measurement: steeples, spires, belfries, cupolas and domes if not used for human occupancy, chimneys, ventilators, weather vanes, skylights, water tanks, bulkheads, monuments, flagpoles, wind energy systems, television and radio antennas, other similar features, and necessary mechanical appurtenances usually carried above roof level).

- Temporary tall structures: under 12 months, construction related.
- Temporary telecommunications facilities: emergency communication, disaster and such.
- Temporary telecommunications facilities: special event.
- Essential service utilities: electrical: not sure we have this referenced in code anywhere.
- Lighting: Harbor lights, ROW lighting. Would be good to set height limit: harbor lights are 150ft. I can't imagine would want to support this height elsewhere.
- Ham radio unless commercial use
- Addition, removal or reorientation of transmission equipment (perhaps some legal guide for boundaries associated with definition of equipment, whether it is on the tower or ground and of such a size on the ground.
- Routine maintenance and repair of tall structure and components.

### **Types of permit available**

1. Administrative/by right – this is a permit issued by the planning office. Generally it would be for new towers. I would expect that we would have some standards associated with the various districts that are tied to a maximum height and perhaps some setback standard. Example: towers up to 125ft. in the Marine Commercial District.
2. CUP – For those towers that exceed an allowance for maximum height and perhaps addressing some standard for setbacks. Example: towers exceeding 125ft. and where fall-zone fall may include private properties.
3. Network Improvement – This is largely set by requirements to adhere to federal rules and would be issued by the Planning Office.

### **Pre-application requirements for new tall structures (CUP) (may want to meld with box store standards per HCC 21.57.110)**

- Community meeting
  - o City hall
  - o At least 15 days after notification
  - o 5-7pm
  - o Notification
    - Legal of lot
    - Description of development including height, design, lighting, and access
    - Date time and location of meeting
    - Contact info: name telephone and address
    - Form created by city describing comment deadline and options for submitting comments



- Notification requirements
  - Within 1200ft.
- Written report including
  - Date of meeting
  - Summary of notification methods. Mailings, notices, and etc...
  - Sign in sheet for meeting including contact information and that of any interested parties
  - Number of people attending meeting
  - Copies of written comments
  - Certified mailing of all who were notified
  - Written summary including
    - Substance of concerns, issues and problems
    - How the applicant intends to address concerns
    - Concerns that the applicant has not addressed and why

### **General permit process for tall structures**

- Incomplete application. Rejection in writing within 15 days stating specific deficient items
  - notification per code except that:
    - 1200ft notice area
    - Will include anyone who were notified or submitted comments of pre-application meeting
  - Determination. Written findings of fact and determination including conditions (legal review in accordance with CUP standards)
  - Conditions of approval may include (legal review for incorporation with CUP)(may want to incorporate some of these items into requirements of ordinance)
    - height limitations
    - increased height or structural capacity to accommodate future collocation
    - mitigation of drainage concerns
    - tower type (monopole, lattice, guyed)
    - color
    - landscaping
    - parking
    - screening
    - signage
    - lighting
    - setback
  - process timeline
    - hearing within 60 days of completed application
    - decision within 30 days of hearing
    - 60 days for administrative review

### **General application requirements for new tall structures**

- Completed application (per HCC 21.70.020)
- Scale drawings by engineer or architect
- Fee
- Citizen participation report
- Site plan (level 1, HCC 21.50.020)
- FAA no hazard determination
- Information about breakpoint technology, if employed

### **Standards for approval of new tall structures**

- Permit must meet these standards in addition to any other required in title
- Findings must demonstrate (language is particularly tough)
  - o To the extent technically feasible, the location of the structure minimizes the negative effect on visual and scenic resources of all surrounding properties
  - o Visibility of structure from recognized public parks and impact on view of the bay? Is minimalized as technologically feasible
  - o Does not interfere with airport
  - o Will not be harmful to public health, safety, convenience, and welfare

### **Operation standards new for tall structures**

- All towers
  - o Setback of equipment compound
  - o Setback of tower
    - Fall zone
    - Exception for easement and ROW for fall zone
  - o Parking, one or one per provider or one per tower
  - o Wind Energy Regulations per HCC21.58.030

### **Network improvement permits**

- Allow legally existing towers to be replaced or modified in a manner that increases the overall height of the existing tower in accordance with this section.
- Does not require notification of the surrounding property owners
- Base of replacement tower not to be located further than 50 feet from base of original tower (and must meet setback requirements) Original tower shall be removed within 90 days of completion of replacement tower
- More than one network improvement may be obtained although cumulative height may not increase more than the greater of 10% or 20 feet
- Application of Network improvement permit shall include requirements found in HCC 21.70.020 and:

- Application signed by property owner and applicant
- Description of proposed modifications including height, type, and lighting of new or modified structure and the existing structure
- Level one site plan (HCC 21.50.020)
- Design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect
- In granting the permit the following findings shall be made in addition to HCC 21.70.030 and:
  - The development conforms to setback requirements
  - The existing tower was accepted as legal at time of application for network improvement permit
  - The proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided that the condition being violated does not limit the height of the structure
- A network improvement permit shall be approved within 60 days from time of application if meeting the requirements of this section.
- Telecommunication towers permitted shall conform with operation standards set in this title (code number here)
- Replacements or modifications of a telecommunication tower in accordance with this section are not subject to application or pre-application requirements for that of a new tower under this chapter

### **Reconstruction and replacement**

- This section shall only apply to legally permitted structures or those that have obtained pre-existing legal nonconforming status
- Property owner responsible ..... (legal)
- May be replaced or reconstructed to improve structural integrity or in the case of accidental damage or collapse
  - Reconstruction or replacement shall not
    - Increase lighting
    - Change type of lighting
    - Change type of tower
    - Change location of tall structure
    - Increase height of tall structure
  - In case of accidental damage or collapse, reconstruction or replacement must commence within one year or it is considered abandon (legal check)
  - Reconstruction or replacement shall conform with previous permits or legal nonconforming determination

### **Abandonment**

- Abandoned after 12 months of nonoperation

- Shall be removed within 90 days of abandonment
- Addition 90 days when demonstrating good cause

**Transfer of permit**

- Permit runs with land

**Nonconforming uses**

- Per HCC

**Violations, enforcements, and penalties**

- Per HCC

**Appeal procedure**

- Per HCC

**Attachments**

1. Practicing Planner Article, Smith **p. 67**
2. Zoning table **p. 85**
3. Mat-Su Ordinance **p. 87**

# Practicing Planner



American Institute of Certified Planners  
*The Professional Institute of the American Planning Association*

Planning Essentials

## Managing Wireless Infrastructure Deployment

by Robert E. Smith, AICP

This planning essentials article provides a primer on local land-use management of wireless infrastructure with an emphasis on regulatory issues. Local government planners are the primary audience. The article includes a true story about a local discretionary land-use decision involving a tower, identifies resources that planners can draw upon to ensure their knowledge of telecommunications infrastructure is up to date, and discusses major issues in regulating the wireless industry.

I contend that local land-use regulations should make it easier for local governments to ensure the appropriate and timely provision of essential wireless infrastructure. Being employed in the wireless industry, I offer an industry perspective, but it is cast in the frame of reference of a local planner administering a zoning ordinance and development regulations. Planners will be better prepared to update their wireless ordinances and administer applications for wireless infrastructure after consulting this article.

### INTRODUCTION

#### The Regulatory Environment

Planners have been regulating towers, antennas, and cellular phone infrastructure sites for more than two decades. Local land-use planners administer applications for new towers and antenna additions to existing sites, and they review building and other permits, usually administrative or ministerial, for modifications and colocations to such facilities. In many localities, approval of a cell tower is a discretionary process involving public hearing, planning commission recommendation, or local governing body approval.

The federal Telecommunications Act of 1996 establishes boundaries on local regulatory practices. Nonetheless, federal, state, and local authority have enabled cities and counties to treat wireless telecommunications facilities and equipment with more discretion than other utilities, such as electricity or phone lines. Local land-use regulations can make it easy or difficult to provide essential wireless infrastructure, and extreme examples of both are

found in almost every state.

Legal decisions are emerging that enable facial challenges to overly restrictive siting ordinances, offering wireless providers the sanctuary of federal pre-emption in some circumstances. This legal mechanism is rooted in Section 253(a) of the 1996 Telecommunications Act, and between it and the recent Federal Communications Commission (FCC) frequency auction (the largest yet), the wireless industry sector may be ripening for a string of industry-favorable siting decisions in the courts.

### **Wireless Facilities as Essential Infrastructure**

Long-range planners often can view wireless as essential communications infrastructure. Like electricity transmission towers or the power, phone, and water lines running down a street, wireless communication has become an essential service on which we assume we can rely. If local regulations fail to provide for wireless infrastructure deployment in the future, a locality can fall short of its economic development and public safety objectives, which are increasingly reliant on the telecommunications industry.

### **Rapid Technological Change**

Like other technologies, the wireless industry is changing rapidly. It is now offering enhanced communications and data services, and is poised to offer additional innovative services. For instance, a number of new developments in wireless communications may have direct impacts to localities as well as the built environment and quality-of-life issues. These new developments include municipal Wi-Fi/broadband, distributed antenna systems, new camouflaging materials and technology, video on cell phones, smart-phone and PDA development, interoperability, and broadband capable transit. Potential benefits include enhanced public participation in planning, linkages to public safety and emergency medical communication networks, improved intergovernmental collaboration and data sharing, and more support for economic development objectives.



⊕ *Figure 1*  
Typical Monopole  
Location,  
Installation and Tower



⊕ *Figure 2*  
Typical Lattice Tower

## **The Need to Expand Wireless Infrastructure**

The momentum of steadily increasing subscribership and minutes of use is driving the wireless industry to prepare for increased business — new products and services are in development to take advantage of spectrum acquired in the recent FCC auction, and new systems and facilities are being planned to support them. New equipment (infrastructure) will be required to field some of those new services, and land-use permits will be required for siting some of that equipment. The industry is actively targeting residential markets — the last frontier, if you will — for wireless infrastructure.

Planners regulating the telecommunications industry through zoning and land-use laws owe it to themselves and their communities to understand the land-use and community facility implications of these rapid technological changes. Regulators need to ensure that local ordinances and regulatory environments evolve in step with major substantive advancements in the wireless industry. Planners need to lead efforts to update wireless and tower ordinances to ensure wireless infrastructure is there to serve the current and future needs of the community and meet the public's expectations.

### **A DISCRETIONARY APPROVAL GONE BAD**

We've all seen it, and — like a stock car pileup at Talladega — you just can't look away. A wireless services provider new to town has proposed an installation to provide new wireless services to the community, and the item is before the planning commission because the ordinance requires a conditional-use permit for new installations. A seemingly innocuous hearing for a service everybody wants is about to turn just as ugly as an eight-car pileup on turn three — twisted fenders, flying tires, and all.

The public is out in force, swelling the back of the meeting room to capacity. The applicant's nervous glances at the throng have you getting a little twitchy yourself. Anyone bothering to look can tell he's wondering if there are more of them out in the hall with torches and pitchforks. And despite instructions from the city attorney that radio frequency issues are wholly outside the purview of the planning commission's oversight, this evening's input from the public is going to be a message of fear, suspicion, and NIMBYism at its best. The line is already starting to form at the microphone. Get the popcorn, it's show time.

After 18 months of design reviews and wrangling with local staff, the applicant is informed by the planning commission at the hearing that unless the 150-foot tall monopole design is converted over to a stealth pine tree, the project will be denied. The public isn't happy, but they feel the planning commission listened and is taking action. The fact that the Federal Aviation Administration (FAA) requires the tower to be lighted and that it is located in the middle of a rather large parking area was considered in the staff report, but it was not part of the planning commission's last-minute considerations. With the carrier pressing for permit approval so service can be launched, the applicant's planning consultant accepts the

last-minute alteration. Now the city will have a giant, very expensive, year-round faux Christmas tree with a flashing light on the top in a large paved area. No other service provider would dream of colocating to the tower for fear of the strange and expensive conditions that might emerge from subsequent applications to amend the site.

The public has been heard by a responsive planning commission, industry will spend three times more to construct this site, and the result will be a local icon of ridicule that will not support future colocations and additional services.

The above actually happened, and I was the unlucky industry planner brought in to appeal the approval and try to have the city council amend the planning commission's last-minute stealth requirement. I was successful, but it was an embarrassing situation for everyone involved. Scenarios similar to the above play themselves out thousands of times a year in our country, resulting in a wide range of unreasonable permit conditions, unnecessary denials, and litigation — and to what end, and why? Everyone wants wireless services — more than 70 percent of Americans have wireless phones. More than 250,000 life-saving calls are being placed every day to 911 on cell phones, but people show up to object to and thwart the installations of the systems that make it all work. What's going on here, and how should cities plan and manage this infrastructure so the community has the communications systems it really needs?

## **THE EDUCATIONAL PROCESS AND RESOURCES**

Many would say that that industry has not provided education so the public and community leaders can understand the mix of concerns and come to conclusions appropriately focused on the betterment of the community. Others would say that more than 20 years of health research and growing presence in the built environment are enough of a track record, and this land use should be mainstreamed like all other forms of basic community infrastructure. Most of us in the industry keep hoping for something in the middle; any balance point would be better than what we currently face.

Planners need a healthy range of resources when reviewing wireless applications, informing decision makers, and working with interested members of the public. Planners must be able to work with project design issues to ensure a sound proposal is brought forward while negotiating the requirements of local codes and project review processes. Decision makers need to be informed about the relevant, project-related issues at hand, and they also need to understand the larger context in which the proposed project will operate, as well as the impact its operation will have on the community. The interested public needs access to the same information to understand the process, issues, and policies that will guide the decision makers.

Additional information is needed when contemplating revisions to local wireless ordinance and adopting departmental policies or guidelines. Given the fast pace of change in the



wireless communications sector, staying on top of current trends and their related issues can be challenging. Thankfully, several organizations and agencies are well positioned to assist planners in acquiring information and accessing additional resources.

### **Wireless 101**

"Nuts and bolts" information, as well as industry perspective and context, can be accessed through the Internet. Such background information is helpful to decision makers, who must consider the facts presented by staff as well as other benefits and impacts that are not so easy to quantify, including economic impact, quality of life and safety enhancements, and community demand for services. This information also helps staff members better understand industry motivations and actions. The following web pages are particularly useful:

- Personal Communications Industry Association (PCIA) — The Wireless Infrastructure Association: [www.pcia.com](http://www.pcia.com)
- CTIA — International Association for Wireless Telecommunications: [www.ctia.org](http://www.ctia.org)
- Federal Communications Commission (FCC), Office of Engineering and Technology, Radio Frequency Safety: [www.fcc.gov/oet/rfsafety/rf-faqs.html](http://www.fcc.gov/oet/rfsafety/rf-faqs.html)
- Food and Drug Administration. Cell Phone Facts: Consumer Information on Wireless Phones: [www.fda.gov/cellphones/](http://www.fda.gov/cellphones/)



▣ *Figure 3*  
Representative Facade  
Mounted Antennae



▣ *Figure 4*  
Slimline Design

### **Wireless Industry News**

Information and context about market demand, new products, services, applications, and providers is available online. Planning-related information and legal decisions, corporate announcements and regulatory developments all have an impact on local regulations. Staff

members can use such information to better manage the wireless infrastructure in their communities. I suggest the following web pages:

- The Wireless Infrastructure News Service: [http://wins-news.com/wins/nm\\_admin/winsnews/default.aspx](http://wins-news.com/wins/nm_admin/winsnews/default.aspx)
- Bennet & Bennet Rural Spectrum Scanner: [www.bennetlaw.com](http://www.bennetlaw.com)
- MuniWireless: The Voice of Public Broadband: [www.muniwireless.com/](http://www.muniwireless.com/)
- RCRW Wireless News: [www.rcrnews.com/apps/pbcs.dll/frontpage](http://www.rcrnews.com/apps/pbcs.dll/frontpage)
- Government Technology News: [www.govtech.net](http://www.govtech.net)
- Wireless Week: [www.wirelessweek.com](http://www.wirelessweek.com)
- Above Ground Level Magazine [www.agl-mag.com](http://www.agl-mag.com)
- Wireless and Mobile Technology Yahoo! News: <http://news.yahoo.com/i/1899>

### **Tower Locators**

It helps to know where all the towers are in your community — especially when applicants propose new facilities and the issue of colocation on existing facilities needs to be addressed. Beyond asking the applicant to see if other locations for the proposed facility might be superior to the one being proposed, a quick check online to see where the existing towers are located could yield a potential colocation opportunity the applicant may have overlooked. A good way to develop a complete set of location data on towers and wireless facilities in your community is to require each applicant to provide, with their application, the locations of all of their existing facilities within the community.

- Crown Castle International: [www.crowncastle.com](http://www.crowncastle.com)
- SBA's Owned Site Locator: <http://map.sbsite.com>
- American Tower Site Locator: [www.americantower.com/OasisPublic/Mappoint/default.asp](http://www.americantower.com/OasisPublic/Mappoint/default.asp)

### **Mapping Tools**

Most tower companies provide latitude and longitude information for their towers, as well as street addresses or tax assessor's numbers. With latitude and longitude numbers, planners can use one of several Internet-based mapping utilities to locate coordinates and generate maps. For the small locality, this function is helpful when evaluating projects, performing current and future planning, and tracking the inventory of towers.

- Tiger Based Reverse Geocoder for the United States: [www.usnaviguide.com/revtiger.htm](http://www.usnaviguide.com/revtiger.htm)
- United States Geological Survey National Map Viewer: <http://nmviewogc.cr.usgs.gov/DecDegPtLookup.htm>

### **Specific Searches**

Several Internet search engines offer users the ability to specify a search and automatically run it on a regular basis, with "hits" or alerts sent to your e-mail address. Google is one company with this service ([www.google.com/alerts?hl=en](http://www.google.com/alerts?hl=en)), which can be handy if you are trying to stay current on wireless infrastructure and planning issues.

### **KEY REASONS FOR AMENDING THE WIRELESS ORDINANCE**

There are several reasons, some already mentioned, that local planners should engage in the process of revising their wireless ordinances. Wireless proposals that seem simple can create undue burdens for the applicant and staff. Review and approval processes may require disproportionate or excessive lengths of time and money to negotiate. Industry objectives, construction techniques and technological advances in site design have created more options and new opportunities that might not be considered or allowed within the existing wireless communications codes.

### **Wireless Has a Public Purpose**

Wireless infrastructure and services are becoming more critical as the public and localities begin to use and depend upon them. The impact of this use and reliance has positive and wide-reaching effects — from public safety to economic development. However, those benefits may be limited by the infrastructure systems supporting the services.

Many communities are embarking upon "broadband initiatives" to plan for and develop robust wireless services for a range of reasons, including economic development, public safety, and quality of life. Some communities are planning to link their municipal wireless networks into "wireless clouds" that might cover entire regions. Advancements in wireless video likely will combine with public safety communications and interoperability to one day empower citizens to send video of an emergency in real time to 911 — giving emergency response personnel invaluable information. Wireless linkage to security cameras inside

schools may become a reality — and a real advantage to on-site emergency responders. Commuter transit is changing, as wireless-capable buses and trains emerge, and the workplace is also morphing as applications take on wireless platforms in the field. Government services also are being improved by wireless devices. From meter reading to highway construction to building inspections, wireless applications are being used to empower front-line personnel to deliver better, more efficient service.

A local ordinance dictating minimum wireless infrastructure that meets only a community's current needs could cripple future enhancement and delivery of new services and products to your citizens. Further, as local government envisions new services and products for the benefit of citizens, private wireless infrastructures should not be overlooked. Rather than taking on the full capital cost of creating entirely new wireless infrastructure systems, localities should reach out to the private wireless infrastructure systems to determine if existing private infrastructures might serve the localities' purposes. Private wireless infrastructures, already in place across most localities, may be the key to local governments being able to offer additional services to the public at affordable cost.

### Colocation

Once a wireless infrastructure facility is in place, usually only minor physical alterations are required to augment the utility of the facility to double or triple its service capability. Such intensification of use is termed "colocation" and, in general, it means that additional service providers can locate on the same tower and at the same facility installation.

Colocation on existing structures has become a standard practice — and often top choice — for most wireless service providers, but the bulk of ordinances in existence were created during a time when that may not have been the case. Changes in siting preferences and the shift from coverage to capacity and quality infill project proposals reflect shifts in the industry's objectives that should be considered in local codes.



☐ *Figure 5*  
Tower Disguised as  
Chimney



☐ *Figure 6*  
Tower Disguised as  
Flag Pole

### Residential as the New Wireless Frontier

Some siting issues have become more prominent recently because wireless service providers are seeking to respond to people who expect to be able to use their wireless devices at home. The number of work-at-home employees is increasing. There has been a continued rise in numbers of small businesses within residential settings, and the number of multiple wireless users within the household has increased. The number of households eliminating wire-line communication services also is increasing, as demands for wireless residential services and capacity are rising.

As a result, the industry is now actively targeting residential markets more than transportation corridors and employment centers, which generally already have services. Siting proposals are being submitted to local governments from a diverse and growing range of applicants and products. Infill capacity/quality projects to ensure reliable data and video services are becoming common, and they often present different design requirements than the initial coverage sites created during the last decade.

These recent developments have brought a change in the types of permit applications typically being submitted, and new developments in materials and design have opened up more alternatives. Codes based on the standard construction and siting experiences of a decade ago are in need of review.

### **The Need to Avoid Sameness, or a Lack of Design Variety**

Local governments may run the risk of having almost all approved wireless facilities taking on a similar built design, creating a widespread cookie cutter appearance. Codes may tend to homogenize the physical design and siting of proposed wireless facilities, resulting in sites that tend to look the same across a community or area. Is there too much of an emphasis on roof-top facilities, for example, causing rapid rooftop proliferation and wide-scale alteration of the local built aesthetic? Should there be colocation incentives and flexible height requirements offered to existing tower and stealth facilities to better balance the end result in the built environment? Is residential development growing, while wireless coverage to serve these developments is hamstrung by exclusionary language or excessive setbacks in the ordinance?

Given the wider range of design alternatives and construction techniques available today, it might be time to take advantage of these changes and introduce some flexibility and discretion in the approval process. Case-by-case sensitivity is recommended, for it would offer needed flexibility to the applicant. Staff should have discretion to allow a range of solutions, and variety of design in the built environment can result. If flexibility does not exist or is removed from the ordinance, and too much control is exerted over facility design, the wireless industry is not free to solve creatively various siting and design issues, and less-than-optimal results are likely.

### **A COLLABORATIVE APPROACH TO ORDINANCE REVISION**

In revising wireless ordinances, planners should pursue a collaborative, inclusionary public process. By having all the stakeholders involved in the ordinance revision process, planners can ensure that the best combination of controls, incentives, and design guidance is included in the ordinance. Planners need to understand the roles and motivations of the stakeholders present and encourage all participants (including the locality itself) to be transparent about objectives and concerns.

It is not enough to selectively include representatives from the different types of wireless service providers within the industry sector. All legitimate stakeholders (including wireless infrastructure providers) should be invited to participate in the ordinance revision process. An inclusionary approach will ensure that those who have a stake in the issue and a desire to participate will be heard. Such an approach also will increase the potential for new perspectives and approaches to emerge. Set aside ample time for several workshops or meetings to review and consider the draft and to consider all revisions suggested by participants. Concrete suggestions for creating ordinance revision workshops that will produce results include the following:

- Ensure legitimate stakeholders are included: Contact local stakeholders as well as the PCIA and state wireless associations to develop a comprehensive approach to regulatory development.
- Provide ample notice for meetings to ensure good attendance.
- Provide web and e-mail resources, such as those provided in this article, to encourage maximum participation and dissemination of information.
- Provide teleconferencing services for meetings so physical attendance is not necessary.
- Provide ample time to review and comment on draft language so quality feedback is gathered.
- Don't get bogged down in the beginning. Agree to disagree where necessary, and keep things moving.
- Provide multiple opportunities to discuss suggested revisions and resulting drafts. Iterations likely will generate positive developments in regulatory approach and language.

Consider holding an educational workshop for decision makers, and request industry

participation.

## **HALLMARKS OF A GOOD ORDINANCE**

### **Flexibility**

Planners face two potentially competing objectives: (1) wanting reliable, pragmatic, and tangible results, and (2) needing to facilitate local infrastructure development and enhancement. Zoning regulations, by their very nature, have had a restrictive effect on siting of towers and wireless infrastructure. Design controls also limit the physical aspects of the proposal. Euclidean zoning tends to push siting and design into certain geographical areas and typical configurations. Planners should recognize that some flexibility and creativity in the regulation will result in potentially superior project proposals and, at the least, a healthy variance from the typical norm in terms of cell tower and cell site installations. Building flexibility into the ordinance can sometimes offer an opportunity to the industry to create new solutions to old problems. A deft hand here is far better than a sledgehammer approach when regulating wireless infrastructure.

For example, it might be more in keeping with a community's character to allow an existing tower that currently stands at the height limit to extend above the height limit in order to facilitate a colocation rather than forcing the development of another site at a new facility.

As another example, it might be more beneficial to allow a camouflaged facility to be constructed in a location that doesn't meet setbacks, rather than have a non-camouflaged facility installed elsewhere. Planners and decision makers should emphasize that each proposal is unique, and that each siting decision involves opportunities and alternatives to optimize the facility's "fit" in both the community and the site itself.

Flexibility in regulations can maximize the utility of the community's existing wireless infrastructure while minimizing the creation of new sites. When colocation proposals to existing facilities are considered, allowing some flexibility in the site design can result in a successful colocation rather than the creation of new facilities. For example:

An existing tower has two carriers present and is at the 120-foot height limit for the zone. Another service provider would like to collocate to the facility, but locating below the current carriers would place the equipment too low to serve the carrier's intended RF objective, and multiple new sites would then be necessary. An application is presented to the locality, proposing a 10-foot increase in the height of the tower to accommodate the carrier's equipment and RF objective. This extension represents less than a 10 percent increase in the height of the tower, but the application is denied because of the height limit. The carrier now must seek to create multiple new tower facilities to attain the RF objective.

The community could have had one tower supporting three service providers, but now it will have several towers performing that function. Rather than make an existing 120-foot tower 10 feet taller, the community is encouraging the creation of additional towers and compounds. From a visual impact perspective, this result would seemingly be in conflict with the objectives of the local code.

**Avoid Overregulation**

Overregulation can stymie the delivery of wireless service. Planners and decision makers should realize that the industry's ability to respond to demand already is handicapped by certain factors. Growing numbers of subscribers already strain existing infrastructure in many places. New services are being offered that require additional bandwidth, further stressing existing systems.

On top of these challenges, regulatory processes can create bottlenecks in the siting of facilities, generate limiting effects on network operations, or otherwise restrict infrastructure deployment. Planners must consider that the future enhancement of wireless infrastructure will have a positive impact that affects the community's quality of life, business development, public safety, and other services.



▣ *Figure 7*  
Antennae on Parking  
Light Stand



▣ *Figure 8*  
Monopinees

**Recognize the Limits of Colocation**

Colocation has become a widely recognized best practice for siting wireless infrastructure, but it works only when the existing facility has the capacity and location to serve the applicant's radio frequency objective and when the local regulations allow the flexibility necessary to create a viable project. Incentives to encourage colocation, however, can be simple and pragmatic. By-right approval with planning staff comment on the building permit can be offered for applications meeting certain requirements, and streamlined ministerial review and approval processes can be established and implemented for colocation applications that meet certain design standards. These reforms would provide the applicant with swifter reviews and more certainty in the permitting process.



Some states have passed legislation to encourage streamlining the wireless colocation process, while also safeguarding the locality's interests in managing the land use. This movement is a direct result of the difficulties service providers have faced in deploying critical infrastructure to ensure the rapid development of ubiquitous wireless service across the country. As legislation is enacted, localities should evaluate their codes to ensure conformance with state law. State wireless associations also are being formed. Made up of wireless industry representatives and businesses, these associations can assist local governments facing such challenges by providing resources, information, and feedback.



▣ *Figure 9*  
Tower Camouflaged as  
Palm Tree



▣ *Figure 10*  
Tower Camouflaged as  
Cactus

### **Ease Up on Nonconformities by Allowing Colocation**

Some communities, upon passage of updated wireless siting ordinances, have towers that are legally nonconforming with the new code. Most communities also have typical language in their codes that constrains the approval of additional permits on nonconforming uses or structures. Typically, applicants attempting to collocate on nonconforming wireless infrastructure sites are informed that they must make the site conforming if they wish to collocate to it. In some circumstances this is physically impossible, because the nonconforming conditions cannot be cured (e.g., increased setbacks have been introduced in the new code). In such circumstances, the applicant would have to abandon collocating to an underutilized site and erect another single-use tower. In other circumstances, it is economically impractical to make a site conforming. The resulting outcome may be that an underutilized, nonconforming facility is passed over in order to create another potentially underutilized facility.

Planners should consider that if applicants no longer submit proposals to collocate to a nonconforming site because of these sorts of circumstances, there is no real opportunity to improve the site. It likely will remain static for its useful life: nonconforming, underutilized, and unimproved. This is not an optimal condition.

Ordinances should allow collocations on nonconforming towers and sites. Doing so will ensure that the maximum utility of existing wireless infrastructure is realized and avoid the

unnecessary proliferation of additional towers and sites. Further, in the process of granting that flexibility on nonconforming sites, the locality has the opportunity to address some design issues to improve elements of the appearance or conformity status of the site.

In operational terms, colocation may mean an additional trip or two each month to the site by a maintenance or support person. From a visual perspective, it would mean the addition of antennas to the existing pole or tower, and the placement of ground cabinets containing computerized radio equipment within the facility compound. These are negligible impacts associated with the continued and expected use of the facility that do not require another discretionary review by the local government.

Planners are urged to remind decision makers that colocation works only when the existing wireless facility will provide a platform that serves the new wireless provider's objectives and when the locality has land-use controls that allow outright the addition of users to existing wireless infrastructure facilities.

### **Respond to Residential Location Needs**

In order to provide service to users, wireless communications providers are seeking to site facilities in proximity to residential developments. Many local ordinances exclude wireless infrastructure from residential areas. Some go so far as to define wireless infrastructure facilities as commercial uses and exclude them from residential zoning districts.

Given the increased level of demand for wireless services in residential areas, the wireless infrastructure facility should be treated as essential infrastructure. Codes might define such installations as an accessory use to residential development, similar to the way electrical, water, cable, and landline telephone infrastructure is treated in zoning ordinances. The presence of wireless facilities is warranted — and indeed demanded — anywhere there are legitimate users of the service. That increasingly includes residential areas.

There are negligible if any impacts related to the operation of wireless facilities in residential neighborhoods. Operation of a wireless facility usually includes limited maintenance visits, but such traffic comes nowhere close to the number of trips per day that the average residence generates. Operational impacts, such as noise from emergency generators, can be mitigated by requiring compliance with local nuisance and performance codes. Visual and physical impacts can be mitigated through a variety of means, from design controls to staff or neighborhood design committee reviews. Many and newly developed construction materials, techniques, and designs can be accessed to meet a wide variety of design and performance considerations. In sum, if sited and designed appropriately, and conditioned to mitigate visual impacts, wireless facilities will not necessarily conflict with residential uses.

As the demand for residential wireless services increases, and as the wireless industry moves to meet that demand, one might expect longstanding attitudes about compatibility of

wireless infrastructure in residential areas to shift. How fast and how smoothly such change will occur depends largely on individual localities and the contents of the ordinances they adopt.

### **Provide Incentives**

Ordinances should reward certain types of proposals with shorter approval schedules, less rigorous use-permitting requirements, and more certainty in the approval process. An example for a streamlined process incentive would be for a community to allow colocations or minor modifications to existing wireless facilities by building permit, with planning staff commenting on the building permit during the routine plan-check process. By allowing colocations to move forward through the building permit process, process time is shortened and certainty is enhanced, while staff still holds sway over design review and compliance issues related to the use.

Planners should consider other possible incentives. One incentive is to provide "by right" status to certain types of wireless proposals meeting specified location and design criteria. Another incentive or permit streamlining measure is the "pre-authorization" of future colocations indicated on design proposals so that only a building permit is required for subsequent, future colocations. A third possible incentive is to develop an acceptable design template for wireless facilities that would prescribe the physical, aesthetic, and dimensional design aspects of a facility, and then allow facilities and colocations that meet those specifications to be approved and installed by building permit only. In sum, incentives can be used to encourage and expedite certain types of development, and such incentives help ensure that the community's wireless infrastructure and services remain robust, flexible, and positioned for new service deployment.

### **Include Design Guidelines and Directive Policies**

Any ordinance, no matter how well written, will at some point generate questions that cannot be answered by the ordinance language itself. Unforeseen circumstances often will present themselves in a wireless facility proposal. Development and adoption of design guidelines and directive policies can create more consistency of reviews and can help provide direction when questions or uncertainty arise.

Design guidelines and directive policy can offer an opportunity for further refinement of the locality's perspective on wireless infrastructure facilities, design, and siting. Such guidelines and policies help manage expectations on both sides of the project proposal by helping staff provide more consistent project reviews that reflect the community's objectives and the decision maker's intentions. They also can facilitate applicants in filing applications that are more consistent with the expectations of staff and local decision makers.

In general, design guidelines and directive policies should:

- Clearly convey the design and aesthetic expectations of the community.
- Provide existing and desired examples through pictures and photosimulations.
- Provide instruction to staff so administration of the local regulations is consistent.
- Require scrutiny where needed, but not exceed other existing design regulations applicable to other structures and facilities in the community.
- Allow placement of wireless infrastructure in all zones, with appropriate design controls.
- Allow colocation to existing facilities with minimal regulatory requirements.

The author has compiled numerous photos of typical cell tower installations and approaches to camouflaging towers. See the figures below for examples, some of which may be considered better than others. Planners can judge for themselves the aesthetics of typical installations and the relative effectiveness of the various camouflaging techniques.



☒ *Figure 11*  
Tower Camouflaged as  
Windmill

## **CONCLUSION**

There's no doubt that wireless infrastructure will continue to change and grow. The industry will continue to introduce new designs and services during the next decade, and we will begin to see an increase in the same from local governments. Wireless communications have become tools necessary for public safety and community well-being, and they have integrated themselves solidly within our culture. In such a dynamic environment of technological change, communities are best served by developing local use regulations that provide flexibility and balance, while generating pragmatic and reliable outcomes that meet clearly articulated community objectives.

Ultimately the introduction of incentives and flexibility in a wireless ordinance requires an exercise in balance. That balance is best struck when all the stakeholders have the opportunity to share their perspectives. Colocation is usually the best way for a community to effect the deployment of additional wireless infrastructure and services, as it presents minimal visual and operational impacts. When compared to the creation of a new wireless

facility, colocation on an existing facility involves less physical intrusion into the built environment, minimizes the proliferation of wireless infrastructure sites and aggregates the operational impacts of wireless infrastructure to a minimum number of locations.

This article has suggested ways that decisions can be expedited, more certainty can be ensured, and incentives can be created so that the wireless industry can propose projects that are consistent with community objectives. A forward-looking approach to wireless infrastructure is critical, and revised regulations must be adopted if a community wants to position itself in the future for the best possible wireless infrastructure and services.

*Robert E. Smith, AICP, is National Zoning Compliance Manager for Crown Castle USA, Inc. He has been employed by Crown Castle since 2001 and serves in the regulatory department as the company's manager for zoning issues. Prior to his assignment as national manager, Smith worked for Crown Castle in California as a zoning specialist to develop, evaluate, present, and secure land-use permits for a wide variety of projects for wireless customers. His experience prior to Crown Castle includes city manager, director of community and economic development, and grants writer/administrator positions at several cities and councils of government. He holds a BA in Fine Arts from the College of Charleston, and master's degrees in urban and regional planning and public administration from Virginia Tech. Smith is a member of APA's Technology Division and is working to create a forum for this issue and others like it.*

©Copyright 2007 American Planning Association All Rights Reserved

**6 18 14 Proposed Height By District Table**

District	Height at which a CUP is needed (feet)	Max Height
CBD		
TC		
GBD		
GC1 (Beluga Lake)		
RO		
UR		
RR		
CONS		
GC2		
EEMU		
MI		
MC		
OSR		
BCWPD		

CODE ORDINANCE

By: Borough Manager

Introduced:

Public Hearing:

Action:

**MATANUSKA-SUSITNA BOROUGH  
ORDINANCE SERIAL NO. 14-\_\_\_**

AN ORDINANCE OF THE MATANUSKA-SUSITNA BOROUGH ASSEMBLY AMENDING MSB 17.125 DEFINITIONS AND MSB 17.60 CONDITIONAL USES; AND ADOPTING MSB 17.67 TALL STRUCTURES, INCLUDING TELECOMMUNICATION FACILITIES, WIND ENERGY CONVERSION SYSTEMS, AND OTHER TALL STRUCTURES.

WHEREAS, it is the intent of the borough to enable the orderly build-out of wireless telecommunication infrastructure, WECS, and other tall structures while promoting the health, safety, and general welfare; and

WHEREAS, Assembly resolution 14-041 directed the Planning Commission to review and suggest any needed revisions to MSB 17.60; and

WHEREAS, the Planning Commission reviewed MSB 17.60 and discussed possible changes over multiple meetings; and

WHEREAS, the commission conducted a public hearing and considered this issue; and

WHEREAS, the Planning Commission adopted resolution no. 14-18(AM) recommending approval of this ordinance; and

WHEREAS, the rationale and intent of this ordinance are found in IM 14-207 which accompanies this ordinance.

BE IT ENACTED:

Section 1. Classification. Sections 1 and 7 are non-code, Section 2 - 6 of this ordinance is of a general and permanent nature and shall become a part of the borough Code.

Section 2. Adoption of Chapter. MSB 17.67 is hereby adopted to read:

- 17.67.010 Purpose and intent
- 17.67.020 Applicability
- 17.67.030 Exemptions
- 17.67.040 Types of permit available
- 17.67.050 Pre-application requirements for new tall structures
- 17.67.060 General permit process for tall structures
- 17.67.070 General application requirements for new tall structures
- 17.67.080 Standards for approval of new tall structures
- 17.67.090 Operation standards new for tall structures
- 17.67.100 Additional operation standards for wind energy conversion systems
- 17.67.110 Network improvement permit
- 17.67.120 Reconstruction and replacement
- 17.67.130 Abandonment
- 17.67.140 Transfer of a permit
- 17.67.200 Nonconforming uses
- 17.67.300 Violations, enforcements, and penalties
- 17.67.400 Appeal procedure



**17.67.010 PURPOSE AND INTENT**

(A) The purpose of this chapter is to establish regulations for the siting of telecommunication facilities, Wind Energy Conversion Systems (WECS), and other tall structures.

(B) It is the intent of the borough to enable the orderly build-out of wireless telecommunication infrastructure, WECS, and other tall structures while promoting the health, safety, and general welfare of the public by:

(1) facilitating the organized deployment of wireless telecommunication networks;

(2) minimizing the overall number of future towers within the borough by encouraging the collocation of telecommunication equipment on existing and future structures;

(3) encouraging potential applicants for new tall structures to involve citizens early in the process so that concerns can be mitigated prior to application for permits;

(4) requiring consideration of and compatibility with the goals and objectives of the Borough-Wide Comprehensive Plan and other applicable regulations.

(5) minimizing potential hazards associated with tall structures;

(6) encouraging the placement of tall structures in a manner that minimizes the negative effects on the visual and scenic resources of all surrounding properties;

#### 17.67.020 APPLICABILITY

(A) This chapter applies to all private and public lands in the borough except within the incorporated city limits of Houston, Palmer, and Wasilla.

(B) The requirements of this chapter shall supersede requirements of special land use districts within the borough as they pertain to telecommunications towers, except that special land use districts may provide additional regulations for:

(1) a reduced height at which a permit is required under this chapter;

(2) vegetative screening and other camouflage techniques;

(3) the color of tall structures;

(4) tower type (monopole, lattice, guyed);

(5) lighting requirements that are not in conflict with requirements of the Federal Aviation Administration; and

(6) increased setbacks.

(C) This chapter shall apply to all tall structures taller than 85 feet including but not limited to:

- (1) broadcast facilities;
- (2) telecommunication towers;
- (3) wind energy conversion systems;
- (4) tall structures as defined by MSB

17.125.

(D) Permits are required prior to construction of all new tall structures except as allowed by MSB 17.67.120 Reconstruction and Replacement.

(E) Permits under this chapter shall not be approved unless the applicant has provided evidence demonstrating that the proposal conforms to the applicable provisions of this chapter.

**17.67.030 EXEMPTIONS**

(A) The following items are exempt from the provisions of this chapter:

- (1) church spires, religious icons, and flag poles displaying official government or religious flags;

(2) Temporary tall structures, including but not limited to drilling derricks and construction cranes which are utilized on active construction projects or are on site less than 180 calendar days total within a consecutive 12-month period and are not intended to routinely reoccur on the same site;

(3) Temporary telecommunication facilities, upon the declaration of a state of emergency by federal, state, or local government. Such facilities must comply with all federal and state requirements. Temporary telecommunication facilities may be exempt from the provisions of this chapter up to 12 months after the duration of the state of emergency. An additional extension, no longer than 12 months, may be granted by the director upon written request and determination that the telecommunication facilities continue to be necessary for post-emergency operations;

(4) Temporary telecommunication facilities constructed for the purposes of providing coverage of a special event such as news coverage or sporting event, except that such facilities must comply with all federal and state requirements. Said telecommunication facilities are exempt from the

provisions of this chapter up to 15 calendar days prior to the event and an additional 15 calendar days after the duration of the special event;

(5) Essential service utilities as defined by MSB 17.05;

(6) Tall structures within the boundaries of industrial districts designated by borough code;

(7) Lighting support structures less than 185 feet in height that are constructed for the Alaska Department of Transportation, are located within a right of way, and are used exclusively for illuminating major arterials and highways;

(8) licensed amateur (ham) radio towers, except that, modification or use of such towers for commercial use shall require a conditional use permit in accordance with this section; and

(9) Addition, removal or reorientation of ~~antennas or transmission equipment; and~~

(10) routine maintenance and repair of tall structures and their components.

#### 17.67.040 TYPES OF PERMITS AVAILABLE

(A) There are three types of permits available for tall structures:

(1) Administrative Permit - New tall structures that are greater than 85 feet but less than or equal to 125 feet. The applicant may request that the decision on an administrative permit be made by the Planning Commission. The request shall be in writing at the time of application and all requirements for a conditional use permit shall be followed.

(2) Conditional use permit - New tall structures greater than 125 feet; or ~~telecommunication tower~~ tall structures that exceed the height threshold at which a conditional use permit within a special land use district is required.

(3) Network improvement permit - Allows ~~pre-existing~~ legally constructed telecommunication towers to be increased in height in accordance with 17.67.110.

**17.67.050 PRE-APPLICATION REQUIREMENTS FOR NEW TALL STRUCTURES THAT REQUIRE A CONDITIONAL USE PERMIT**

(A) Prior to applying for a conditional use permit for a new tall structure, the potential applicant shall hold at least one community meeting:

(1) The meeting shall be held at the nearest facility where community council meetings are regularly scheduled. If the facility is not available,

the nearest available public facility that is capable of seating a minimum of 20 people shall be utilized;

(2) the meeting shall be held at least ~~21~~<sup>15</sup> calendar days after mailing of the notification;

(3) the meeting shall not start prior to 5:00 p.m. and no later than 7:00 p.m.;

(4) notification of the meeting shall, at a minimum, include the following:

(a) legal description and map of the general parcel, or parcels, within the coverage area under consideration for the telecommunication facility;

(b) description of the proposed development including height, design, lighting, potential access to the site and proposed service;

(c) date, time, and location of informational meeting;

(d) contact name, telephone number, and address of applicant; and

(e) comment form created by the borough that has a comment submittal deadline and provides options for submitting comments.

(5) At a minimum, the notification area for the meeting shall include the following:

(a) property owners within 1200 feet of the parcels under consideration for the proposed tall structure; and

(b) the nearest community council and any community council whose boundary is within 1200 feet of the parcels under consideration for the tall structure.

(B) A written report summarizing the results of the community meeting shall be created that includes the following information:

(1) dates and locations of all meetings where citizens were invited to discuss the potential applicant's proposal;

(2) content, dates mailed, and numbers of mailings, including letters, meeting notices, newsletters and other publications;

(3) sign-in sheet(s) used at the meeting, that includes places for names, addresses, phone numbers and other contact information such as e-mail addresses;

(4) a list of residents, property owners, and interested parties who have requested in writing that they be kept informed of the proposed development through notices, newsletters, or other written materials; and



(5) the number of people who attended meetings.

(6) copies of written comments received at the meeting;

(7) a certificate of mailing identifying all who were notified of the meeting;

(8) a written summary that addresses the following:

(a) the substance of the public's written concerns, issues, and problems;

(b) how the applicant has addressed, or intends to address, concerns, issues and problems expressed during the process; and

(c) concerns, issues, and problems the applicant has not addressed or does not intend to address and why.

**17.67.060 GENERAL PERMIT PROCESS FOR ADMINISTRATIVE AND CONDITIONAL USE PERMITS**

(A) Incomplete applications. For all permits under this chapter, the director may reject any application that fails to meet the requirements of this chapter. The rejection shall be issued, in writing, within 15 calendar days of receipt of an application under this chapter and shall state the deficient items.

(1) Notification. Upon determination of a complete application, the director shall notify surrounding property owners in accordance with MSB 17.03, except that:

(a) the notification area will be 1200 feet;

(b) if applicable, the notification shall include all individuals who were notified of, or submitted comments at the community meeting required by MSB 17.67.050.

(B) Determination. In granting or denying a permit for a new tall structure, written findings of fact and determinations of law shall be issued and shall include conditions as deemed appropriate to protect the public health, safety or general welfare.

(C) Conditions of approval. Conditions set by the commission for a conditional use permit or by the director for administrative permits may include but are not limited to the following:

- (1) height limitations;
- (2) increased height or structural capacity of a proposed tower to accommodate future collocation;
- (3) mitigation of drainage concerns;
- (4) tower type (monopole, lattice, guyed);
- (5) color;

(6) landscaping;  
(7) parking;  
(8) screening;  
(9) signage;  
(10) lighting to be installed and maintained in accordance with Federal Aviation Administration AC 70/7460-1;

(11) Setbacks greater than that required by MSB 17,55.

(D) Process timeframe. For conditional use permits reviewed by the commission;

(1) a public hearing shall be held by the commission within 60 calendar days of receipt of a complete application;

(2) the commission shall render a decision within 30 calendar days from the close of public hearing.

(E) For administrative permit reviewed by the Director, a decision granting or denying the permit shall be made within 60 calendar days of receipt of a complete application.

**17.67.070 GENERAL APPLICATION REQUIREMENTS FOR ADMINISTRATIVE AND CONDITIONAL USE PERMITS**

(A) An application for a conditional use or administrative permit to construct a new tall

structure may be initiated by a property owner or the owner's authorized agent and shall include:

(1) completed application form provided by the department and signed by the property owner and the applicant;

(2) design drawings for the proposed tall structure, drawn to scale, and certified by a registered engineer or architect;

(3) fee in the amount designated in MSB 17.99;

(4) citizen participation report in accordance with MSB 17.67.050(B);

(5) a certified site plan;

(6) copy of a determination of no hazard to air navigation from the Federal Aviation Administration; and

(7) if breakpoint technology is intended to be utilized, a written statement specifying the height at which the engineered structural weakness will be located.

**17.67.080 STANDARDS FOR APPROVAL OF NEW TALL STRUCTURES**

(A) A permit for a new tall structure may only be approved if it meets the requirements of this section

in addition to any other applicable standards required by this chapter.

(B) In granting or denying a permit, the commission or director shall make findings on whether the applicant has demonstrated that:

(1) to the extent that is technically feasible and potentially available, the location of the tall structure is such that its negative effects on the visual and scenic resources of all surrounding properties have been minimized;

(2) visibility of the tall structure from public parks, trails recognized within adopted MSB plans, and water bodies has been minimized to the extent that is technically feasible and potentially available;

(3) the tall structure will not interfere with the approaches to any existing airport or airfield that are identified in the MSB Regional Aviation System Plan or by the Alaska State Aviation System Plan; and

(4) that granting the permit will not be harmful to the public health, safety, convenience, and welfare.

**17.67.090 OPERATION STANDARDS FOR NEW TALL STRUCTURES**

(A) The following setback requirements shall apply to all new telecommunications towers regulated under this chapter:

(1) The equipment compound shall meet minimum setback distances from all property lines in accordance with MSB 17.55.

(2) Setbacks shall be determined from the dimensions of the entire lot, even though the tower may be located on lease areas within the lots.

(B) For all tall structures regulated under this chapter, adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way to enable emergency vehicle access.

(1) no more than two spaces per provider shall be required.

(C) The following requirements apply to all new and existing telecommunication towers and wind energy conversion systems regulated under this chapter:

(1) The following signage shall be visibly posted at the equipment compound:

(a) informational signs for the purpose of identifying the tower such as the antenna structure registration number required by the Federal Communications Commission, as well as the party

responsible for the operation and maintenance of the facility;

(b) if more than 220 volts are necessary for the operation of the facility, warning signs shall be located at the base of the facility and shall display in large, bold, high contrast letters the following: "HIGH VOLTAGE - DANGER"; and

(c) a 24-hour emergency contact number.

(2) A fence or wall not less than six feet in height with a secured gate shall be maintained around the base of the tower.

**17.67.100 ADDITIONAL OPERATION STANDARDS FOR WIND ENERGY CONVERSION SYSTEMS**

(A) In addition to the operation standards for new tall structures required by MSB 17.67.090, the following standards shall apply to Wind Energy Conversion Systems (WECS):

(1) WECS shall be equipped with an automatic overspeed control device designed to protect the system from sustaining structural failure such as splintered or thrown blades and the overturning or breaking of towers due to an uncontrolled condition brought on by high winds; and

(2) WECS shall have a manually operable method that assures the WECS can be brought to a safe condition in high winds. Acceptable methods include mechanical or hydraulic brakes or tailvane deflection systems which turn the rotor out of the wind.

**17.67.110 NETWORK IMPROVEMENT PERMIT**

(A) A network improvement permit allows legally constructed telecommunication towers with pre-existing legal nonconforming status to be replaced or modified in a manner that increases the overall height of the existing tower by up to 20 feet in accordance with this section.

~~(B) Within special land use districts, a network improvement permit allows a tower to be increased by up to 10% of the height of the existing tower unless the applicant demonstrates that additional height is necessary in order to avoid interference with existing antennas. The additional height allowed under this subsection shall not exceed 20 feet.~~

(~~CB~~) A network improvement permit does not require notification to surrounding property owners.

~~(D) Granting of a network improvement permit shall not result in a change in tower type, additional lighting, or change the type of lighting.~~



(EC) The base of a replacement tower may be located no farther than 50 feet from the base of the original tower. The original tower shall be removed within 90 calendar days upon completion of construction of the replacement tower.

(FD) More than one Network Improvement Permit may be obtained. However, the cumulative increase in overall height may not exceed 20 feet. the following:

Telecommunication towers shall not be granted a network improvement permit more than once.

(1) Up to 20 feet for telecommunications towers that are located outside of Special Land Use Districts. If the existing tower exceeds 200 feet, it can be increased by up to 10% of the height of the existing tower;

(12) Within a special land use district, height increase under this section is limited to a cumulative increase of 10% of the existing facility unless the applicant demonstrates that the additional height is necessary for installation of one additional antenna array.

(GE) Application for a network improvement permit shall include the following:

(1) application form signed by the property owner and applicant;

(2) a description of the proposed modifications to the telecommunication tower, including a description of the height, type, and lighting of the new or modified structure and the existing structure;

~~(3) a copy of a determination of no hazard to air navigation from the Federal Aviation Administration;~~

(4) a certified site plan for purposes of setback verification; and

(4) design drawings for the proposed modified or new structure, drawn to scale, and certified by a registered engineer or architect.

(HF) In granting a network improvement permit, the director shall make the following findings:

(1) that the proposed ~~structure~~ development conforms to the setback requirements of MSB 17.55;~~ex~~

(2) that the telecommunication tower being extended was lawfully constructed at the time of application for a Network Improvement Permit; and

(3) that the proposed modification does not violate permit conditions of any valid permits that have been issued to the existing facility, provided

that the condition being violated does not limit height of the structure.

~~proposal meets all requirements of this section.~~

(G) A Network Improvement Permit shall be approved within 60 days from the time of application if it meets the requirements of this section.

~~(H)~~ Telecommunication towers granted a permit under this section shall conform with the operation standards described by MSB 17.67.090 (C).

~~(I)~~ Replacements or modifications of a telecommunication tower that ~~are~~ is in accordance with this section ~~are~~ is not subject to application or pre-application requirements required for a new tower under this chapter.

#### 17.67.120 RECONSTRUCTION AND REPLACEMENT

(A) This section only applies to structures that are legally permitted or have obtained pre-existing legal nonconforming status.

(B) The property owner shall be responsible for all aspects of the operation, improvements, development, and maintenance of the site in compliance with the terms and conditions of the permit and all applicable local, state, and federal requirements.

(C) Tall structures may be replaced or reconstructed in order to improve the structural integrity of the tall structure or in the case of accidental damage or collapse.

(1) Reconstruction or replacement shall not:

- (a) increase lighting;
- (b) change the type of lighting;
- (c) change the tower type;
- (d) change the location of the tall structure; or

(ed) increase the height of a tall structure.

(2) In the case of accidental damage or collapse, if reconstruction or replacement has not commenced within one year of the date of the damage, the structure is considered to be abandoned and is subject to MSB 17.67.130 Abandonment.

(3) Reconstruction or replacement shall conform with requirements or conditions of a previously granted permit or pre-existing legal nonconforming determination.

#### 17.67.130 ABANDONMENT

(A) Any tower that is not operated for a continuous 12 month period shall be considered

abandoned. In such circumstances, the following shall apply:

(1) Tall structures shall be removed within 90 calendar days of abandonment at the owner's expense.

(2) An applicant wishing to extend the time for removal or to initiate reactivation shall submit a letter to the department stating the reason for such extension. The director may extend the time for removal or reactivation up to 90 additional calendar days upon a showing of good cause.

#### **17.67.140 TRANSFER OF A CONDITIONAL USE PERMIT.**

(A) Except as otherwise specified by code, or conditions placed by the commission or director, the privileges and requirements of a permit issued under this chapter shall run with the land.

#### **17.67.200 NONCONFORMING USES**

(A) Within the borough there may be tall structures which have commenced construction or are in existence as of the effective date of this chapter. Such structures which were lawful before the effective date of this chapter, but which would otherwise be prohibited, regulated or restricted under this chapter are allowed to continue but shall not be increased in height except as provided in this chapter.

(1) Structures which have commenced construction as of the date of adoption of this chapter are allowed to be constructed. The height of the structures one year after the date of adoption of this chapter shall be considered the final height of the structure. Such structures may only be expanded in accordance with a permit under this chapter.

(2) Existing or proposed structures which have been granted a conditional use permit under MSB 17.60 are considered to have pre-existing legal nonconforming status and are allowed to continue in accordance with the requirements of the permit but shall not be increased in height except as provided in this chapter.

(3) Structures which are existing as of the date of adoption of this chapter are eligible for pre-existing legal nonconforming status under this chapter.

(4) All telecommunications towers greater than 85 feet shall comply with operations standards required by 17.67.090(C).

(B) Nonconforming tall structures which have commenced construction or are in existence as of the date of this chapter are eligible for pre-existing

legal nonconforming status upon submittal of the following:

- (1) name, title, and contact numbers of the landowner, applicant, and persons in charge of the operation;
- (2) height of structure;
- (3) legal description and borough tax account number of the subject parcel;
- (4) a certified site plan;
- (5) Documentation of all signage within the equipment compound;
- (6) Documentation demonstrating that the structure was in existence or had commenced construction prior to the date of adoption of this chapter; and
- (7) A non-refundable fee as prescribed under MSB 17.99.

(C) Within 15 calendar days of submittal, the director shall issue a determination of incompleteness if the application fails to meet the requirements of this chapter. Rejection of the application for pre-existing legal nonconforming status shall be in writing and shall state the deficient items. Once the deficiencies are corrected, the application shall be accepted as complete.

(D) Pre-existing legal non-conforming status will be determined based on the following:

(1) whether the applicant has demonstrated that the development was constructed legally under the applicable code provisions at the time, if any;

(2) whether the development meets standards in MSB 17.67.090(C).

#### 17.67.300 VIOLATIONS, ENFORCEMENT, AND PENALTIES

(A) Remedies, enforcement actions, and penalties shall be consistent with the terms and provisions of MSB 1.45.

(B) In addition to other applicable penalties, failure to correct the violation of code, after reasonable notice, may result in revocation of the permit.

(C) Complaints received by the borough of violations of state or federal law will be forwarded to the appropriate agency for enforcement.

(D) Authorized representatives of the borough shall be allowed to inspect the site and related records at reasonable times for the purpose of monitoring compliance with all permit conditions.

(E) The permittee shall assist and cooperate with authorized inspections upon reasonable notice from the borough.



17.67.400 APPEAL PROCEDURE

(A) The provisions of MSB 15.39 govern appeals from a decision of the commission or the director, except for appeals from decisions on a Network Improvement permit. Decisions on a Network Improvement Permit shall be appealed to a court of competent jurisdiction.

Section 3. Amendment of section. MSB 17.125.010 is hereby amended as follows: ["AM BROADCAST ANTENNA" MEANS A TOWER OR TOWERS USED FOR THE PROCESS OF RADIO BROADCASTING USING AMPLITUDE MODULATION.]

"Ancillary Structure" means any form of development associated with a telecommunication facility, including but not limited to: foundations, concrete slabs on grade, guy wires, guy anchors, generators, and transmission cable supports; however, specifically excluding equipment cabinets.

["ANTENNA ARRAY" MEANS A GROUP OF ANTENNAS AND ASSOCIATED MOUNTING HARDWARE, TRANSMISSION LINES, OR OTHER APPURTENANCES WHICH SHARE A COMMON ATTACHMENT SUPPORT STRUCTURE FOR THE PURPOSE OF TRANSMITTING OR RECEIVING ELECTROMAGNETIC WAVES.]

"Equipment Compound" means the area occupied by a tower including areas inside or under the following:  
an antenna-support structure's framework, equipment

cabinets, and ancillary structures[ SUCH AS EQUIPMENT NECESSARY TO OPERATE THE ANTENNA ON THE TOWER INCLUDING: CABINETS, SHELTERS, PEDESTALS, AND OTHER SIMILAR STRUCTURES AND ACCESS WAYS].

"EIA/TIA 222" MEANS THE MOST CURRENT STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORT STRUCTURES PUBLISHED BY THE TELECOMMUNICATION INDUSTRY ASSOCIATION AND ACCREDITED BY THE AMERICAN NATIONAL STANDARDS INSTITUTE.

"FALL RADIUS" MEANS THE CIRCULAR AREA MEASURED FROM THE BASE OF THE TOWER OUTWARD IN A CIRCULAR PATTERN (RADIUS) FOR A DISTANCE OF 100 PERCENT OF THE PROPOSED OR EXISTING TOWER'S HEIGHT INCLUDING APPURTENANCES.]

"Height, Tall Structure" means the vertical distance measured from finished grade to the highest point of the tall structure, not including appurtenances, antennae or equipment affixed thereto. In the case of wind energy conversion systems, the blade is considered part of the overall height of the structure.

["SEARCH RING" MEANS A GEOGRAPHIC AREA IDENTIFIED BY THE COMMUNICATIONS SERVICE PROVIDER AS NECESSARY TO

LOCATE A WIRELESS FACILITY IN ORDER TO ENHANCE OR EXPAND THEIR SERVICE.]

"Telecommunication tower" means a tower built for the sole or primary purpose of supporting any FCC licensed or authorized antennas and their associated facilities, including structures that are constructed for wireless communications services including, but not limited to, private, broadcast, and public safety services, as well as unlicensed wireless services and fixed wireless services such as microwave backhaul.

[CONTAINED WITHIN A TELECOMMUNICATION FACILITY.]

["TOWER BASE" MEANS THE FOUNDATION, USUALLY CONCRETE, ON WHICH THE TOWER AND OTHER SUPPORT EQUIPMENT ARE SITUATED.

"TOWER SITE" MEANS THE LAND AREA THAT CONTAINS, OR WILL CONTAIN, A PROPOSED TOWER, SUPPORT STRUCTURES, AND OTHER RELATED BUILDINGS AND IMPROVEMENTS."WIDTH OF A STRUCTURE" MEANS THE HORIZONTAL DISTANCE MEASURED FROM THE OUTERMOST POINTS OF THE STRUCTURE INCLUDING ATTACHMENTS AND STRUCTURAL SUPPORTS BUT EXCLUDING GUY WIRES AND TRANSMISSION LINES STRUNG BETWEEN TOWERS AS IN THE CASE OF ELECTRICAL POWER LINES.]

"Transmission Equipment" means equipment that facilitates transmission for any FCC licensed or

authorized wireless communication service, including, but not limited to, radio transceivers, antennas, coaxial or fiber-optics cable, and regular backup power supply.

Section 4. Amendment of Section. The following definitions within MSB 17.60.010 are hereby repealed as follows:

[• "ALTERNATIVE TOWER STRUCTURE" MEANS TALL STRUCTURES SUCH AS: CLOCK TOWERS, SCULPTURES, STEEPLES, LIGHT POLES, BUILDINGS, ARTIFICIAL TREES, AND SIMILAR ALTERNATIVE-DESIGN STRUCTURES AND ARCHITECTURAL FEATURES THAT SUPPORT, CONCEAL, OR CAMOUFLAGE ANTENNAS OR OTHER USES REQUIRING HEIGHT.

• "ANTENNA" MEANS A ROD, WIRE, OR SET OF WIRES USED IN SENDING AND RECEIVING ELECTROMAGNETIC WAVES.

• "COLLOCATION" MEANS THE LOCATION OF MORE THAN ONE USE OR ATTACHMENT, SUCH AS AN ANTENNA, ON THE SAME STRUCTURE OR SITE; ALSO THE LOCATION OF MORE THAN ONE STRUCTURE ON THE SAME SITE.

• "HEIGHT OF STRUCTURE" MEANS THE VERTICAL DISTANCE MEASURED FROM THE BASE OF THE STRUCTURE AT FINISHED GRADE, TO THE HIGHEST POINT OF THE STRUCTURE INCLUDING APPURTENANCES. THE AVERAGE BETWEEN THE HIGHEST AND LOWEST GRADES WITHIN 20 FEET OF THE STRUCTURE SHALL BE

CONSIDERED FINISHED GRADE AND USED IN CALCULATING THE HEIGHT.

• "TALL STRUCTURE" MEANS A STRUCTURE THAT IS HIGH OR TALL, RELATIVE TO ITS SURROUNDINGS. THE TERM INCLUDES, BUT IS NOT LIMITED TO, FLAG POLES, SCULPTURE, BUILDINGS, ELEVATORS, STORAGE OR PROCESSING FACILITIES, WATER TANKS, DERRICKS, CRANES, SIGNS, CHIMNEYS, AREA ILLUMINATION POLES, TOWERS, SUPPORTS FOR COMMUNICATION, AND POWER TRANSMISSION LINES.

• "TOWER" MEANS A TYPE OF TALL STRUCTURE NOT INTENDED FOR OCCUPANCY AND INCLUDES, BUT IS NOT LIMITED TO, ANTENNA, MONOPOLES, SELF-SUPPORTING LATTICE, GUYED STRUCTURES, AND ALTERNATIVE TYPE STRUCTURES FOR USES INCLUDING, BUT NOT LIMITED TO, TELECOMMUNICATION AS IN RECEIVING OR TRANSMISSION OF TELEVISION, MICROWAVE, CELLULAR TELEPHONE, COMMON CARRIER, PERSONAL COMMUNICATIONS SERVICE (PCS), OR OTHER RADIO WAVE SIGNALS. A TOWER MAY BE FREE STANDING OR ATTACHED TO A STRUCTURE.

• "TOWER FARM" MEANS A LOT OR CONTIGUOUS GROUP OF LOTS USED AS A LOCATION FOR MORE THAN ONE TOWER.

• "TOWER LINE ROUTE" MEANS THE ROUTE TRAVERSED BY TWO OR MORE TOWERS SUPPORTING COMMON SERVICE AS IN ELECTRICAL POWER, COMMUNICATIONS, OR LIGHTING.

• "TOWER SERVICE AREA GRID" MEANS THE SERVICE AREA AND LOCATIONS OF TWO OR MORE TOWERS PROVIDING COMMON SERVICE AS IN A CELLULAR TELEPHONE SERVICE AREA.

• "WIDTH OF A STRUCTURE" MEANS THE HORIZONTAL DISTANCE MEASURED FROM THE OUTERMOST POINTS OF THE STRUCTURE INCLUDING ATTACHMENTS AND STRUCTURAL SUPPORTS BUT EXCLUDING GUY WIRES AND TRANSMISSION LINES STRUNG BETWEEN TOWERS AS IN THE CASE OF ELECTRICAL POWER LINES.]

Section 5. Amendment of Section. MSB 17.60.030 is hereby amended as follows:

17.60.030 PERMIT REQUIRED.

(A) The following land uses are declared to be potentially damaging to the property values and usefulness of adjacent properties, or potentially harmful to the public health, safety, and welfare:

- (1) junkyards and refuse areas;
- (2) correctional community residential centers;
- (3) race tracks used by motorized vehicles carrying people on land;
- [(4) TALL STRUCTURES EXCEEDING THE MAXIMUM ALLOWABLE HEIGHT FOR STRUCTURES WITHIN A SPECIAL LAND USE DISTRICT OR EXCEEDING 100 FEET ABOVE AVERAGE GRADE

IN LOCATIONS WHERE NO MAXIMUM HEIGHT FOR STRUCTURES IS DESIGNATED BY BOROUGH CODE;

(5) TOWER FARMS CONTAINING TWO OR MORE TALL TOWERS REGULATED UNDER THIS CHAPTER;

(6) TOWER LINE ROUTES AND TOWER SERVICE AREA GRIDS, CONTAINING TWO OR MORE TOWERS REGULATED UNDER THIS CHAPTER; AND

(7) ELECTRICAL LIGHTING TOWERS IN EXCESS OF 185 FEET LOCATED WITHIN THE ROAD RIGHTS-OF-WAY ALONG MAJOR ARTERIAL CORRIDORS.]

Section 6. Repeal of Section. MSB 17.60.145 is hereby repealed in its entirety.

Section 7. Effective date. This ordinance shall take effect upon adoption.

ADOPTED by the Matanuska-Susitna Borough Assembly this - day of -, 2014.

\_\_\_\_\_  
LARRY DEVILBISS, Borough Mayor

ATTEST:

\_\_\_\_\_  
LONNIE R. McKECHNIE, CMC, Borough Clerk

(SEAL)

Motion carried.

**Presentations**

None

**Reports**

- A. Staff Report PL 15-01, City Planner's Report

City Planner Abboud reviewed the staff report.

The group talked generally about the new marijuana legislation and what other communities have done, and also the State Transportation Improvement Program (STIP) list amendments.

**Public Hearings**

Testimony limited to 3 minutes per speaker. The Commission conducts Public Hearings by hearing a staff report, presentation by the applicant, hearing public testimony and then acting on the Public Hearing items. The Commission may question the public. Once the public hearing is closed the Commission cannot hear additional comments on the topic. The applicant is not held to the 3 minute time limit.

None

**Plat Consideration**

None

**Pending Business**

- A. Staff Report PL 15-02, Towers

City Planner Abboud reviewed the staff report.

Commissioner Erickson was excused at 7:00 p.m.

The Commission discussed the effect of towers on the view shed, federal government laws that govern towers, and fall zones. They also addressed information in the Mat-Su ordinance compared to the Kenai ordinance. City Planner Abboud thinks the Mat-Su ordinance contains the most modern information he has found and suggested they review and work through the ordinance. The Commission agreed to go through it at their next worksession and also address fall zones, and then bring it back at their February meeting.

**New Business**

- A. Staff Report PL 15-04, Storm Water

City Planner Abboud reviewed the staff report.





## City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

### Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

### Staff Report PL 15-02

TO: Homer Advisory Planning Commission  
FROM: Rick Abboud, City Planner  
DATE: January 7, 2015  
SUBJECT: Towers

---

### Introduction

After the joint worksession, it was surmised that we need to improve our regulation of towers without creating regulation beyond the staff's ability to administer. My goal in this meeting is to set a few basic premises for regulation and work in greater detail later.

### Driving thoughts

In general we need to organize our thoughts about what we are promoting or discouraging- I have created a sample of what others are trying. These are items (with your review) that express our values. Samples include:

- Conformity with federal regulations; Telecommunications Act of 1996 and Federal Communications Commission (FCC) 14-153.
- Encourage towers in nonresidential locations.
- Minimize the total towers necessary for services
- Encourage joint use of new and existing towers
- Encourage design and construction of towers to minimize adverse visual impacts
- Enhance the ability of providers to deliver telecommunication services

### Background

The federal government has administrative laws that govern aspects of towers. A city is not to apply a standard that conflicts. I have attached a Radio Frequency (RF) Guide to help you understand the position of the government in relation to standards regarding RF emissions. It will give you an idea of the threshold at which a problem may be found. It is something we cannot challenge if they meet federal guidelines. Attached is also the introduction of FCC 14-153 to familiarize you with the newest federal interpretations.

The "1996 Act" preserves local zoning and land use authority for cellular towers. There are some basic things to keep in mind. The Act allows cities to:

- Set different standards in different district (commercial vs residential)
- Set different standards based on tower height

The 1996 Act does not allow a city to

- Prohibit or have the effect of prohibiting cell service.
- Deny cell antennas due to environmental concerns or radio emissions.

The 1996 Act requires cities to:

- Respond to applications, in a reasonable time, in writing, and supported by zoning standards.

### **Height – A decision point**

A minimum height for permitted and conditionally permitted towers should be established in each district. While it may be a thought to actually prohibit towers in a district, federal regulation prohibits the outright exclusion of towers in a place where it is necessary for the reasonable provision of services. We can make the process and provision easier in districts that we determine are less adverse than others, such as commercial districts. Included, as an attachment, is a table to use when considering heights for regulation.

As an estimate for height – here are some examples found in Homer

### **Heights of some Existing Towers in Homer**

6/10/2014, source: City-data.com

Towers are registered in meters. There are 3.28 feet to a meter.

#### Towers you can see from the city hall lower parking lot:

KBBI at the radio station 25.3m, 83 feet

HEA 3977 Lake Street 30.5m, 100 feet

#### Other examples:

End of the Spit, near the fuel tanks and the condos: 19.8 and 22.9 meters, 65 and 75 feet

4588 Homer Spit Road, ferry terminal: 15 m, 49 feet

KBBI in Kachemak City 41566 Old Squaw St, 83.8m, 275 feet

Big orange tower north of Anchor Point (Stariski Tower) 102 meters, 334 feet

Radio towers on Diamond Ridge: 124 M, 407 feet

Skyline Drive towers: 15 meters, 24 meters, 49 feet, 79 feet. Some up to 100 feet?

**Short "tower" examples:**

Homer police station, 8 meters, 26 feet  
Fish and game on Douglas Ave: 15M, 49 feet  
Homer Junior High 9 meters, 30 feet  
Library 9.1 feet

The most modern ordinance I have found is the Mat Su (found attached). I would like to use this as a basis for discussion and review it in entirety for its applicability for use in Homer. It is a lot of information, we can decide where we can continue next week as we see fit.

**Attachments**

1. RF Guide **pg. 23**
2. Introduction to FCC 14-153 **pg. 57**
3. Zoning table **pg. 73**
4. Mat-Su Ordinance **pg. 75**



**Federal  
Communications  
Commission**

**Local and State  
Government  
Advisory  
Committee**

**A Local Government Official's Guide to  
Transmitting Antenna RF Emission Safety:  
Rules, Procedures, and Practical Guidance**



**June 2, 2000**

## **A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance**

Over the past two years, the Federal Communications Commission (FCC) and its Local and State Government Advisory Committee (LSGAC) have been working together to prepare a voluntary guide to assist state and local governments in devising efficient procedures for ensuring that the antenna facilities located in their communities comply with the FCC's limits for human exposure to radiofrequency (RF) electromagnetic fields. The attached guide is the product of this joint effort.

We encourage state and local government officials to consult this guide when addressing issues of facilities siting within their communities. This guide contains basic information, in a form accessible to officials and citizens alike, that will alleviate misunderstandings in the complex area of RF emissions safety. This guide is not intended to replace OET Bulletin 65, which contains detailed technical information regarding RF issues, and should continue to be used and consulted for complex sites. The guide contains information, tables, and a model checklist to assist state and local officials in identifying sites that do not raise concerns regarding compliance with the Commission's RF exposure limits. In many cases, the model checklist offers a quick and effective way for state and local officials to establish that particular RF facilities are unlikely to exceed specific federal guidelines that protect the public from the environmental effects of RF emissions. Thus, we believe this guide will facilitate federal, state, and local governments working together to protect the public while bringing advanced and innovative communications services to consumers as rapidly as possible. We hope and expect that use of this guide will benefit state and local governments, service providers, and, most importantly, the American public.

We wish all of you good luck in your facilities siting endeavors.

William E. Kennard, Chairman  
Federal Communications Commission

Kenneth S. Fellman, Chair  
Local and State Government  
Advisory Committee

**A LOCAL GOVERNMENT OFFICIAL'S GUIDE TO TRANSMITTING ANTENNA RF  
EMISSION SAFETY: RULES, PROCEDURES, AND PRACTICAL GUIDANCE**

A common question raised in discussions about the siting of wireless telecommunications and broadcast antennas is, "Will this tower create any health concerns for our citizens?" We have designed this guide to provide you with information and guidance in devising efficient procedures for assuring that the antenna facilities located in your community comply with the Federal Communication Commission's (FCC's) limits for human exposure to radiofrequency (RF) electromagnetic fields.<sup>1</sup>

We have included a checklist and tables to help you quickly identify siting applications that do not raise RF exposure concerns. Appendix A to this guide contains a checklist that you may use to identify "categorically excluded" facilities that are unlikely to cause RF exposures in excess of the FCC's guidelines. Appendix B contains tables and figures that set forth, for some of the most common types of facilities, "worst case" distances beyond which there is no realistic possibility that exposure could exceed the FCC's guidelines.

As discussed below, FCC rules require transmitting facilities to comply with RF exposure guidelines. The limits established in the guidelines are designed to protect the public health with a very large margin of safety. These limits have been endorsed by federal health and safety agencies such as the Environmental Protection Agency and the Food and Drug Administration. The FCC's rules have been upheld by a Federal Court of Appeals.<sup>2</sup> As discussed below, most facilities create maximum exposures that are only a small fraction of the limits. Moreover, the limits themselves are many times below levels that are generally accepted as having the potential to cause adverse health effects. Nonetheless, it is recognized that any instance of noncompliance with the guidelines is potentially very serious, and the FCC has therefore implemented procedures to enforce compliance with its rules. At the same time, state and local governments may wish to verify compliance with the FCC's exposure limits in order to protect their own citizens. As a state or local government official, you can play an important role in ensuring that innovative and beneficial communications services are provided in a manner that is consistent with public health and safety.

This document addresses only the issue of compliance with RF exposure limits established by the FCC. It does not address other issues such as construction, siting, permits, inspection, zoning, environmental review, and placement of antenna facilities within communities. Such issues fall generally under the jurisdiction of states and local governments, within the limits imposed for personal wireless service facilities by Section 332(c)(7) of the Communications Act.<sup>3</sup>

---

<sup>1</sup> This guide is intended to complement, but not to replace, the FCC's OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," August 1997. Bulletin 65 can be obtained from the FCC's Office of Engineering and Technology (phone: 202-418-2464 or e-mail: rfsafety@fcc.gov). Bulletin 65 can also be accessed and downloaded from the FCC's "RF Safety" website: <http://www.fcc.gov/oet/rfsafety>.

<sup>2</sup> See *Cellular Phone Taskforce v. FCC*, 205 F.3d 82 (2d Cir. 2000).

This document is not intended to provide legal guidance regarding the scope of state or local government authority under Section 332(c)(7) or any other provision of law. Section 332(c)(7)<sup>4</sup> generally preserves state and local authority over decisions regarding the placement, construction, and modification of personal wireless service facilities,<sup>5</sup> subject to specific limitations set forth in Section 332(c)(7). Among other things, Section 332(c)(7) provides that “[n]o 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 [FCC’s] regulations concerning such emissions.” The full text of Section 332(c)(7) is set forth in Appendix C.

State and local governments and the FCC may differ regarding the extent of state and local legal authority under Section 332(c)(7) and other provisions of law. To the extent questions arise regarding such authority, they are being addressed by the courts. Rather than address these legal questions, this document recognizes that, as a practical matter, state and local governments have a role to play in ensuring compliance with the FCC’s limits, and it provides guidance to assist you in effectively fulfilling that role. The twin goals of this document are: (1) to define and promote locally-adaptable procedures that will provide you, as a local official concerned about transmitting antenna emissions, with adequate assurance of compliance, while (2), at the same time, avoiding the imposition of unnecessary burdens on either the local government process or the FCC’s licensees.

First, we’ll start with a summary of the FCC’s RF exposure guidelines and some background information that you’ll find helpful. Next, we’ll review the FCC’s procedures for verifying compliance with the guidelines and enforcing its rules. Finally, we’ll offer you some practical guidance to help you determine if personal wireless service facilities may raise compliance concerns. Note, however, that this guide is only intended to help you distinguish sites that are unlikely to raise compliance concerns from those that may raise compliance concerns, not to identify sites that are out of compliance. Detailed technical information necessary to determine compliance for individual sites is contained in the FCC’s OET Bulletin 65 (see footnote 1, above).

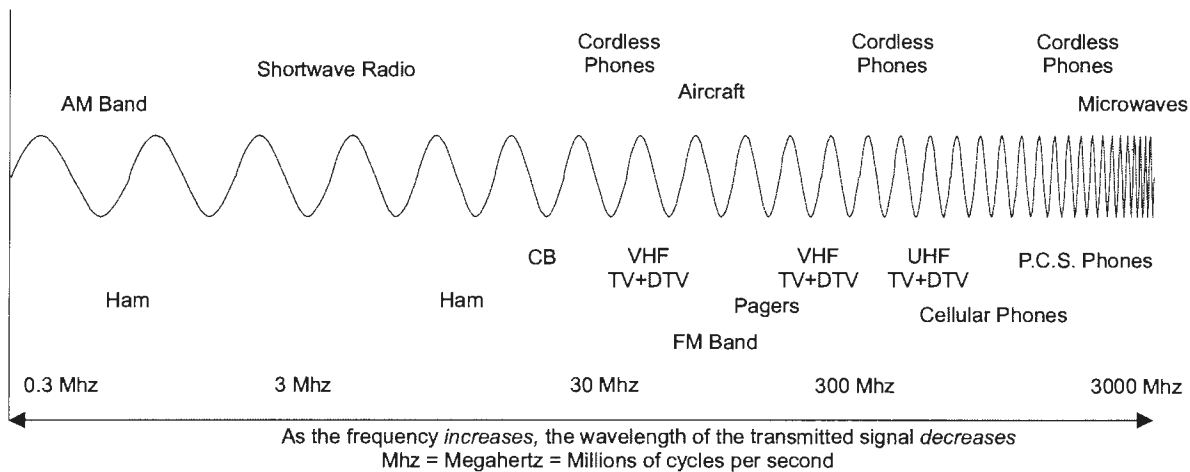
---

<sup>3</sup> 47 U.S.C. § 332(c)(7). Under limited circumstances, the FCC also plays a role in the siting of wireless facilities. Specifically, the FCC reviews applications for facilities that fall within certain environmental categories under the National Environmental Policy Act of 1969 (NEPA), *see* 47 C.F.R. § 1.1307(a). Antenna structures that are over 200 feet in height or located near airport runways must be marked or lighted as specified by the Federal Aviation Administration and must be registered with the FCC, *see* 47 C.F.R. Part 17.

<sup>4</sup> Section 332(c)(7) of the Communications Act is identical to Section 704(a) of the Telecommunications Act of 1996.

<sup>5</sup> “Personal wireless services” generally includes wireless telecommunications services that are interconnected with the public telephone network and are offered commercially to the public. Examples include cellular and similar services (such as Personal Communications Service or “PCS”), paging and similar services, certain dispatch services, and services that use wireless technology to provide telephone service to a fixed location such as a home or office.

Before we start, however, let's take a short tour of the radiofrequency spectrum. RF signals may be transmitted over a wide range of frequencies. The frequency of an RF signal is expressed in terms of cycles per second or "Hertz," abbreviated "Hz." One kilohertz (kHz) equals one thousand Hz, one megahertz (MHz) equals one million Hz, and one gigahertz (GHz) equals one billion Hz. In the figure below, you'll see that AM radio signals are at the lower end of the RF spectrum, while other radio services, such as analog and digital TV (DTV), cellular and PCS telephony, and point-to-point microwave services are much higher in frequency.



**Illustration 1**

The FCC's limits for maximum permissible exposure (MPE) to RF emissions depend on the frequency or frequencies that a person is exposed to. Different frequencies may have different MPE levels. Later in this document we'll show you how this relationship of frequency to MPE limit works.

## I. The FCC's RF Exposure Guidelines and Rules.

Part 1 of the FCC's Rules and Regulations contains provisions implementing the National Environmental Policy Act of 1969 (NEPA). NEPA requires all federal agencies to evaluate the potential environmental significance of an agency action. Exposure to RF energy has been identified by the FCC as a potential environmental factor that must be considered before a facility, operation or transmitter can be authorized or licensed. The FCC's requirements dealing with RF exposure can be found in Part 1 of its rules at 47 C.F.R. § 1.1307(b). The exposure limits themselves are specified in 47 C.F.R. § 1.1310 in terms of frequency, field strength, power density and averaging time. Facilities and transmitters licensed and authorized by the FCC must either comply with these guidelines or else an applicant must file an Environmental Assessment (EA) with the FCC as specified in 47 C.F.R. § 1.1301 *et seq.* An EA is an official document required by the FCC's rules whenever an action may have a significant environmental impact (see discussion below). In practice, however, a potential environmental RF exposure problem is typically resolved before an EA would become necessary. Therefore, compliance with the FCC's RF guidelines constitutes a *de facto* threshold for obtaining FCC approval to construct or operate a station or transmitter. The FCC guidelines are based on exposure criteria



recommended in 1986 by the National Council on Radiation Protection and Measurements (NCRP) and on the 1991 standard developed by the Institute of Electrical and Electronics Engineers (IEEE) and later adopted as a standard by the American National Standards Institute (ANSI/IEEE C95.1-1992).

The FCC's guidelines establish separate MPE limits for "general population/uncontrolled exposure" and for "occupational/controlled exposure." The general population/uncontrolled limits set the maximum exposure to which most people may be subjected. People in this group include the general public not associated with the installation and maintenance of the transmitting equipment. Higher exposure limits are permitted under the "occupational/controlled exposure" category, but only for persons who are exposed as a consequence of their employment (*e.g.*, wireless radio engineers, technicians). To qualify for the occupational/controlled exposure category, exposed persons must be made fully aware of the potential for exposure (*e.g.*, through training), and they must be able to exercise control over their exposure. In addition, people passing through a location, who are made aware of the potential for exposure, may be exposed under the occupational/controlled criteria. The MPE limits adopted by the FCC for occupational/controlled and general population/uncontrolled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

Determining whether a potential health hazard could exist with respect to a given transmitting antenna is not always a simple matter. Several important factors must be considered in making that determination. They include the following: (1) What is the frequency of the RF signal being transmitted? (2) What is the operating power of the transmitting station and what is the actual power radiated from the antenna?<sup>6</sup> (3) How long will someone be exposed to the RF signal at a given distance from the antenna? (4) What other antennas are located in the area, and what is the exposure from those antennas? We'll explore each of these issues in greater detail below.

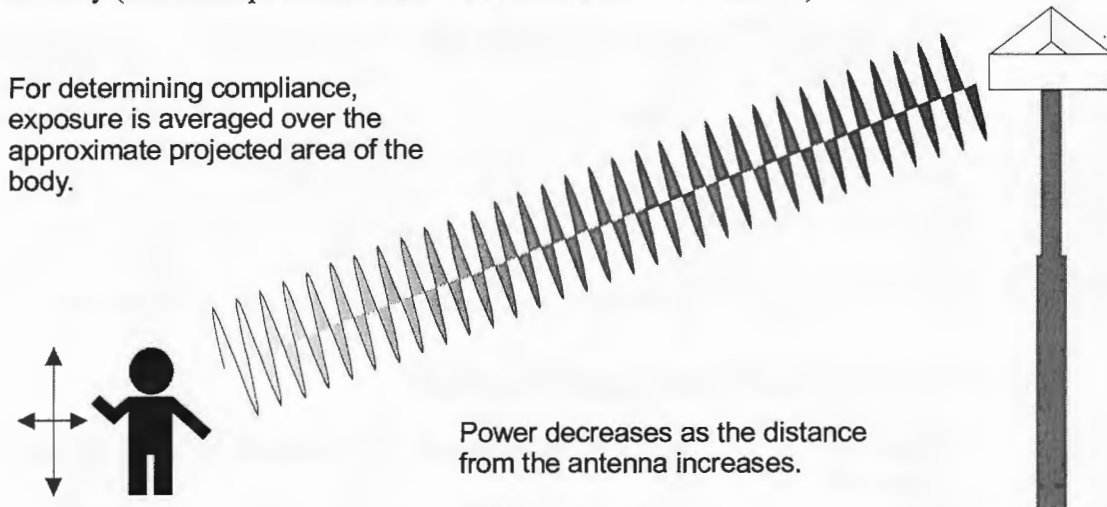
For all frequency ranges at which FCC licensees operate, Section 1.1310 of the FCC's rules establishes maximum permissible exposure (MPE) limits to which people may be exposed. The MPE limits vary by frequency because of the different absorptive properties of the human body at different frequencies when exposed to whole-body RF fields. Section 1.1310 establishes MPE limits in terms of "electric field strength," "magnetic field strength," and "far-field equivalent power density" (power density). For most frequencies used by the wireless services, the most relevant measurement is power density. The MPE limits for power density are given in terms of "milliwatts per square centimeter" or mW/cm<sup>2</sup>. One milliwatt equals one thousandth of one watt (1/1000 of a watt).<sup>7</sup> In terms of power density, for a given frequency the FCC MPE limits can be interpreted as specifying the maximum rate that energy can be transferred (*i.e.*, the power) to a square centimeter of a person's body over a period of time (either 6 or 30 minutes, as explained

---

<sup>6</sup> Power travels from a transmitter through cable or other connecting device to the radiating antenna. "Operating power of the transmitting station" refers to the power that is fed from the transmitter (transmitter output power) into the cable or connecting device. "Actual power radiated from the antenna" is the transmitter output power minus the power lost (power losses) in the connecting device plus an apparent increase in power (if any) due to the design of the antenna. Radiated power is often specified in terms of "effective radiated power" or "ERP" or "effective isotropic radiated power" or "EIRP" (see footnote 14).

<sup>7</sup> Thus, by way of illustration, it takes 100,000 milliwatts of power to fully illuminate a 100 watt light bulb.

below). In practice, however, since it is unrealistic to measure separately the exposure of each square centimeter of the body, actual compliance with the FCC limits on RF emissions should be determined by “spatially averaging” a person’s exposure over the projected area of an adult human body (this concept is discussed in the FCC’s OET Bulletin 65).



**Illustration 2**

Electric field strength and magnetic field strength are used to measure “near field” exposure. At frequencies below 300 MHz, these are typically the more relevant measures of exposure, and power density values are given primarily for reference purposes. However, evaluation of far-field equivalent power density exposure may still be appropriate for evaluating exposure in some such cases. For frequencies above 300 MHz, only one field component need be evaluated, and exposure is usually more easily characterized in terms of power density. Transmitters and antennas that operate at 300 MHz or lower include radio broadcast stations, some television broadcast stations, and certain personal wireless service facilities (*e.g.*, some paging stations). Most personal wireless services, including all cellular and PCS, as well as some television broadcast stations, operate at frequencies above 300 MHz. (See Illustration 1.)

As noted above, the MPE limits are specified as time-averaged exposure limits. This means that exposure can be averaged over the identified time interval (30 minutes for general population/uncontrolled exposure or 6 minutes for occupational/controlled exposure). However, for the case of exposure of the general public, time averaging is usually not applied because of uncertainties over exact exposure conditions and difficulty in controlling time of exposure. Therefore, the typical conservative approach is to assume that any RF exposure to the general public will be continuous. The FCC’s limits for exposure at different frequencies are shown in Illustration 3, below:

**Illustration 3. FCC Limits for Maximum Permissible Exposure (MPE)****(A) Limits for Occupational/Controlled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f <sup>2</sup> )*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

**(B) Limits for General Population/Uncontrolled Exposure**

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm <sup>2</sup> )	Averaging Time  E  <sup>2</sup> ,  H  <sup>2</sup> or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f <sup>2</sup> )*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz

\*Plane-wave equivalent power density

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Finally, it is important to understand that the FCC's limits apply cumulatively to all sources of RF emissions affecting a given area. A common example is where two or more wireless operators have agreed to share the cost of building and maintaining a tower, and to place their antennas on that joint structure. In such a case, the total exposure from the two facilities taken together must be within the FCC guidelines, or else an EA will be required.

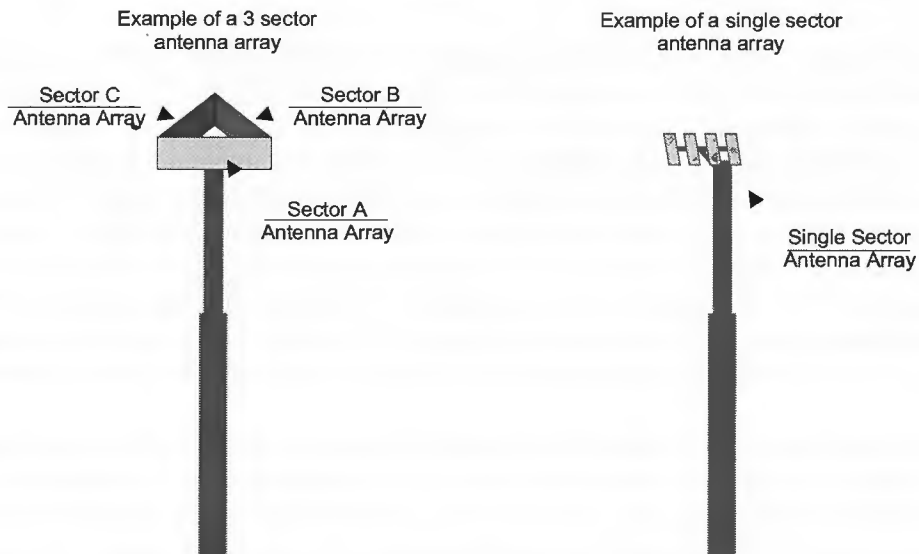
**A. Categorically Excluded Facilities**

The Commission has determined through calculations and technical analysis that due to their low power or height above ground level, many facilities by their very nature are highly unlikely to

cause human exposures in excess of the guideline limits, and operators of those facilities are exempt from routinely having to determine compliance. Facilities with these characteristics are considered "categorically excluded" from the requirement for routine environmental processing for RF exposure.

Section 1.1307(b)(1) of the Commission's rules sets forth which facilities are categorically excluded.<sup>8</sup> If a facility is categorically excluded, an applicant or licensee may ordinarily assume compliance with the guideline limits for exposure. However, an applicant or licensee must evaluate and determine compliance for a facility that is otherwise categorically excluded if specifically requested to do so by the FCC.<sup>9</sup> If potential environmental significance is found as a result, an EA must be filed with the FCC.

No radio or television broadcast facilities are categorically excluded. Thus, broadcast applicants and licensees must affirmatively determine their facility's compliance with the guidelines before construction, and upon every facility modification or license renewal application. With respect to personal wireless services, a cellular facility is categorically excluded if the total effective radiated power (ERP) of all channels operated by the licensee at a site is 1000 watts or less. If the facility uses sectorized antennas, only the total effective radiated power in each direction is considered. Examples of a 3 sector and a single sector antenna array are shown below:



**Illustration 4**

<sup>8</sup> "The appropriate exposure limits . . . are generally applicable to all facilities, operations and transmitters regulated by the Commission. However, a determination of compliance with the exposure limits . . . (routine environmental evaluation), and preparation of an EA if the limits are exceeded, is necessary only for facilities, operations and transmitters that fall into the categories listed in table 1 [of §1.1307], or those specified in paragraph (b)(2) of this section. All other facilities, operations and transmitters are categorically excluded from making studies or preparing an EA . . ."

<sup>9</sup> See 47 C.F.R. §1.1307(c) and (d).

In addition, a cellular facility is categorically excluded, regardless of its power, if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. A broadband PCS antenna array is categorically excluded if the total effective radiated power of all channels operated by the licensee at a site (or all channels in any one direction, in the case of sectorized antennas) is 2000 watts or less. Like cellular, another way for a broadband PCS facility to be categorically excluded is if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. The power threshold for categorical exclusion is higher for broadband PCS than for cellular because broadband PCS operates at a higher frequency where exposure limits are less restrictive. For categorical exclusion thresholds for other personal wireless services, consult Table 1 of Section 1.1307(b)(1).<sup>10</sup>

For your convenience, we have developed the checklist in Appendix A that may be used to streamline the process of determining whether a proposed facility is categorically excluded. You are encouraged to adopt the use of this checklist in your jurisdiction, although such use is not mandatory.

### **B. What If An Applicant Or Licensee Wants To Exceed The Limits Shown In Illustration 3?**

Any FCC applicant or licensee who wishes to construct or operate a facility that, by itself or in combination with other sources of emissions (*i.e.*, other transmitting antennas), may cause human exposures in excess of the guideline limits must file an Environmental Assessment (EA) with the FCC. Where more than one antenna is collocated (for example, on a single tower or rooftop or at a hilltop site), the applicant must take into consideration all of the RF power transmitted by all of the antennas when determining maximum exposure levels. Compliance at an existing site is the shared responsibility of all licensees whose transmitters produce exposure levels in excess of 5% of the applicable exposure limit. A new applicant is responsible for compliance (or submitting an EA) at a multiple-use site if the proposed transmitter would cause non-compliance and if it would produce exposure levels in excess of 5% of the applicable limit.<sup>11</sup>

An applicant or licensee is not permitted to construct or operate a facility that would result in exposure in excess of the guideline limits until the FCC has reviewed the EA and either found no significant environmental impact, or pursued further environmental processing including the preparation of a formal Environmental Impact Statement. As a practical matter, however, this process is almost never invoked for RF exposure issues because applicants and licensees normally undertake corrective actions to ensure compliance with the guidelines before submitting an application to the FCC.

Unless a facility is categorically excluded (explained above), the FCC's rules require a licensee to evaluate a proposed or existing facility's compliance with the RF exposure guidelines and to

---

<sup>10</sup> Table 1 of §1.1307(b)(1) is reproduced in Appendix A to this guide.

<sup>11</sup> For more information, see OET Bulletin 65, or see 47 CFR §1.1307(b)(3).

determine whether an EA is required. In the case of broadcast licensees, who are required to obtain a construction permit from the FCC, this evaluation is required before the application for a construction permit is filed, or the facility is constructed. In addition, if a facility requires the filing of an EA for any reason other than RF emissions, the RF evaluation must be performed before the EA is filed. Factors other than RF emissions that may require the filing of an EA are set out in 47 C.F.R. § 1.1307(a). Otherwise, new facilities that do not require FCC-issued construction permits should be evaluated before they are placed in operation. The FCC also requires its licensees to evaluate existing facilities and operations that are not categorically excluded if the licensee seeks to modify its facilities or renew its license. These requirements are intended to enhance public safety by requiring periodic site compliance reviews.

All facilities that were placed in service before October 15, 1997 (when the current RF exposure guidelines became effective) are expected to comply with the current guidelines no later than September 1, 2000, or the date of a license renewal, whichever is earlier.<sup>12</sup> If a facility cannot meet the September 1, 2000, date, the licensee of that facility must file an EA by that date. Section 1.1307(b) of the FCC's rules requires the licensee to provide the FCC with technical information showing the basis for its determination of compliance upon request.

## **II. How the FCC Verifies Compliance with and Enforces Its Rules.**

### **A. Procedures Upon Initial Construction, Modification, and Renewal.**

The FCC's procedures for verifying that a new facility, or a facility that is the subject of a facility modification or license renewal application, will comply with the RF exposure rules vary depending upon the service involved. Applications for broadcast services (for example, AM and FM stations, and television stations) are reviewed by the FCC's Mass Media Bureau (MMB). As part of every relevant application, the MMB requires an applicant to submit an explanation of what steps will be taken to limit RF exposure and comply with FCC guidelines. The applicant must certify that RF exposure procedures will be coordinated with all collocated entities (usually other stations at a common transmitter site or hill or mountain peak). If the submitted explanation does not adequately demonstrate a facility's compliance with the guidelines, the MMB will require additional supporting data before granting the application.

The Wireless Telecommunications Bureau (WTB) reviews personal wireless service applications (for cellular, PCS, SMR, etc.). For those services that operate under blanket area licenses, including cellular and PCS, the license application and renewal form require the applicant to certify whether grant of the application would have a significant environmental impact so as to require submission of an EA. The applicant's answer to this question covers all of the facilities sites included within the area of the license.

For those services that continue to be licensed by site (*e.g.*, certain paging renewals), the WTB requires a similar certification on the application form for each site. To comply with the FCC's rules, an applicant must determine its own compliance before completing this certification for

---

<sup>12</sup> Prior to October 15, 1997, the Commission applied a different set of substantive guidelines.

every site that is not categorically excluded. The WTB does not, however, routinely require the submission of any information supporting the determination of compliance.

### **B. Procedures For Responding To Complaints About Existing Facilities.**

The FCC frequently receives inquiries from members of the public as to whether a particular site complies with the RF exposure guidelines. Upon receiving these inquiries, FCC staff may ask the inquiring party to describe the site at issue. In many instances, the information provided by the inquiring party does not raise any concern that the site could exceed the limits in the guidelines. FCC staff will then inform the inquiring party of this determination.

In some cases, the information provided by the inquiring party does not preclude the possibility that the limits could be exceeded. Under these circumstances, FCC staff may ask the licensee who operates the facility to supply information demonstrating its compliance. FCC staff may also inspect the site to determine whether it is accessible to the public, and examine other relevant physical attributes. Usually, the information obtained in this manner is sufficient to establish compliance. If compliance is established in this way, FCC staff will inform the inquiring party of this determination.

In some instances, a licensee may be unable to provide information sufficient to establish compliance with the guideline limits. In these cases, FCC staff may test the output levels of individual facilities and evaluate the physical installation. Keep in mind, however, that instances in which physical testing is necessary to verify compliance are relatively rare.

If a site is found to be out of compliance with the RF guidelines, the FCC will require the licensees at the site to remedy the situation. Depending on the service and the nature and extent of the violation, these remedies can include, for example, an immediate reduction in power, a modification of safety barriers, or a modification of the equipment or its installation. Actions necessary to bring a site into compliance are the shared responsibility of all licensees whose facilities cause exposures in that area that exceed 5% of the applicable MPE limit. In addition, licensees may be subject to sanctions for violating the FCC's rules and/or for misrepresentation.

The FCC is committed to responding fully, promptly, and accurately to all inquiries regarding compliance with the RF exposure guidelines, and to taking swift and appropriate action whenever the evidence suggests potential noncompliance. To perform this function effectively, however, the FCC needs accurate information about potentially problematic situations. By applying the principles discussed in this guide about RF emissions, exposure and the FCC's guidelines, state and local officials can fulfill a vital role in identifying and winnowing out situations that merit further attention.

### **III. Practical Guidance Regarding Compliance.**

This section is intended to provide some general guidelines that can be used to identify sites that should not raise serious questions about compliance with FCC RF exposure guidelines. Sites that don't fall into the categories described here may still meet the guidelines, but the determination

of compliance will not be as straightforward. In such cases, a detailed review may be required. The tables and graphs shown in Appendix B are intended only to assist in distinguishing sites that should not raise serious issues from sites that may require further inquiry. They are not intended for use in identifying sites that are out of compliance. As noted above, the factors that can affect exposure at any individual site, particularly a site containing multiple facilities, are too numerous and subtle to be practically encompassed within this framework.

Applying the basic principles discussed in this guide should allow you to eliminate a large number of sites from further consideration with respect to health concerns. You may find it useful to contact a qualified radio engineer to assist you in your inquiry. Many larger cities and counties, and most states, have radio engineers on staff or under contract. In smaller jurisdictions, we recommend you seek initial assistance from other jurisdictions, universities that have RF engineering programs, or perhaps the engineer in charge of your local broadcast station(s).

We'll exclude any discussion of broadcast sites. As explained before, broadcast licensees are required to submit site-specific information on each facility to the FCC for review, and that information is publicly available at the station as long as the application is pending. The focus in this section is on personal wireless services, particularly cellular and broadband PCS, the services that currently require the largest numbers of new and modified facilities. Many other personal wireless services, however, such as paging services, operate in approximately the same frequency ranges as cellular and broadband PCS.<sup>13</sup> Much of the information here is broadly applicable to those services as well, and specific information is provided in Appendix B for paging and narrowband PCS operations over frequency bands between 901 and 940 MHz.

Finally, this section only addresses the general population/uncontrolled exposure guidelines, since compliance with these guidelines generally causes the most concern to state and local governments. Compliance with occupational/controlled exposure limits should be examined independently.

#### **A. Categorically Excluded Facilities.**

As a first step in evaluating a siting application for compliance with the FCC's guidelines, you will probably want to consider whether the facility is categorically excluded under the FCC's rules from routine evaluation for compliance. The checklist in Appendix A will guide you in making this determination. Because categorically excluded facilities are unlikely to cause any exposure in excess of the FCC's guidelines, determination that a facility is categorically excluded should generally suffice to end the inquiry.

#### **B. Single Facility Sites.**

If a wireless telecommunications facility is not categorically excluded, you may want to evaluate potential exposure using the methods discussed below and the tables and figures in Appendix B.

---

<sup>13</sup> The major exception is fixed wireless services, which often operate at much higher frequencies. In addition, some paging and other licensees operate at lower frequencies



If you "run the numbers" using the conservative approaches promoted in this paper and the site in question does not exceed these values, then you generally need look no further. Alternately, if the "numbers" don't pass muster, you may have a genuine concern. But remember, there may be other factors (*i.e.*, power level, height, blockages, etc.) that contribute to whether the site complies with FCC guidelines.

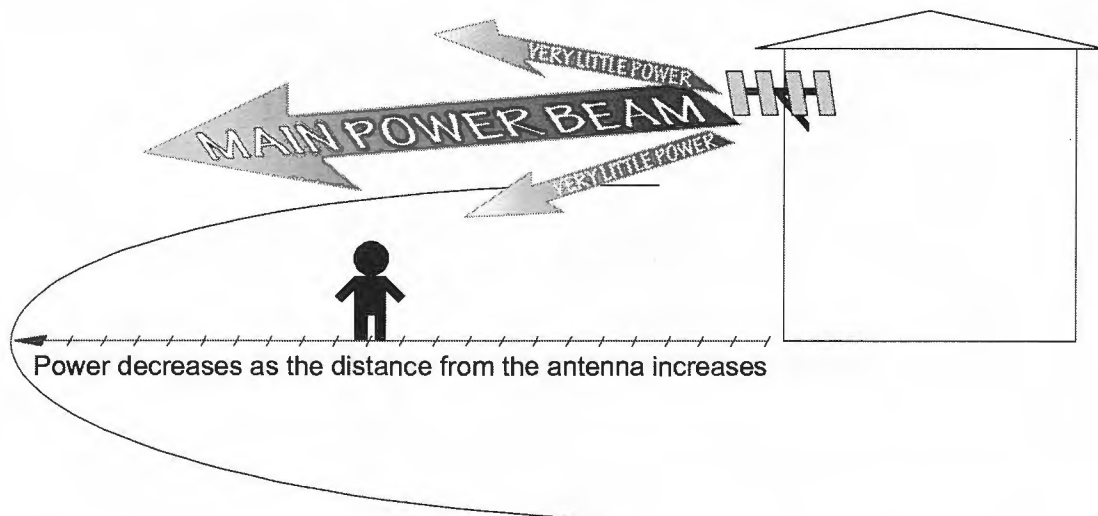
Where a site contains only one antenna array, the maximum exposure at any point in the horizontal plane can be predicted by calculations. The tables and graphs in Appendix B show the maximum distances in the horizontal plane from an antenna at which a person could possibly be exposed in excess of the guidelines at various levels of effective radiated power (ERP).<sup>14</sup> Thus, if people are not able to come closer to an antenna than the applicable distance shown in Appendix B, there should be no cause for concern about exposure exceeding the FCC guidelines. The tables and graphs apply to the following wireless antennas: (1) cellular omni-directional antennas (Table B1-1 and Figure B1-1); (2) cellular sectorized antennas (Table B1-2 and Figure B1-2); (3) broadband PCS sectorized antennas (Table B1-3 and Figure B1-3);<sup>15</sup> and (4) high-power (900 MHz-band) paging antennas (Table B1-4 and Figure B1-4). Table B1-4 and Figure B1-4 can also be used for omni-directional, narrowband (900 MHz) PCS antennas. Note that both tables and figures in Appendix B have been provided. In some cases it may be easier to use a table to estimate exposure distances, but figures may also be used when a more precise value is needed that may not be listed in a table.

It's important to note that the predicted distances set forth in Appendix B are based on a very conservative, "worst case" scenario. In other words, Appendix B identifies the furthest distance from the antenna that presents even a remote realistic possibility of RF exposure that could exceed the FCC guidelines. The power levels are based on the approximate maximum number of channels that an operator is likely to operate at one site. It is further assumed that each channel operates with the maximum power permitted under the FCC's rules and that all of these channels are "on" simultaneously, an unlikely scenario. This is a very conservative assumption. In reality, most sites operate at a fraction of the maximum permissible power and many sites use fewer than the maximum number of channels. Therefore, actual exposure levels would be expected to be well below the predicted values. Another mitigating factor could be the presence of intervening structures, such as walls, that will reduce RF exposure by variable amounts. For all these reasons, the values given in these tables and graphs are considered to be quite conservative and should over-predict actual exposure levels.

---

<sup>14</sup> ERP is the apparent effective amount of power leaving the transmit antenna. The ERP is determined by factors including but not limited to transmitter output power, coaxial line loss between the transmitter and the antenna, and the "gain" (focusing effect) of the antenna. In some cases, power may also be expressed in terms of EIRP (effective isotropically radiated power). Therefore, for convenience, the tables in Appendix B also include a column for EIRP. ERP and EIRP are related by the mathematical expression:  $(1.64) \times \text{ERP} = \text{EIRP}$ .

<sup>15</sup> Because broadband PCS antennas are virtually always sectorized, no information is provided for omni-directional PCS antennas.



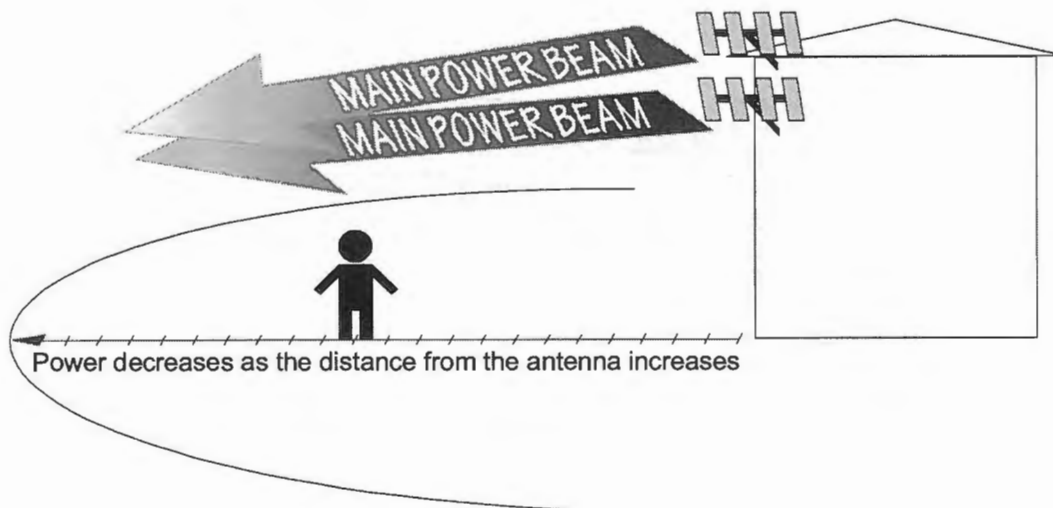
**Illustration 5**

Personal wireless service antennas typically do not emit high levels of RF energy directed above or below the horizontal plane of the antenna. Although the precise amount of energy transmitted outside the horizontal plane will depend upon the type of antenna used, we are aware of no wireless antennas that produce significant non-horizontal transmissions. Thus, exposures even a small distance below the horizontal plane of these antennas would be significantly less than in the horizontal plane. As discussed above, the tables and figures in Appendix B show distances in the horizontal plane from typical antennas at which exposures could potentially exceed the guidelines, assuming “worst case” operating conditions at maximum possible power levels. In any direction other than horizontal, including diagonal or straight down, these “worst case” distances would be significantly less.

Where unidirectional antennas are used, exposure levels within or outside the horizontal plane in directions other than those where the antennas are aimed will typically be insignificant. In addition, many new antennas are being designed with shielding capabilities to minimize emissions in undesired directions.

### **C. Multiple Facility Sites.**

Where multiple facilities are located at a single site, the FCC’s rules require the total exposure from all facilities to fall within the guideline limits, unless an EA is filed and approved. In such cases, however, calculations of predicted exposure levels and overall evaluation of the site may become much more complicated. For example, different transmitters at a site may operate different numbers of channels, or the operating power per channel may vary from transmitter to transmitter. Transmitters may also operate on different frequencies (for example, one antenna array may belong to a PCS operator, while the other belongs to a cellular operator). A large number of variables such as these make the calculations more time consuming, and make it difficult to apply a simple rule-of-thumb test. See the following illustration.



**Illustration 6**

However, we can be overly conservative and estimate a "worst case" exposure distance for compliance by assuming that the total power (e.g., ERP) of all transmitting antennas at the site is concentrated in the antenna that is closest to the area in question. (In the illustration above, this would be the antenna that is mounted lower on the building.) Then the values in the tables and graphs in Appendix B may be used as if this were the only antenna at the site, with radiated power equal to the sum of the actual radiated power of all antennas at the site. Actual RF exposure at any point will always be less than the exposure calculated using these assumptions. Thus, if people are not able to come closer to a group of antennas than the applicable distance shown in Appendix B using these assumptions, there should be no cause for concern about exposure exceeding the FCC guidelines. This is admittedly an extremely conservative procedure, but it may be of assistance in making a "first cut" at eliminating sites from further consideration.

**IV. Conclusion.**

We've highlighted many of the most common concerns and questions raised by the siting of wireless telecommunications and broadcast antennas. Applying the principles outlined in this guide will allow you to make initial conservative judgments about whether RF emissions are or should be of concern, consistent with the FCC's rules.

As we have explained, when first evaluating a siting application for compliance with the FCC's guidelines, you will probably want to consider whether the facility is categorically excluded under the FCC's rules from routine evaluation for compliance. The checklist in Appendix A will guide you in making this determination. Because categorically excluded facilities are unlikely to cause any exposure in excess of the FCC's guidelines, determination that a facility is categorically excluded should generally suffice to end the inquiry.

If a wireless telecommunications facility is not categorically excluded, you may want to evaluate potential exposure using the methods discussed in Part III of this paper and the tables and figures in Appendix B. If the site in question does not exceed the values, then you generally need look no further. Alternately, if the values don't pass muster, you may have a genuine concern. But

remember, there may be other factors (*i.e.*, power level, height, blockages, etc.) that contribute to whether the site complies with FCC guidelines.

If you have questions about compliance, your initial point of exploration should be with the facilities operator in question. That operator is required to understand the FCC's rules and to know how to apply them in specific cases at specific sites. If, after diligently pursuing answers from the operator, you still have genuine questions regarding compliance, you should contact the FCC at one of the numbers listed below. Provision of the information identified in the checklist in Appendix A may assist the FCC in evaluating your inquiry.

General Information: Compliance and Information Bureau, (888) CALL-FCC

Concerns About RF Emissions Exposure at a Particular Site: Office of Engineering and Technology, RF Safety Program, phone (202) 418-2464, FAX (202) 418-1918, e-mail [rfsafety@fcc.gov](mailto:rfsafety@fcc.gov)

Licensing and Site Information Regarding Wireless Telecommunications Services: Wireless Telecommunications Bureau, Commercial Wireless Division, (202) 418-0620

Licensing and Site Information Regarding Broadcast Radio Services: Mass Media Bureau, Audio Services Division, (202) 418-2700

Licensing and Site Information Regarding Television Service (Including DTV): Mass Media Bureau, Video Services Division, (202) 418-1600

Also, note that the RF Safety Program Web site is a valuable source of general information on the topic of potential biological effects and hazards of RF energy. For example, OET recently updated its OET Bulletin 56 ("Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields"). This latest version is available from the program and can be accessed and downloaded from the FCC's web site at:

<http://www.fcc.gov/oet/rfsafety/>

**APPENDIX A**

*Optional Checklist for Determination  
Of Whether a Facility is Categorically Excluded*

**Optional Checklist for Local Government  
To Determine Whether a Facility is Categorically Excluded**

Purpose: The FCC has determined that many wireless facilities are unlikely to cause human exposures in excess of RF exposure guidelines. Operators of those facilities are exempt from routinely having to determine their compliance. These facilities are termed "categorically excluded." Section 1.1307(b)(1) of the Commission's rules defines those categorically excluded facilities. This checklist will assist state and local government agencies in identifying those wireless facilities that are categorically excluded, and thus are highly unlikely to cause exposure in excess of the FCC's guidelines. Provision of the information identified on this checklist may also assist FCC staff in evaluating any inquiry regarding a facility's compliance with the RF exposure guidelines.

**BACKGROUND INFORMATION**

- 1. Facility Operator's Legal Name: \_\_\_\_\_
- 2. Facility Operator's Mailing Address: \_\_\_\_\_
- 3. Facility Operator's Contact Name/Title: \_\_\_\_\_
- 4. Facility Operator's Office Telephone: \_\_\_\_\_
- 5. Facility Operator's Fax: \_\_\_\_\_
- 6. Facility Name: \_\_\_\_\_
- 7. Facility Address: \_\_\_\_\_
- 8. Facility City/Community: \_\_\_\_\_
- 9. Facility State and Zip Code: \_\_\_\_\_
- 10. Latitude: \_\_\_\_\_
- 11. Longitude: \_\_\_\_\_

continue  
→

Optional Local Government Checklist (page 2)

**EVALUATION OF CATEGORICAL EXCLUSION**

12. Licensed Radio Service (see attached Table 1): \_\_\_\_\_

13. Structure Type (free-standing or building/roof-mounted): \_\_\_\_\_

14. Antenna Type [omnidirectional or directional (includes sectored)]: \_\_\_\_\_

15. Height above ground of the lowest point of the antenna (in meters): \_\_\_\_\_

16.  Check if all of the following are true:

- (a) This facility will be operated in the Multipoint Distribution Service, Paging and Radiotelephone Service, Cellular Radiotelephone Service, Narrowband or Broadband Personal Communications Service, Private Land Mobile Radio Services Paging Operations, Private Land Mobile Radio Service Specialized Mobile Radio, Local Multipoint Distribution Service, or service regulated under Part 74, Subpart I (see question 12).
- (b) This facility will not be mounted on a building (see question 13).
- (c) The lowest point of the antenna will be at least 10 meters above the ground (see question 15).

If box 16 is checked, this facility is categorically excluded and is unlikely to cause exposure in excess of the FCC's guidelines. The remainder of the checklist need not be completed. If box 16 is not checked, continue to question 17.

17. Enter the power threshold for categorical exclusion for this service from the attached Table 1 in watts ERP or EIRP\* (note:  $EIRP = (1.64) \times ERP$ ): \_\_\_\_\_

18. Enter the total number of channels if this will be an omnidirectional antenna, or the maximum number of channels in any sector if this will be a sectored antenna: \_\_\_\_\_

19. Enter the ERP or EIRP per channel (using the same units as in question 17): \_\_\_\_\_

20. Multiply answer 18 by answer 19: \_\_\_\_\_

21. Is the answer to question 20 less than or equal to the value from question 17 (yes or no)? \_\_\_\_\_

If the answer to question 21 is YES, this facility is categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines.

If the answer to question 21 is NO, this facility is not categorically excluded. Further investigation may be appropriate to verify whether the facility may cause exposure in excess of the FCC's guidelines.

\*"ERP" means "effective radiated power" and "EIRP" means "effective isotropic radiated power"

**TABLE 1: TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION**

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Experimental Radio Services (part 5)	power > 100 W ERP (164 W EIRP)
Multipoint Distribution Service (subpart K of part 21)	<u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m and power > 1640 W EIRP <u>building-mounted antennas</u> : power > 1640 W EIRP
Paging and Radiotelephone Service (subpart E of part 22)	<u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m and power > 1000 W ERP (1640 W EIRP) <u>building-mounted antennas</u> : power > 1000 W ERP (1640 W EIRP)
Cellular Radiotelephone Service (subpart H of part 22)	<u>non-building-mounted antennas</u> : height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP) <u>building-mounted antennas</u> : total power of all channels > 1000 W ERP (1640 W EIRP)



TABLE 1 (cont.)

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
<p>Personal Communications Services (part 24)</p>	<p>(1) Narrowband PCS (subpart D):  <u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m <u>and</u> total power of all channels &gt; 1000 W ERP (1640 W EIRP)  <u>building-mounted antennas</u>: total power of all channels &gt; 1000 W ERP (1640 W EIRP)</p> <p>(2) Broadband PCS (subpart E):  <u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m <u>and</u> total power of all channels &gt; 2000 W ERP (3280 W EIRP)  <u>building-mounted antennas</u>: total power of all channels &gt; 2000 W ERP (3280 W EIRP)</p>
<p>Satellite Communications (part 25)</p>	<p>all included</p>
<p>General Wireless Communications Service (part 26)</p>	<p>total power of all channels &gt; 1640 W EIRP</p>
<p>Wireless Communications Service (part 27)</p>	<p>total power of all channels &gt; 1640 W EIRP</p>
<p>Radio Broadcast Services (part 73)</p>	<p>all included</p>

TABLE 1 (cont.)

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
<p>Experimental, auxiliary, and special broadcast and other program distributional services (part 74)</p>	<p>subparts A, G, L: power &gt; 100 W ERP</p> <p>subpart I:  <u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m and power &gt; 1640 W EIRP  <u>building-mounted antennas</u>: power &gt; 1640 W EIRP</p>
<p>Stations in the Maritime Services (part 80)</p>	<p>ship earth stations only</p>
<p>Private Land Mobile Radio Services Paging Operations (part 90)</p>	<p><u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m and power &gt; 1000 W ERP (1640 W EIRP)  <u>building-mounted antennas</u>: power &gt; 1000 W ERP (1640 W EIRP)</p>
<p>Private Land Mobile Radio Services Specialized Mobile Radio (part 90)</p>	<p><u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m and total power of all channels &gt; 1000 W ERP (1640 W EIRP)  <u>building-mounted antennas</u>: total power of all channels &gt; 1000 W ERP (1640 W EIRP)</p>

TABLE 1 (cont.)

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
<p>Amateur Radio Service (part 97)</p>	<p>transmitter output power &gt; levels specified in § 97.13(c)(1) of this chapter</p>
<p>Local Multipoint Distribution Service (subpart L of part 101)</p>	<p><u>non-building-mounted antennas</u>: height above ground level to lowest point of antenna &lt; 10 m <u>and</u> power &gt; 1640 W EIRP  <u>building-mounted antennas</u>: power &gt; 1640 W EIRP</p> <p>LMDS licensees are required to attach a label to subscriber transceiver antennas that: (1) provides adequate notice regarding potential radiofrequency safety hazards, <i>e.g.</i>, information regarding the safe minimum separation distance required between users and transceiver antennas; and (2) references the applicable FCC-adopted limits for radiofrequency exposure specified in § 1.1310 of this chapter.</p>

**APPENDIX B**

*Estimated "Worst Case" Distances that Should be Maintained from  
Single Cellular, PCS, and Paging Base Station Antennas*

Table B1-1. Estimated "worst case" horizontal\* distances that should be maintained from a single, omni-directional, **cellular base-station** antenna to meet FCC RF exposure guidelines

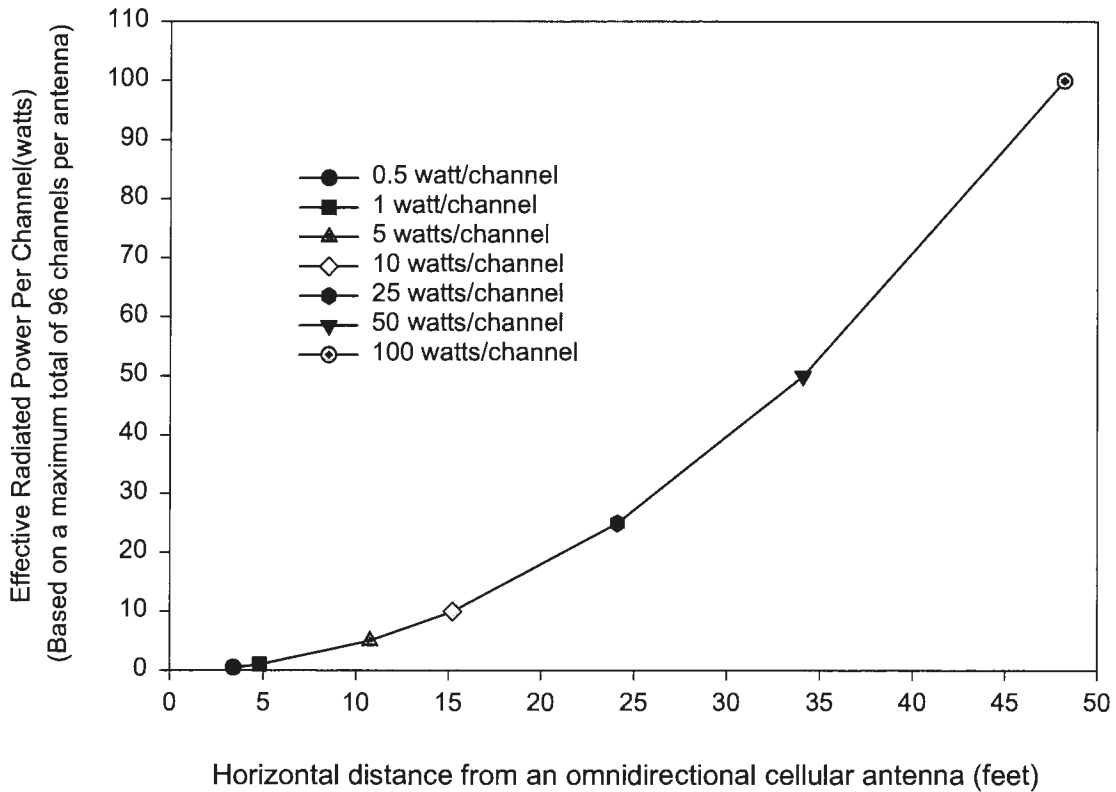
Effective Radiated Power (watts) per channel based on maximum total of 96 channels per antenna	Effective Isotropic Radiated Power (watts) per channel based on a maximum total of 96 channels per antenna	Horizontal* distance (feet) that should be maintained from a single omni-directional cellular antenna
0.5	0.82	3.4
1	1.6	4.8
5	8.2	10.8
10	16.4	15.2
25	41	24.1
50	82	34.1
100	164	48.2

For intermediate values not shown on this table, please refer to the Figure B1-1

\*These distances are based on exposure at same level as the antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are worst case, assuming an omnidirectional antenna using 96 channels. If the systems are using fewer channels, the actual horizontal distances that must be maintained will be less. Cellular omnidirectional antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy directly toward the ground. Therefore, these distances are even more conservative for “non-horizontal” distances, for example, distances directly below an antenna.

Figure B1-1. Estimated "worst case" horizontal\* distances that should be maintained from a single omni-directional **cellular base station antenna** to meet FCC RF exposure guidelines



\* These distances are based on exposure at same level as antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are worst case, assuming an omnidirectional antenna using 96 channels. If the systems are using fewer channels, the actual horizontal distances that must be maintained will be less. Cellular omnidirectional antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy directly toward the ground.

Table B1-2. Estimated "worst case" horizontal\* distances that should be maintained from a single, sectorized, **cellular base-station** antenna to meet FCC RF exposure guidelines

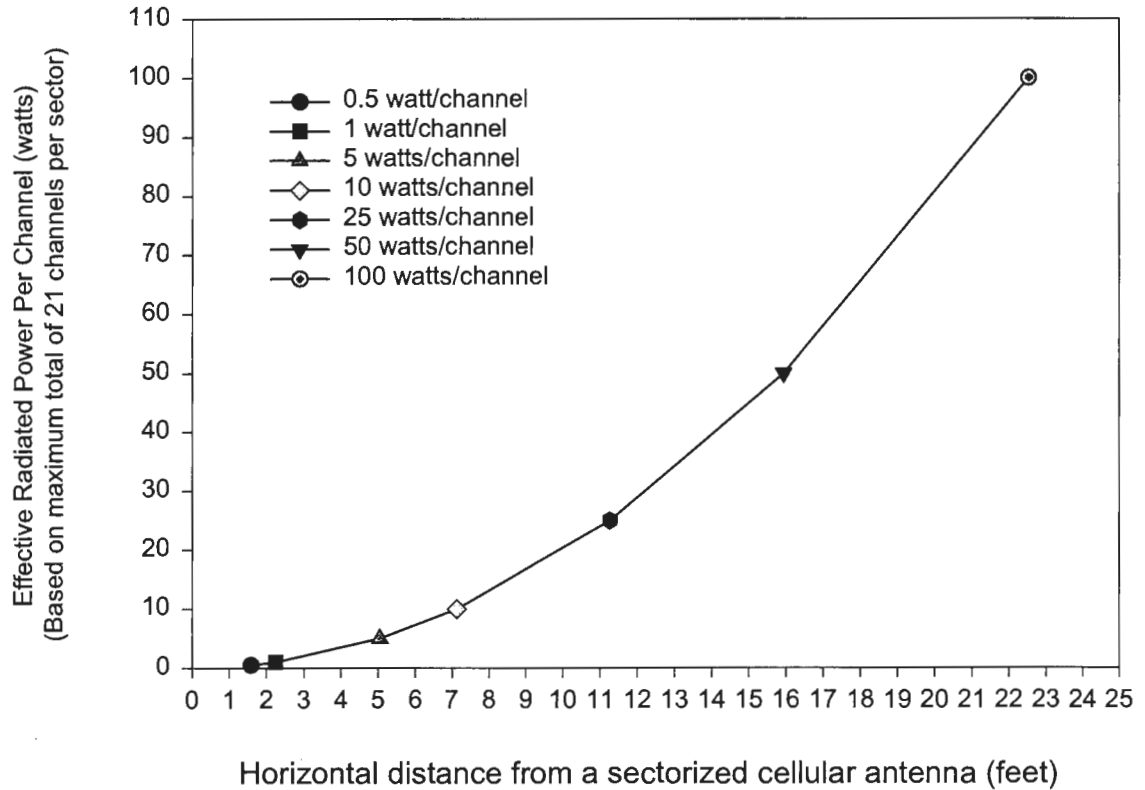
Effective Radiated Power (watts) per channel based on maximum total of 21 channels per sector	Effective Isotropic Radiated Power (watts) per channel based on maximum total of 21 channels per sector	Horizontal* distance (feet) that should be maintained from a single sectorized cellular antenna
0.5	0.82	1.6
1	1.6	2.3
5	8.2	5
10	16.4	7.1
25	41	11.3
50	82	16
100	164	22.6

For intermediate values not shown on this table, please refer to the Figure B1-2

\*These distances are based on exposure at same level as the antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are "worst case," assuming a sectorized antenna using 21 channels. If the systems are using fewer channels, the actual horizontal distances that must be maintained will be less. Cellular sectorized antennas transmit more or less in one direction from the antenna in a horizontal direction and transmit relatively little energy directly toward the ground. Therefore, these distances are even more conservative for "non-horizontal" distances, for example, distances directly below an antenna.

Figure B1-2. Estimated "worst case" horizontal\* distances that should be maintained from a single sectorized, **cellular base station** antenna to meet FCC RF exposure guidelines



\* These distances are based on exposure at same level as antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are "worst case", assuming a sectorized antenna using 21 channels. If the systems are using fewer channels, the actual horizontal distances that must be maintained will be less. Cellular sectorized antennas transmit more or less in one direction from the antenna in a horizontal direction and transmit relatively little energy directly toward the ground.



Table B1-3. Estimated "worst case" horizontal\* distances that should be maintained from a single sectorized **Broadband PCS base station** antenna to meet FCC RF exposure guidelines

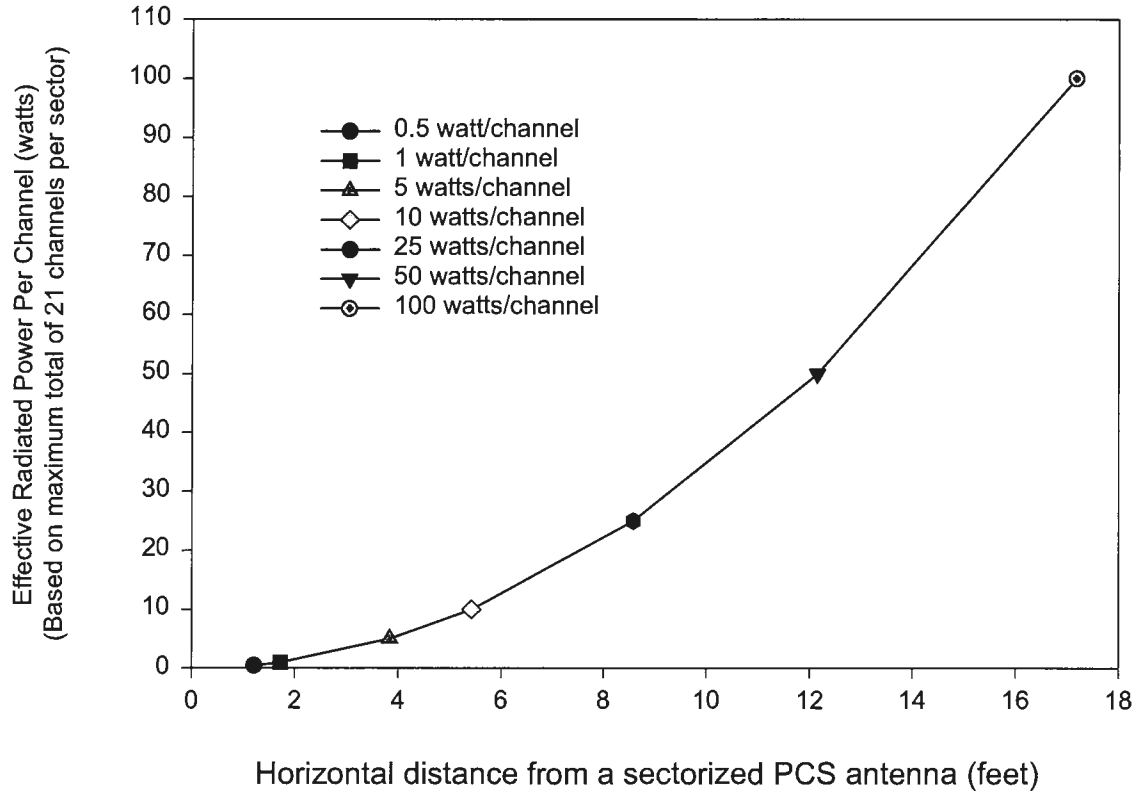
Effective Radiated Power (watts) per channel based on maximum total of 21 channels per sector	Effective Isotropic Radiated Power (watts) per channel based on maximum total of 21 channels per sector	Horizontal* distance (feet) that should be maintained from a single sectorized Broadband PCS antenna
0.5	0.82	1.2
1	1.6	1.7
5	8.2	3.8
10	16.4	5.4
25	41	8.6
50	82	12.1
100	164	17.2

For intermediate values not shown on this table, please refer to the Figure B1-3

\*These distances are based on exposure at same level as the antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are "worst case," assuming a sectorized antenna using 21 channels. If the system is using fewer than 21 channels, the actual horizontal distances that must be maintained will be less. PCS sectorized antennas transmit more or less in one direction from the antenna in a horizontal direction and transmit relatively little energy directly toward the ground. Therefore, these distances are even more conservative for "non-horizontal" distances, for example, distances directly below an antenna.

Figure B1-3. Estimated "worst case" horizontal\* distances that should be maintained from a single sectorized, **PCS base station** antenna to meet FCC RF exposure guidelines



\* These distances are based on exposure at same level as antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These estimates are "worst case", assuming a sectorized antenna using 21 channels. If the systems are using fewer channels, the actual horizontal distances that must be maintained will be less. PCS sectorized antennas transmit more or less in one direction from the antenna in a horizontal direction and transmit relatively little energy directly toward the ground.

Table B1-4. Estimated "worst case" horizontal\* distances that should be maintained from a single omnidirectional **paging** or **narrowband PCS** antenna to meet FCC RF exposure guidelines. Note: this table and the associated figure only apply to the 900-940 MHz band; paging antennas at other frequencies are subject to different values.

Effective Radiated Power (watts) based on one channel per antenna	Effective Isotropic Radiated Power (watts)	Horizontal* distance (feet) that should be maintained from a single omnidirectional paging or narrowband PCS antenna
50	82	3.4
100	164	4.8
250	410	7.5
500	820	10.6
1,000	1,640	15.1
2,000	3,280	21.3
3,500	5,740	28.2

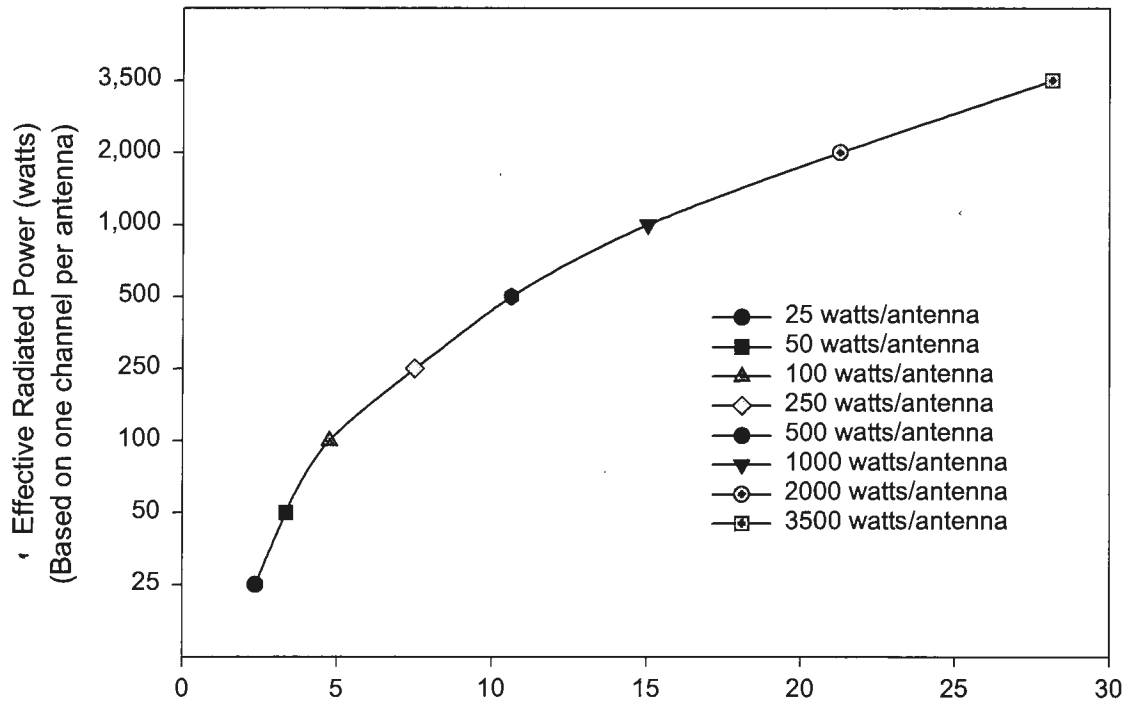
For intermediate values not shown on this table, please refer to the Figure B1-4

\*These distances are based on exposure at same level as the antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These distances assume only one frequency (channel) per antenna. Distances would be greater if more than one channel is used per antenna. Omnidirectional paging and narrowband PCS antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy toward the ground. Therefore, these distances are even more conservative for “non-horizontal” distances, for example, distances directly below an antenna.

Figure B1-4. Estimated "worst case" horizontal\* distances that should be maintained from a single omnidirectional **paging** or **narrowband PCS** antenna to meet FCC RF exposure guidelines.

Note: this figure and the associated table only apply to the 900-940 MHz band; paging antennas at other frequencies are subject to different values



Horizontal distance from an omnidirectional paging or narrowband PCS antenna (feet)

\* These distances are based on exposure at the same level as the antenna, for example, on a rooftop or building directly across from and at the same height as the antenna.

Note: These distances assume only one frequency (channel) per antenna. Distances would be greater if more than one channel is used per antenna. Omnidirectional paging and narrowband PCS antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy towards the ground.

## APPENDIX C

*Text of 47 U.S.C. § 332(c)(7)*

## (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 and 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 instrumentality thereof to deny a request to 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, or 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 any 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 service 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)).

Before the  
Federal Communications Commission  
Washington, D.C. 20554

In the Matter of	)	
	)	
Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies	)	WT Docket No. 13-238
	)	
Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting	)	WC Docket No. 11-59
	)	
2012 Biennial Review of	)	
Telecommunications Regulations	)	
	)	WT Docket No. 13-32
	)	

REPORT AND ORDER

**Adopted: October 17, 2014**

**Released: October 21, 2014**

By the Commission: Chairman Wheeler and Commissioners Clyburn, Rosenworcel, Pai, and O’Rielly issuing separate statements.

TABLE OF CONTENTS

Heading	Paragraph #
---------	-------------

---

I.	INTRODUCTION .....	1
II.	EXECUTIVE SUMMARY.....	18
III.	NEPA AND NHPA REVIEW OF SMALL WIRELESS FACILITIES .....	23
	A. Description of DAS, Small Cells, and Other Small Wireless Technologies .....	29
	B. NEPA Categorical Exclusions .....	35
	1. Regulatory Background .....	35
	2. Antennas Mounted on Existing Buildings and Towers.....	39
	a. Clarification of “Antenna” .....	39
	b. Antennas Mounted in the Interior of Buildings.....	46
	c. Antennas Mounted on Other Structures .....	50
	3. Categorical Exclusion of Deployments in Communications or Utilities Rights-of-Way .....	57
	C. NHPA Exclusions .....	70
	1. Regulatory Background .....	70
	2. New Exclusions .....	76
	a. Collocations on Utility Structures .....	90
	b. Collocations on Buildings and Other Non-tower Structures .....	96
	3. Antennas Mounted in the Interior of Buildings .....	104
IV.	ENVIRONMENTAL NOTIFICATION EXEMPTION FOR REGISTRATION OF TEMPORARY TOWERS.....	106
	A. Background .....	108
	B. Discussion .....	120
V.	IMPLEMENTATION OF SECTION 6409(A) .....	135
	A. Background .....	136
	B. Discussion .....	142
	1. Definition of Terms in Section 6409(a).....	145
	a. Scope of Covered Services .....	146

---

b. Transmission Equipment .....	155
c. Existing Wireless Tower or Base Station.....	161
d. Collocation, Replacement, Removal, Modification .....	176
e. Substantial Change and Other Conditions and Limitations .....	182
2. Application Review Process, Including Timeframe for Review .....	205
3. Remedies .....	222
4. Non-application to States or Municipalities in Their Proprietary Capacities .....	237
5. Effective Date .....	241
VI. SECTION 332(C)(7) AND THE 2009 DECLARATORY RULING .....	243
A. Background .....	245
B. Discussion .....	253
1. Completeness of Applications .....	254
2. Moratoria .....	263
3. Application to DAS and Small Cells.....	268
4. Definition of Collocation.....	273
5. Preferences for Deployments on Municipal Property .....	278
6. Remedies .....	281
VII. PROCEDURAL MATTERS.....	285
A. Final Regulatory Flexibility Analysis.....	285
B. Paperwork Reduction Act .....	286
C. Congressional Review Act.....	287
VIII. ORDERING CLAUSES.....	288
APPENDIX A – List of Comments and Replies	
APPENDIX B – Final Rules	
APPENDIX C – Final Regulatory Flexibility Analysis	



---

## I. INTRODUCTION

1. We take important steps in this Report and Order to promote the deployment of wireless infrastructure, recognizing that it is the physical foundation that supports all wireless communications. We do this by eliminating unnecessary reviews, thus reducing the costs and delays associated with facility siting and construction. In particular, we update and tailor the manner in which we evaluate the impact of proposed deployments on the environment and historic properties. We also adopt rules to clarify and implement statutory requirements related to State and local government review of infrastructure siting applications, and we adopt an exemption from our environmental public notification process for towers that are in place for only short periods of time. Taken together, these steps will further facilitate the delivery of more wireless capacity in more locations to consumers throughout the United States. Our actions will expedite the deployment of equipment that does not harm the environment or historic properties, as well as recognize the limits on Federal, State, Tribal, and municipal resources available to review those cases that may adversely affect the environment or historic properties.

2. Demand for wireless capacity is booming: more consumers are accessing mobile broadband every year, driving more innovation and expanding access to public safety. But our ability to meet this demand depends on the infrastructure that supports the services. We therefore take concrete steps to facilitate the deployment of the infrastructure necessary to support surging demand, expand broadband access, support innovation and wireless opportunity, and enhance public safety—all to the benefit of consumers and the communities in which they live.

3. Our actions recognize that a technological revolution has changed the wireless network landscape. The Commission's current rules for deploying infrastructure were drafted at a time when antennas were huge and bolted to the top of enormous towers. While that kind of macrocell deployment still exists and will continue to exist, there are now a variety of complementary and alternative technologies that are far less obtrusive. Distributed antenna system (DAS) networks and other small-cell systems use components that are a fraction of the size of macrocell deployments, and can be installed—with little or no impact—on utility poles, buildings, and other existing structures. We are revising our rules to reflect this technological progress. At the same time, however, we recognize that State, local and Tribal governments play important roles in this process, including with respect to their own land use regulation and as part of our historic preservation review process. While we eliminate review procedures that are not necessary for small-size facilities collocated on existing structures, we do so in a manner that preserves local zoning requirements and rules requiring camouflage or concealment measures. In particular, the rules we adopt today will allow local jurisdictions to retain their ability to protect aesthetic and safety interests. Accordingly, our actions are intended to encourage deployments on existing towers and structures—rather than entirely new towers—in recognition that collocations almost always result in less impact or no impact at all.

4. These measures reflect our ongoing commitment to promote wireless infrastructure deployment, with the goal of facilitating robust wireless coverage for consumers everywhere. We have

undertaken three particularly notable initiatives this year to facilitate wireless infrastructure deployment in addition to the actions we take today. First, we adopted rules that substantially reformed tower lighting and marking requirements.<sup>1</sup> The steps we took in that proceeding eased compliance burdens for tower owners without any adverse impact on aviation and public safety. Second, we recently commenced discussions with relevant government and non-governmental stakeholders to develop a process for “clearing” existing towers that were not subject to historic preservation review prior to construction, including those commonly referred to as “twilight towers.” Once complete, this effort will make thousands of additional towers available for collocation, resulting in an enormous expansion in deployment opportunities for public safety operations and commercial wireless offerings. Finally, we are working with other government stakeholders to expand on the measures we adopt today. In particular, we intend to tailor further our environmental and historic preservation reviews for small-scale wireless deployments by implementing more broadly applicable efficient procedures.<sup>2</sup>

5. The rules we adopt today should help spur wireless broadband deployment, in part, by facilitating the sharing of infrastructure that supports wireless communications. We create strong incentives for wireless providers to collocate on structures that already support wireless deployments, and we likewise facilitate sharing of transmission equipment by, for example, using “neutral-host” DAS that can support multiple providers simultaneously. Promoting shared use in this manner advances several important policy goals while creating little or no potential for competitive harm and, indeed, promoting opportunities for increased competition. First, a “shared use” approach leverages existing resources and thus facilitates provider efforts to expand both coverage and capacity more quickly.

---

<sup>1</sup> See 2004 and 2006 Biennial Regulatory Reviews - Streamlining and Other Revisions of Parts 1 and 17 of the Commission’s Rules Governing Construction, Marking and Lighting of Antenna Structures, WT Docket No. 10-88, Amendments to Modernize and Clarify Part 17 of the Commission’s Rules Concerning Construction, Marking and Lighting of Antenna Structures, RM-11349, *Report and Order*, FCC 14-117 (rel. Aug. 8, 2014) (*Part 17 Report and Order*).

<sup>2</sup> We note that other efforts are also ongoing. Among these, we continue to assist the interagency Working Group established by Executive Order 13616 to facilitate broadband deployment on Federal buildings and rights-of-way. See *Accelerating Broadband Infrastructure Deployment*, Executive Order No. 13616, 77 Fed. Reg. 36903 (June 14, 2012) (Executive Order 13616). Finding that “decisions on access to Federal property and [rights-of-way] can be essential to the deployment of both wired and wireless broadband infrastructure,” Executive Order 13616 created a “Broadband Deployment on Federal Property Working Group” to develop “a coordinated and consistent approach in implementing agency procedures, requirements, and policies related to access to Federal lands, buildings, and [rights-of-way], federally assisted highways, and tribal lands to advance broadband deployment.” *Id.* In part, this effort is to fulfill the directive of Sections 6409(b) and (c) of the Spectrum Act, which address access to Federal property for the deployment of wireless broadband facilities, including requirements that the General Services Administration (GSA) develop application forms, master contracts, and fees for such access in consultation with the Working Group. See *Middle Class Tax Relief and Job Creation Act of 2012*, Pub. L. No. 112-96 § 6409(b), (c), 126 Stat. 156 (2012) (Spectrum Act); Executive Order 13616 § 4. The Working Group is composed of representatives from seven Federal agencies that each have significant ownership of or responsibility for managing Federal lands, buildings, and rights-of-way, federally assisted highways, or Tribal lands, and also includes representatives from four other agencies, including the Commission, that “provide advice and assistance.” *Id.*

Second, sharing wireless infrastructure—whether towers, other support structures, or transmission equipment—reduces costs and promotes access to such infrastructure, and thus may reduce a notable barrier to deployment. Finally, sharing resources—rather than relying on new builds—safeguards environmental, aesthetic, historic, and local land-use values.

6. Facilitating wireless deployment more generally advances the interests of a wide array of stakeholders, ranging from public safety entities to wireless innovators to schools and libraries. But wider and more robust deployment is particularly important for individual consumers. According to the National Center for Health Statistics and the Centers for Disease Control and Prevention (CDC), wireless service is the only telecommunications connection for an increasing percentage of Americans, especially among more vulnerable populations.<sup>3</sup> A CDC report covering the second half of 2013 determined that two in every five American homes (41.0%) had only wireless telephones during the second half of 2013, up from 30% in 2010. Moreover, more than half of adults in poverty live in wireless-only households.<sup>4</sup> The same report found that approximately 34% of households with both landline and wireless telephones use wireless telephones for all or almost all calls.

7. Consumers are also increasing their reliance on and use of mobile broadband services. According to one estimate, Americans will have 34 million mobile broadband devices by the end of 2015, an increase of nearly 50% from 2013,<sup>5</sup> and the volume of data crossing North American mobile networks will grow almost eight-fold between 2013 and 2018.<sup>6</sup> Consumers in the United States already account for approximately 45% of the 278 million Long Term Evolution (LTE) connections worldwide, and they are projected to have the biggest share of all Fourth Generation (4G) connections worldwide in the coming years.<sup>7</sup> This growing demand reflects the importance of broadband to our nation's

---

<sup>3</sup> See “Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July-December 2013,” Stephen J. Blumberg, Ph.D., and Julian V. Luke, Division of Health Interview Statistics, *available at* <http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf>.

<sup>4</sup> See *id.*

<sup>5</sup> See “34 Million Americans will have Mobile Broadband Devices,” April 22, 2014, *available at* <http://www.ctia.org/resource-library/facts-and-infographics/archive/34-million-americans-mobile-broadband-devices>.

<sup>6</sup> See Alina Selyukh, Reuters, “U.S. mobile data traffic to jump nearly eight-fold by 2018: Cisco,” Feb. 5, 2014, *available at* <http://www.reuters.com/article/2014/02/05/us-usa-spectrum-cisco-idUSBREA140VY20140205>. TIA indicates that American spending on mobile data services “rose by a third in 2012, and during the next four years it will increase by 94 percent.” TIA Comments at 2. Cisco further forecasts that global mobile data traffic will increase 11-fold between 2013 and 2018—in other words, global mobile data traffic will grow at a compound annual growth rate (year-over-year) of 61% from 2013 to 2018. See “Cisco Visual Networking Index: Global Mobile Data Traffic Forecast Update, 2013-2018,” *available at* [http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white\\_paper\\_c11-520862.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html) (Cisco VNI Report 2014). See also “2014-2017 ICT Market Review & Forecast,” *available at* <http://www.tiaonline.org/resources/market-forecast> (finding that “[t]he skyrocketing demand for wireless data is a key driver, fueling growth for the [Information and Communications Technology] market.”).

<sup>7</sup> Cisco VNI Report 2014, *available at* [http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white\\_paper\\_c11-520862.html](http://www.cisco.com/c/en/us/solutions/collateral/service-provider/visual-networking-index-vni/white_paper_c11-520862.html), at 10.

economic growth, global competitiveness, and civic life.<sup>8</sup> As the President recognized in an Executive Order promoting the deployment of broadband infrastructure, “[b]roadband access is essential to the Nation’s global competitiveness in the 21st century, driving job creation, promoting innovation, and expanding markets for American businesses,” and also “afford[ing] public safety agencies the opportunity for greater levels of effectiveness and interoperability.”<sup>9</sup>

8. As the demand for wireless capacity surges, we must take steps to ensure that the networks underlying wireless services can bear the load.<sup>10</sup> The record confirms that meeting America’s growing demand for wireless broadband will require the deployment of large numbers of new or improved wireless facilities. AT&T alone plans to deploy more than 40,000 additional small cells, 1,000 additional DAS networks, and 10,000 additional macrocells from 2013 through 2015.<sup>11</sup> Verizon states that it expects to have deployed more than 3,000 small cells across the country in 2014 alone.<sup>12</sup> Recent data further demonstrate the impact of growing wireless demand on the need for new infrastructure. In its comments in a recent proceeding, PCIA states that in 2013 providers were expected to add up to 27,000 additional cell sites,<sup>13</sup> while CTIA reports that its member companies had 304,360 cell sites in service at year-end 2013, a 26% increase in five years.<sup>14</sup>

9. Despite the widely acknowledged need for additional wireless infrastructure, the process of deploying these facilities can be expensive, cumbersome, and time-consuming.<sup>15</sup> In addition

---

<sup>8</sup> See Connect America Fund; A National Broadband Plan for Our Future; Establishing Just and Reasonable Rates for Local Exchange Carriers; High-Cost Universal Service Support; Developing a Unified Intercarrier Compensation Regime; Federal-State Joint Board on Universal Service; Lifeline and Link-Up; Universal Service Reform—Mobility Fund, WC Docket Nos. 10-90, 07-135, 05-337, 03-109, CC Docket Nos. 01-92, 96-45, GN Docket No. 09-51, WT Docket No. 10-208, *Report and Order and Further Notice of Proposed Rulemaking*, 26 FCC Rcd 17663, 17667 para. 3 (2011), *aff’d In re: FCC 11-161*, 753 F.3d 1015 (10th Cir. 2014). See, generally, Federal Communications Commission, *Connecting America: The National Broadband Plan*, at xi (rel. Mar. 16, 2010) (*National Broadband Plan*).

<sup>9</sup> See Executive Order 13616.

<sup>10</sup> See Alan Pearce, Ph.D., J. Richard Carlson, MBA, Michael Pagano, Ph.D, *Wireless Broadband Infrastructure: A Catalyst for DGP and Job Growth 2013-2017*, at 1-2 (Sept. 2013), submitted as an attachment to Letter from Jonathan M. Campbell, PCIA-The Wireless Infrastructure Association, to Marlene Dortch, Secretary, FCC, WT Docket Nos. 13-238, 13-32; WC Docket Nos. 11-59, 10-90, 07-135, 05-337, 03-109; GN Docket No. 09-51; CC Docket Nos. 01-92, 96-45 (filed Oct. 22, 2013).

<sup>11</sup> HetNet Forum Seminar Presentation, *Small Cell Acceleration* (July 29, 2013), available at <http://www.thedasforum.org/wp-content/uploads/2013/07/HetNet-Forum-Small-Cell-Acceleration-Seminar-Presentations.pdf>, at 21.

<sup>12</sup> Verizon Comments at 8.

<sup>13</sup> PCIA-The Wireless Infrastructure Association and the HetNet Forum Comments, WT Docket No. 13-135, at 8.

<sup>14</sup> See CTIA, “Annual Wireless Industry Survey,” available at <http://www.ctia.org/your-wireless-life/how-wireless-works/annual-wireless-industry-survey>.

<sup>15</sup> See *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, Acceleration of Broadband Deployment: Expanding the Reach and Reducing the Cost of Broadband Deployment by Improving Policies Regarding Public Rights of Way and Wireless Facilities Siting, Amendment of Parts 1 and 17 of the*

(continued....)

to any private arrangements necessary to gain access to suitable land or structures, parties must typically obtain siting approval from the local municipality. They must also comply with the Commission's rules for environmental review, which implement our obligations under Federal statutes including the National Environmental Policy Act of 1969 (NEPA) and Section 106 of the National Historic Preservation Act of 1966 (NHPA or Section 106).<sup>16</sup>

10. Although these review requirements serve important local and national interests, local and Federal review processes can slow deployment substantially, even in cases that do not present significant concerns.<sup>17</sup> Because these processes can significantly delay deployment, we now take action in four areas to reduce regulatory obstacles and bring efficiency to wireless facility siting and construction, as summarized below. We take these actions based on consideration of the entire record compiled in response to the *Infrastructure NPRM*.<sup>18</sup>

11. *Environmental and Historic Preservation Review Processes.* First, in Section III, we adopt measures to refine our environmental and historic preservation review processes under NEPA and NHPA to account for new wireless technologies, including physically small facilities like those used in DAS networks and small-cell systems that are a fraction of the size of macrocell installations.<sup>19</sup> In contrast to the large-scale antennas and structures that our review processes were designed to address, these smaller antennas (and their associated compact radio equipment) can operate on existing short structures such as utility poles as well as on rooftops or inside buildings. As described in detail in the Executive Summary and in Section III, we expand an existing categorical exclusion from NEPA review so

(Continued from previous page) \_\_\_\_\_

Commission's Rules Regarding Public Notice Procedures for Processing Antenna Structure Registration Applications for Certain Temporary Towers, 2012 Biennial Review of Telecommunications Regulations, WT Docket Nos. 13-238, 13-32, WC Docket No. 13-122, *Notice of Proposed Rulemaking*, 28 FCC Rcd 14238, 14240 para. 3 (2013) (*Infrastructure NPRM*).

<sup>16</sup> See 42 U.S.C. §§ 4321 *et seq.*; 16 U.S.C. § 470f.

<sup>17</sup> See Fibertech Comments at 7 (reporting that “[m]any small cells deployments have languished for years due to lengthy and unproductive bureaucratic administrative tasks and hearings,” and citing cases). Verizon reports that the NHPA review process alone takes an average of 84 days for its DAS deployments (where such review is required), even though DAS networks are desirable in large part because the components are small and unobtrusive; in one case, the NHPA review took 150 days for a single DAS installation on a single pole. Verizon Comments at 9.

<sup>18</sup> In response to the *Infrastructure NPRM*, we received 207 timely filed comments and 42 timely reply comments. Major commenters are listed, and the short forms by which they are cited in this Report and Order are identified, in Appendix A. In addition, we received numerous brief comments and *ex parte* submissions from a variety of interested parties, which are not listed in the Appendix but were reviewed and considered. To the extent that we cite comments in other proceedings, the citation specifies the docket.

<sup>19</sup> Small cells are low-powered wireless base stations that function like cells in a mobile network but provide significantly smaller coverage area than traditional macrocells. DAS networks represent another wireless alternative to macrocells, but differ from small cells in that, whereas each small-cell deployment includes its own transceiver equipment that generally serves on wireless carrier/operator, a DAS network involves the use of transceiver equipment at a central hub site to support multiple antenna locations throughout the desired coverage area and in “neutral-host” deployments can serve multiple wireless carriers/operators. We describe these technologies in detail below. See *infra*, Section III.A.

that it applies not only to collocations on buildings and towers, but also to collocations on other structures like utility poles. We also adopt a new categorical exclusion from NEPA review for some kinds of deployments in utilities or communications rights-of-way. With respect to NHPA, we create new exclusions to address certain collocations on utility poles and other non-tower structures. We take these steps to assure that, as we continue to meet our responsibilities under NEPA and NHPA, we also fulfill our obligation under the Communications Act to ensure that rapid, efficient, and affordable radio communications services are available to all Americans.<sup>20</sup>

12. Prior to adopting or changing rules to implement NEPA, an agency is required to publish its proposed procedures in the Federal Register for comment, and the Council on Environmental Quality (CEQ) must advise whether the proposed procedures conform to NEPA and CEQ's regulations.<sup>21</sup> In keeping with this process, CEQ has advised that the measures we adopt in this Report and Order to clarify and modify our environmental review process conform with NEPA and CEQ regulations.<sup>22</sup> We have also coordinated the steps we are taking to tailor and clarify our Section 106 review process with the Advisory Council on Historic Preservation (ACHP) and with Tribal Nations.<sup>23</sup>

13. We emphasize that additional, broader exclusions for DAS networks and other small facilities may well be appropriate. We conclude, however, that additional measures will require further consultation with CEQ, ACHP, state historic preservation officers, and Tribal Nations. With regard to our review process under Section 106, we find that broader reform is more appropriately undertaken through the development of a "program alternative" as defined under ACHP's rules.<sup>24</sup> Therefore,

---

<sup>20</sup> 47 U.S.C. § 151.

<sup>21</sup> 40 C.F.R. § 1507.3(a).

<sup>22</sup> See Letter from Horst G. Greczmiel, Associate Director for NEPA Oversight, Council on Environmental Quality, to Peter B. Trachtenberg, Deputy Chief, Spectrum and Competition Policy Division, dated Oct. 17, 2014. This letter will be filed in WT Docket 13-238. The rules were first proposed in the *Infrastructure NPRM* that was published in the Federal Register on December 5, 2013. See Proposed Rules, Federal Communications Commission, 47 C.F.R. Parts 1 and 17, WT Docket Nos. 13-238, 13-32; WC Docket No. 11-59; FCC 13-122, Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies, 78 Fed. Reg. 73144-02 (Dec. 5, 2013).

<sup>23</sup> See Letter from Jeffrey S. Steinberg, Geoffrey C. Blackwell, and Peter B. Trachtenberg, to Tribal Leaders, dated Aug. 28, 2014, WT Docket No. 13-238, filed Sept. 4, 2014 (Tribal Letter); Memo from Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, WT Docket No. 13-238, filed Sept. 4, 2014 (Tribal Sept. 4, 2014 Conference Call) (describing conference call with representatives of approximately 20 Tribal Nations concerning the Tribal Letter and issues in the rulemaking); Memo from Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, WT Docket No. 13-238, filed Sept. 11, 2014 (describing meetings with approximately 100 representatives from Tribal Nations across the United States at the conference of the National Association of Tribal Historic Preservation Officers, including a discussion of DAS and small cells and the ongoing proceeding); Memo from Spectrum and Competition Policy Division, Wireless Telecommunications Bureau, WT Docket No. 13-238, filed Sept. 19, 2014 (describing Division staff meetings with Robert Thrower, Tribal Historic Preservation Officer for the Poarch Band of Creek Indians, and Jeremy McDaniel of the Catawba Indian Nation, including a discussion of DAS and small cells and the instant rulemaking proceeding). See also *Infrastructure NPRM*, 28 FCC Rcd at 14258 para. 54 & nn.104, 105 (detailing the Commission's preliminary Tribal outreach regarding Section 106 review for DAS and small cells).

<sup>24</sup> 36 C.F.R. § 800.14.

Commission staff are working with ACHP and other stakeholders to develop a program alternative that will promote additional efficiencies in the historic preservation review of DAS and small-cell deployments, and we expect that this process will conclude between 18 and 24 months after the release of this Report and Order.

14. *Temporary Towers.* In Section IV, we codify a waiver previously granted by the Commission,<sup>25</sup> and adopt a narrow exemption from the Commission's requirement that owners of proposed towers requiring antenna structure registration (ASR) provide 30 days of national and local notice to give members of the public an opportunity to comment on the proposed tower's potential environmental effects. The exemption from notification requirements applies only to proposed temporary towers meeting defined criteria, including limits on the size and duration of the installation, that greatly reduce the likelihood of any significant environmental effects. Allowing licensees to deploy temporary towers meeting these criteria without first having to complete the Commission's environmental notification process will enable them to more effectively respond to emergencies, natural disasters, and other planned and unplanned short-term spikes in demand without undermining the purposes of the notification process. This exemption will "remove an administrative obstacle to the availability of broadband and other wireless services during major events and unanticipated periods of localized high demand" where expanded or substitute service is needed quickly.<sup>26</sup>

15. *Section 6409(a) of the Spectrum Act.* In Section V, we adopt rules to implement and enforce Section 6409(a) of the Middle Class Tax Relief and Job Creation Act of 2012 (Spectrum Act).<sup>27</sup> Section 6409(a) provides, in part, that "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."<sup>28</sup> By requiring timely approval of eligible requests, Congress intended to advance wireless broadband service for both public safety and commercial users.<sup>29</sup> Section 6409(a) includes a number of undefined terms, however, that

---

<sup>25</sup> See Amendment of Parts 1 and 17 of the Commission's Rules Regarding Public Notice Procedures for Processing Antenna Structure Registration Applications for Certain Temporary Towers; 2012 Biennial Review of Telecommunications Regulations, RM-11688, WT Docket No. 13-32, *Order*, 28 FCC Rcd 7758 (2013) (*Waiver Order*).

<sup>26</sup> See *Waiver Order*, 28 FCC Rcd at 7758 para. 1. As with the NEPA measures in Section III, CEQ's October 17, 2014 letter also advised that the environmental notification exemption we adopt in this Report and Order conforms with NEPA and CEQ's regulations.

<sup>27</sup> See Spectrum Act § 6409(a). We note that Section 6409(a) has since been codified in the Communications Act as 47 U.S.C. § 1455(a). However, for consistency with the *Infrastructure NPRM*, we continue to refer to it as Section 6409(a).

<sup>28</sup> Spectrum Act § 6409(a)(1).

<sup>29</sup> See H.R. Rep. 112-399, at 136 (2012) (Conference Report). We note that much of the Conference Report describes provisions in the House or Senate bills, and is not necessarily representative of Congressional intent in passing the Spectrum Act. The portions of the Conference Report that we rely upon in this Report and Order pertain expressly to the Spectrum Act as passed.

bear directly on how the provision applies to infrastructure deployments, and the record confirms that there are substantial disputes on a wide range of interpretive issues under the provision. We accordingly adopt rules that clarify many of these terms and enforce their requirements, thus advancing Congress's goal of facilitating rapid deployment. These rules will serve the public interest by providing guidance to all stakeholders on their rights and responsibilities under the provision, reducing delays in the review process for wireless infrastructure modifications, and facilitating the rapid deployment of wireless infrastructure, thereby promoting advanced wireless broadband services.

16. *Section 332(c)(7)*. Finally, in Section VI, we clarify issues related to Section 332(c)(7) of the Communications Act and the Commission's *2009 Declaratory Ruling*.<sup>30</sup> Among other things, we explain when a siting application is complete so as to trigger the presumptively reasonable timeframes for local and State review of siting applications under the *2009 Declaratory Ruling*, and how the timeframes apply to local moratoria and DAS or small-cell facilities. These clarifications will eliminate many disputes under Section 332(c)(7), provide certainty about timing related to siting applications (including the time at which applicants may seek judicial relief), and preserve State and municipal governments' roles in the siting application process.

\* \* \*

17. Taken together, the actions we take in this Report and Order will enable more rapid deployment of wireless facilities, delivering broadband and wireless innovations to consumers across the country. At the same time, they will safeguard the environment, preserve historic properties, protect the interest of Tribal Nations in their ancestral lands and cultural legacies, and address municipalities' concerns over impacts to aesthetics and other local values.

## II. EXECUTIVE SUMMARY

18. In this Section, we summarize the steps we take to facilitate wireless infrastructure deployment. First, as detailed in Section III.B, we adopt the following measures with regard to our NEPA process for review of environmental effects:

- Amend the existing NEPA categorical exclusion for antenna collocations on buildings and towers to clarify that it includes equipment associated with the antennas (such as wiring, cabling, cabinets, and backup-power), and that it also covers collocations in a building's interior;
- Amend the NEPA categorical exclusion for collocations to cover collocations on structures other than buildings and towers; and

---

<sup>30</sup> 47 U.S.C. § 332(c)(7); Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(b) to Ensure Timely Siting Review & to Preempt Under Section 253 State & Local Ordinances That Classify All Wireless Siting Proposals As Requiring A Variance, WT Docket No. 08-165, *Declaratory Ruling*, 24 FCC Rcd 13994 (2009) (*2009 Declaratory Ruling*).



- Adopt a new NEPA categorical exclusion for deployments, including deployments of new poles, in utility or communications rights-of-way that are in active use for such purposes, where the deployment does not constitute a substantial increase in size over the existing utility or communications uses.

All of these categorical exclusions are subject to Sections 1.1307(c) and (d) of the Commission's rules, which require the preparation of an Environmental Assessment (EA) for a proposed facility otherwise categorically excluded from environmental processing if the processing bureau, either on its own motion or in response to a public complaint, determines that it may have a significant environmental impact.<sup>31</sup>

19. As detailed in Section III.C, we adopt the following measures with regard to our Section 106 process for review of effects on historic properties:

- Adopt an exclusion from Section 106 review for collocations on utility structures, including utility poles and electric transmission towers, that meet the following conditions:
  - The deployment does not exceed a specified size limitation, detailed in Section III.C.2.a, when measured together with any other wireless deployment on the same structure;
  - The deployment will involve no new ground disturbance; and
  - The deployment is not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated National Historic Landmark or is listed in or eligible for listing in the National Register of Historic Places (National Register); or (3) the subject of a pending complaint alleging adverse effect on historic properties.
- Adopt an exclusion from Section 106 review for collocations on buildings and any other non-tower structures that meet the following conditions:
  - There is an existing antenna on the building or structure;
  - The new deployment meets certain requirements related to visibility and proximity to an existing antenna;
  - The new antenna will comply with all zoning conditions and historic preservation conditions on existing antennas that directly mitigate or prevent effects, such as camouflage or concealment requirements;
  - The deployment will involve no new ground disturbance; and
  - The deployment is not (1) inside the boundary of a historic district, or within 250 feet of the boundary of a historic district; (2) located on a structure that is a designated

---

<sup>31</sup> 47 C.F.R. § 1.1307(c), (d).

National Historic Landmark or is listed in or eligible for listing in the National Register; or  
(3) the subject of a pending complaint alleging adverse effect on historic properties.

- Clarify that the existing exclusions for certain collocations on buildings under the Commission's programmatic agreements extend to collocations inside buildings.

20. In Section IV, we adopt an exemption from the Commission's requirement that ASR applicants provide local and national environmental notification prior to submitting a completed ASR application for certain temporary antenna structures meeting criteria that make them unlikely to have significant environmental effects. Specifically, we exempt antenna structures that:

- Will be in place for 60 days or less;
- Require notice of construction to the Federal Aviation Administration (FAA);
- Do not require marking or lighting under FAA regulations;
- Will be less than 200 feet above ground level; and
- Will involve minimal or no ground excavation.

21. In Section V, we adopt rules to clarify and implement the requirements of Section 6409(a) of the Spectrum Act. Among other measures, we:

- Clarify that Section 6409(a) applies to support structures and to transmission equipment used in connection with any Commission-licensed or authorized wireless transmission;
- Define "transmission equipment" to encompass antennas and other equipment associated with and necessary to their operation, including power supply cables and backup power equipment;
- Define "tower" to include any structure built for the sole or primary purpose of supporting any Commission-licensed or authorized antennas and their associated facilities;
- Clarify that the term "base station" includes structures other than towers that support or house an antenna, transceiver, or other associated equipment that constitutes part of a "base station" at the time the relevant application is filed with State or municipal authorities, even if the structure was not built for the sole or primary purpose of providing such support, but does not include structures that do not at that time support or house base station components;
- Clarify that a modification "substantially changes" the physical dimensions of a tower or base station, as measured from the dimensions of the tower or base station inclusive of any modifications approved prior to the passage of the Spectrum Act, if it meets any of the following criteria:
  - for towers outside of public rights-of-way, it increases the height by more than 20 feet or 10%, whichever is greater; for those towers in the rights-of-way and for all base stations, it increases the height of the tower or base station by more than 10% or 10 feet, whichever is greater;

- for towers outside of public rights-of-way, it protrudes 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; for those towers in the rights-of-way and for all base stations, it protrudes from the edge of the structure more than six feet;
- it involves installation of more than the standard number of new equipment cabinets for the technology involved, but not to exceed four cabinets;
- it entails any excavation or deployment outside the current site of the tower or base station;
- it would defeat the existing concealment elements of the tower or base station; or
- it does not comply with conditions associated with the prior approval of the tower or base station unless the non-compliance is due to an increase in height, increase in width, addition of cabinets, or new excavation that does not exceed the corresponding “substantial change” thresholds;
- Provide that States and localities may continue to enforce and condition approval on compliance with generally applicable building, structural, electrical, and safety codes and with other laws codifying objective standards reasonably related to health and safety;
- With regard to the process for reviewing an application under Section 6409(a), provide that:
  - A State or local government may only require applicants to provide documentation that is reasonably related to determining whether the eligible facilities request meets the requirements of Section 6409(a);
  - Within 60 days from the date of filing, accounting for tolling, a State or local government shall approve an application covered by Section 6409(a); and
  - The running of the period may be tolled by mutual agreement or upon notice that an application is incomplete provided in accordance with the same deadlines and requirements applicable under Section 332(c)(7), as described below, but not by a moratorium;
- Provide that an application filed under Section 6409(a) is deemed granted if a State or local government fails to act on it within the requisite time period;
- Clarify that Section 6409(a) applies only to State and local governments acting in their role as land use regulators and does not apply to such entities acting in their proprietary capacities; and
- Provide that parties may bring disputes—including disputes related to application denials and deemed grants—in any court of competent jurisdiction. The Commission will not entertain such disputes.

22. In Section VI, we adopt clarifications of our *2009 Declaratory Ruling*, which established the presumptively reasonable time periods within which a State or local government must act on a

---

facilities siting application under Section 332(c)(7) of the Communications Act. We take the following specific actions:

- Clarify, with regard to the Commission’s determination in the *2009 Declaratory Ruling* that a State or municipality may toll the running of the shot clock if it notifies the applicant within 30 days of submission that its application is incomplete, that:
  - The timeframe begins to run when an application is first submitted, not when it is deemed complete by the reviewing government;
  - A determination of incompleteness tolls the shot clock only if the State or local government provides notice to the applicant in writing within 30 days of the application’s submission, specifically delineating all missing information, and specifying the code provision, ordinance, application instruction, or otherwise publically-stated procedures that require the information to be submitted;
  - Following an applicant’s submission in response to a determination of incompleteness, the State or local government may reach a subsequent determination of incompleteness based solely on the applicant’s failure to supply the specific information that was requested within the first 30 days;
  - The shot clock begins running again when the applicant makes its supplemental submission; however, the shot clock may again be tolled if the State or local government notifies the applicant within 10 days that the supplemental submission did not provide the specific information identified in the original notice delineating missing information;
- Clarify that the presumptively reasonable timeframes run regardless of any applicable moratoria;
- Clarify that where DAS or small-cell facilities, including third-party facilities such as neutral-host DAS deployments, are or will be used for the provision of personal wireless services, their siting applications are subject to the *2009 Declaratory Ruling* and the presumptively reasonable timeframes it established; and
- Decline to adopt an additional remedy for State or local government failures to act within the presumptively reasonable time limits.

### III. NEPA AND NHPA REVIEW OF SMALL WIRELESS FACILITIES

23. In this section, we adopt measures to update our review processes under NEPA<sup>32</sup> and Section 106 of NHPA,<sup>33</sup> with a particular emphasis on accommodating new wireless technologies that use smaller antennas and compact radio equipment to provide mobile voice and broadband service.

---

<sup>32</sup> See 42 U.S.C. §§ 4321 *et seq.*

<sup>33</sup> See 16 U.S.C. § 470f.

## PENDING BUSINESS

### A. Staff Report PL 14-57, Towers

Deputy City Planner Engebretsen provided a summary of the staff report. She read into the record the following five questions that Staff would like direction from the commission:

1. Consensus that towers over 60 feet will be regulated. Towers under 60 feet will not.
2. Consensus on height regulations and when a CUP will be required will vary by district.
3. Can rights of way and 20 foot building setback areas be considered fall zones?
4. Should there be an option to allow a reduced fall zone area if increased safety standards?
5. Can structures on the subject property be exempt from the fall area standards?

The commission discussed and disseminated the following:

- developing a formula such as minimum lot dimension (width) divided by two to determine the maximum tower height on a city lot not more than 50 feet
- consideration of total overall height to include the structure plus any additional tower or whip
- establish a simple 50 foot maximum height
- why establish a regulation when the FCC regulations superseded any regulations the city would establish
- municipality can set safety regulations, setback requirements, establish zoning districts in order to control
- what conditions will require a conditional use permit
- depending on the type of tower will determine the height of the tower
- scenarios were conducted to justify the limitation of the maximum height
- definitions are required
- power poles and street lights are exempt from the definition of "tower"
- minimum setbacks requirements in relation to "fall zones"

Staff reminded the commission that this regulation can be quite intense and they can request professional assistance with this action of regulation. It was further noted that the applicant would pay the fees of the consultant. Staff will provide clarification at the next meeting how bringing in a professional engineer to review each application will apply.

Continued discussion on establishing requirements for the governance of towers within city limits, establishing minimums as a base line so as not to require small business entities to expend thousands of dollars, the likelihood of failure of these towers, establishing certain regulations would force a person/business to purchase multiple lots, differentiate between tower and antennae, when to start regulating.

Staff recommended interviewing key personnel with or former of the City of Kenai to see how often their regulation was used and the last time it was used.

The commission will review the information on towers as provided by Staff to be able to make informed decision on whether to implement the City of Kenai regulations as Homer's. Further comments on carefully reviewing exemptions regarding communications, view-shed as it relates to towers, and underground utilities to mitigate safety concerns.

Staff will provide further information on view-shed and what other communities regulate and can view-shed be regulated. She requested the commissioners to also consider co-location with towers - more towers but shorter or less towers but taller.

Chair Venuti requested a consultant or professional with towers come and speak to the commission.



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

### Staff Report PL 14-57

TO: Homer Advisory Planning Commission  
THROUGH: Rick Abboud, City Planner  
FROM: Julie Engebretsen, Deputy City Planner  
DATE: June 18, 2014  
SUBJECT: Towers

---

#### Introduction

This staff report is intended to guide discussion on what the scope of regulation should be for towers. The attachments include information on the height of existing towers in Homer, including two towers you can see from the City Hall parking lot; the KBBI pole across the street, and the HEA tower at HEA.

Please bring staff report 12-54 from the last meeting. We will continue to refer to this staff report and all its attachments over the summer.

The general tools the Commission has to regulate towers include zoning districts, height, setbacks, and structural safety. Regulation that prevents the provision of telecommunications service to the community will not stand in court. Federal law trumps local zoning. This is relevant because there will be demand for towers in the core area of Homer. This is where the businesses and customers are! (Not all of these towers will be cell towers and they may not have the same protections under federal law; examples would be the City's equipment for conducting city business, the hospital, and local internet providers such as Spit with Spots or Horizon Satellite.) We can expect to get tower applications in neighborhoods that don't want them. What are the minimum standards a tower should meet?

#### Analysis

One of the review criteria for changes to the zoning code states: "Will be reasonable to implement and enforce." Towers and antenna are and will continue to be part of our urban landscape. As staff and the Commission consider tower regulations, please keep in mind the work load it creates for the Commission and for staff.

At some point, if the regulation is technical, it requires review by a qualified professional. We currently require this higher level of review for steep slope plans, storm water plans, traffic

impact analysis, fire marshal, etc. The Commission should consider what elements of structural safety you would like to have 3<sup>rd</sup> party review of for towers.

**Definitions: When is a tower tall enough to be regulated?**

1. Staff recommends regulations for towers over 60 feet. The current building height maximum is 35 feet. Staff thinks up to 25 foot antenna on top of a building might not need to be regulated. A 35 building with a 25 foot tower is 60 feet. Thinking further about height, it would be most simple to regulate building mounted and ground installed towers the same. Therefore, all towers, whether on a building or on the ground, would be regulated when over 60 feet tall.

**Height of towers, when a CUP is required, and maximum heights.**

2. Staff recommends different height regulations based on district. See table on next page.

- The Spit, MI, MC, OSR, GC2 and East End Mixed Use, and western GC1 district at the top of Baycrest would have no height limitation. A tower in these districts would not trigger a CUP. They would be subject to staff review, and whatever standards are enacted in the zoning code.
- A CUP would be required in Rural Residential for towers over 100 feet. (?) Open to discussion!
- In the core part of town, CBD, Town Center, RO, UR, GC1 south of Beluga Lake, and the GBD, CUP's would be required for towers over 60 feet. Should there be a height limit?
- Conservation zones: CUP over 60 feet? Most of the conservation zoned areas have a conservation easement that would probably not allow for a tower, or they are locations where a tower is unlikely. But staff would like to have towers addressed in this district.

District	Height at which a CUP is needed (feet)	Max Height?
CBD	60	120
TC	60	120
GBD	60	120
GC1 (Beluga Lake)	60	120
RO	60	120
UR	60	120

	<b>CUP required</b>	<b>Max height?</b>
RR	<u>100 ?</u>	None
CONS	<u>?</u>	None
GC2	None	None
EEMU	None	None
MI	None	None
MC	None	None
OSR	None	None
BCWPD	None	None

### **Setback Requirements/Fall zones**

Staff recommends discussing and reaching consensus on the following questions:

3. Can rights of way, and 20 foot building setback areas, be considered fall zones?

Example: There are several existing towers on Skyline Drive. If a new tower were to be built, could Skyline Drive right of way, and the 20 foot building setback across the street, be used as fall zone?

4. Should there be an option to allow a reduced fall zone area? If increased safety standards are used, can the fall zone be reduced? Juneau has a 50% reduction option.

5. Can structures on the subject property be exempt from the fall area standards? For example KBBi has a tower, and the fall zone only affects the KBBi building.

### **Staff Recommendation:**

Discuss items one through five and provide staff direction. With the Commission's input, staff will work on a draft ordinance.

1. Consensus that towers over 60 feet will be regulated. Towers under 60 will not.
2. Consensus that height regulations and when a CUP will be required will vary by district.
3. Can rights of way, and 20 foot building setback areas, be considered fall zones?
4. Should there be an option to allow a reduced fall zone area? If increased safety standards
5. Can structures on the subject property be exempt from the fall area standards?

### **Attachments**

- Heights of some existing towers in Homer
- Memorandum from City Attorney Re: Applicable Law Affecting Cell Towers
- Staff Report 14-54 (See June 4<sup>th</sup> meeting packet)



## **Heights of some Existing Towers in Homer**

6/10/2014, source: City-data.com

Towers are registered in meters. There are 3.28 feet to a meter.

### Towers you can see from the city hall lower parking lot:

KBBI at the radio station 25.3m, 83 feet

HEA 3977 Lake Street 30.5m, 100 feet

### Other examples:

End of the Spit, near the fuel tanks and the condos: 19.8 and 22.9 meters, 65 and 75 feet

4588 Homer Spit Road, ferry terminal: 15 m, 49 feet

KBBI in Kachemak City 41566 Old Squaw St, 83.8m, 275 feet

Big orange tower north of Anchor Point (Stariski Tower) 102 meters, 334 feet

Radio towers on Diamond Ridge: 124 M, 407 feet

Skyline Drive towers: 15 meters, 24 meters, 49 feet, 79 feet. Some up to 100 feet?

### Short "tower" examples:

Homer police station, 8 meters, 26 feet

Fish and game on Douglas Ave: 15M, 49 feet

Homer Junior High 9 meters, 30 feet

Library 9.1 feet

**MEMORANDUM**

**TO: HOLLY C. WELLS**  
**FROM: MITCHI V. MCNABB**  
**RE: APPLICABLE LAW AFFECTING CELL TOWERS**  
**CLIENT: CITY OF HOMER**  
**FILE NO.: 506,742.563**  
**DATE: DECEMBER 4, 2013**

---

In response to your request for general research on the state of the law regarding cell phone towers, I provide the following.

The Telecommunications Act of 1934 (the "Act"), as amended, expressly allows municipalities to enact local zoning rules regarding the placement, construction and modification of personal wireless service providers' facilities/equipment. This allows municipalities to require such providers to obtain a special use permit before placing wireless telecommunications equipment. As set out below, however, municipalities are subject to certain limitations:

- A municipality may not unreasonably discriminate among providers of equivalent services. 47 U.S.C. § 332(c)(7)(B)(i).
- A municipality may not prohibit or have the effect of prohibiting the provision of personal wireless services (defined as commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services). *Id.*
- A municipality must act on a request to place, construct or modify personal wireless service facilities within a reasonable time after the request is filed, taking into account the nature and scope of the request. 47 U.S.C. § 332(c)(7)(B)(ii).
- A municipality's decision to deny a request to place, construct or modify personal wireless service facilities must be in writing and supported by substantial evidence in a written record. 47 U.S.C. § 332(c)(7)(B)(iii).

- Neither a state nor a municipality may regulate the placement, construction and modification of personal wireless facilities on the basis of environmental effects of radio frequency emissions to the extent that the facilities comply with FCC regulations regarding the emissions. 47 U.S.C. § 332(c)(7)(B)(iv).

The FCC can preempt any state or local statute, regulation, or legal requirement that it determines, after notice and hearing, violates 47 U.S.C. § 253 (a) or (b), which govern the removal of barriers to entry.<sup>1</sup> 47 U.S.C. § 253(d) of the Telecommunications Act of 1934.

While the Act does not define “reasonable period of time,” the FCC defined it in a 2009 order commonly called the “Shot Clock Order,”<sup>2</sup> which, among other things, set specific timelines for how long a municipality has to decide a request to locate personal wireless facilities:

- A “reasonable period of time” is presumptively 90 days to process a request for a personal wireless service facility siting application that requests collocation;
- For all other requests, a “reasonable period of time” is presumptively 150 days.
- If the municipality fails to act within those time periods, then a presumptive “failure to act” under § 332(c)(2)(B)(v) has occurred, and wireless providers may seek judicial relief within 30 days of the failure to act. 47 U.S.C. § 332(c)(7)(B)(v). The municipality can rebut the presumption of reasonableness.
- The 90- and 150-day timeframes can be extended by mutual consent of the wireless provider and the municipality, which tolls the 30-day period to file suit.

---

<sup>1</sup> 47 U.S.C. § 253(a) states: “No State or local statute or regulation, or other State or local legal requirement, may prohibit or have the effect of prohibiting the ability of any entity to provide any interstate or intrastate telecommunications service.”

47 U.S.C. § 253(b) states: “Nothing in this section shall affect the ability of a State to impose, on a competitively neutral basis and consistent with section 254 of this title, requirements necessary to preserve and advance universal service, protect the public safety and welfare, ensure the continued quality of telecommunications services, and safeguard the rights of consumers.”

<sup>2</sup> See Petition for Declaratory Ruling to Clarify Provisions of Section 332(C)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, WT Docket No. 08-165, *Declaratory Ruling*, 24 FCC Rcd 13994 (2009), *recon. denied*, 25 FCC Rcd 11157 (2010), *aff’d sub nom. City of Arlington, Texas v. FCC*, 668 F.3d 229 (5th Cir. 2012), *aff’d*, 133 S.Ct. 1863 (2013).

- If the review period in a local ordinance is shorter or longer than the 90-day or 150-day periods, an applicant may pursue any remedies granted under local regulation when the applicable local review period has lapsed. So if the local review period is longer, the applicant can sue after 90 or 150 days, subject to the 30-day limit on filing, and may wait to pursue any remedies granted under local regulation until the applicable local time limit has expired. If the local review period is shorter, the applicant must wait until the 90-day or 150-day period has expired before bringing suit.
- If a municipality notifies the applicant within the first 30 days after receipt of an application that the application is incomplete, the time it takes for the applicant to respond to a request for additional information does not count towards the 90 or 150 days.

The FCC has also clarified that a municipality cannot deny a wireless facility siting application solely because service to the area in question is available from another provider.

The Fifth Circuit Court of Appeals has upheld the Shot Clock Order. *City of Arlington Texas v. FCC*, 668 F.3d 229 (5th Cir. 2012).

In February 2012, President Obama signed the "Middle Class Tax Relief and Job Creation Act of 2012" ("Spectrum Act"). Most of the Act relates to the extension of unemployment benefits and tax cut. One of its clauses, however, limits a municipality's power to review requests relating to modifying an existing cell tower or replacing existing equipment on a cell tower. A municipality must approve "any eligible facilities request" to modify an existing wireless tower or base station "that does not substantially change the physical dimensions of such tower or base station.". The Act defines "eligible facilities request" as any request to modify an existing cell tower or base station that involves collocating new equipment,<sup>3</sup> removing equipment, or replacing equipment. 47 U.S.C. § 1455(a).

On September 27, 2013, the FCC issued a *Notice of Proposed Rulemaking* aimed at expediting the deployment of wireless broadband facilities. The FCC has proposed clarification of terms such as "transmission equipment," "wireless," "existing wireless tower or base station," "collocation," "removal," and "substantially change the physical dimensions" that could affect local oversight and authority over the deployment of wireless equipment on existing facilities and structures. It also seeks comment on the remedies that should be available to enforce the Spectrum Act in cases where state or local governments fail to act on an applicant's request to deploy wireless facilities. The FCC has suggested that a "deemed granted" remedy could be imposed when a local government fails to act within a specified period of time. Comments are due 60 days, and reply comments 90 days, after the *Notice* is published in the Federal

---

<sup>3</sup> "Collocation" involves placing wireless equipment on preexisting structures rather than constructing new support structures.

Register. We are monitoring this issue and will notify you of changes in the law that could impact the City's Planning Commission.

MVM/

## **SECTION 10.194, DANE COUNTY CODE OF ORDINANCES**

### **PROCEDURE AND STANDARDS FOR THE PLACEMENT, CONSTRUCTION OR MODIFICATION OF COMMUNICATION TOWERS.**

This section provides the procedures and standards for issuance of conditional use permits for the placement, construction or modification of communication towers as defined in section 10.01(78m).

- (1) It is intended that conditional use permits shall be issued under this section to accommodate the expansion of wireless communication technology while minimizing the number of tower sites through the requirement that permitted towers be placed or constructed so that they may be utilized for the collocation of antenna arrays to the extent technologically and economically feasible.**
- (2) No conditional use permit for the placement or construction of a tower shall be issued unless the applicant presents to the committee credible evidence establishing to a reasonable degree of certainty the following:**
  - a. No existing communication tower is located within the area in which the applicant's equipment must be located; or**
  - b. No existing communication tower within the area in which the applicant's equipment must be located is of sufficient height to meet applicant's requirements and the deficiency in height cannot be remedied at a reasonable cost; or**
  - c. No existing communication tower within the area in which the applicant's equipment must be located has sufficient structural strength to support applicant's equipment and the deficiency in structural strength cannot be remedied at a reasonable cost; or**
  - d. The applicant's equipment would cause electromagnetic interference with equipment on the existing communication tower(s) within the area in which the applicant's equipment must be located, or the equipment on the existing communication tower(s) would cause interference with the applicant's equipment and the interference, from whatever source, cannot be eliminated at a reasonable cost; or**
  - e. The fees, costs or contractual provisions required by the owner in order to collocate on an existing communication tower are unreasonable relative to industry norms; or**
  - f. The applicant demonstrates that there are other factors that render existing communication towers unsuitable or unavailable and establishes that the public interest is best served by the placement or construction of a new communication tower.**

- (3) The cost of eliminating impediments to collocation shall be deemed reasonable if it does not exceed by 25 percent the cost of constructing a new tower on which to mount applicant's equipment.
- (4) In the event the committee determines that it is necessary to consult with a third party in considering the factors listed in subsection (2) above, all reasonable costs and expenses associated with such consultation shall be borne by the applicant. Failure to pay such costs and expenses or provide information requested by the committee shall be grounds for denial or revocation of a conditional use permit. The applicant may provide to the committee the names of consultants which the applicant believes are qualified to assist in resolving the issues before the committee.
- (5) In applying the standards and criteria set forth in section 10.255(2), D. C. Ords., to applications for conditional use permits for the placement or construction of a communication tower the committee shall, unless it is shown to be unreasonable, condition the grant of the permit upon the applicant placing or constructing the communication tower so as to accommodate, at a minimum height of 150 feet, the collocation of two additional antenna arrays similar in size and function to that placed on the tower by the applicant. Collocation sites need not be available on the tower as initially placed or constructed, provided that the tower will support at the specified minimum height the later addition of the required number of collocation sites. Notwithstanding the height and number of collocation sites on the tower as initially placed or constructed, the communication tower design approved and permitted under this ordinance shall be for a tower of 150 feet in height and shall include the required collocation sites. The holder of a permit under this section shall make the collocation sites required hereunder available for the placement of technologically compatible antenna arrays and equipment upon contractual provisions which are standard in the industry and at prevailing market rates allowing the permit holder to recoup the cost of providing the collocation sites and a fair return on investment.
- (6) Unless otherwise provided herein, a conditional use permit is required for any modification of a communication tower which significantly alters the appearance or structural integrity of the tower or which involves the installation of antenna or equipment differing in size and function from that previously installed on the tower. The committee shall apply the standards under section 10.255(2), D. C. Ords., when considering an application for a conditional use permit to allow the modification of an existing communication tower. In addition, the committee shall consider the reasonableness, based on economic and technological feasibility, of conditioning the grant of the conditional use permit upon modifying the tower in a manner which would accommodate the collocation of one or more additional antenna arrays.

- (7)** Upon written inquiry by the committee the recipient of a conditional use permit under this section shall have the burden of presenting credible evidence establishing to a reasonable certainty the continued compliance with all conditions placed upon the conditional use permit. Failure to establish compliance with all conditions placed upon the conditional use permit shall be grounds for revocation of the permit. In the event the committee determines that it is necessary to consult with a third party to ascertain compliance with conditions on a conditional use permit, all reasonable costs and expenses associated with such consultation shall be borne by the holder of the subject conditional use permit. Failure to pay such costs and expenses or provide information requested by the committee shall be grounds for revocation of the conditional use permit. The holder of the subject conditional use permit may provide to the committee the names of consultants which the permit holder believes are qualified to assist in resolving the issues before the committee. In any event, where a dispute arises under this ordinance involving an applicant for a conditional use permit and the holder of a conditional use permit hereunder, the committee may allocate consulting costs and expenses between the applicant and permit holder.
- (8)** A conditional use permit shall not be required for collocation on an existing tower permitted under this section, provided the collocated antenna array or equipment is similar in size and function to that installed by the holder of the conditional use permit for the tower, does not significantly alter the appearance or structural integrity of the tower approved and permitted under this section, and is fully in compliance with all conditions contained in the original conditional use permit. The holder of the conditional use permit for any tower on which collocation occurs shall within 30 days of such collocation provide the committee with written notification of the identity of the collocater and the nature of the equipment installed. Within 30 days of the date on which any collocated use ceases, the permit holder shall provide the committee with written notice of the cessation of such use.
- (9)** The holder of a conditional use permit for a tower and any user collocating under this ordinance shall each be permitted to construct a building of no more than 14 feet in height and 314 square feet in floor area for use directly incidental and necessary to the use of the tower. Two or more users of the tower may build a single building with a floor area of no more than 314 square feet per user sharing the building. Buildings constructed or used by tower collocaters shall be subject to conditions established for the conditional use permit for the tower.
- (10)** Conditional use permits issued hereunder shall identify the primary type or types of transmission equipment which is to be placed on the subject communication tower. Any communication tower on which the transmission equipment so identified is no longer placed or used for a continuous period of 12 months shall, upon notification by the committee, be removed by the holder of the conditional use permit issued under this section. If the tower is not removed



within 60 days of such notification, the county may remove the tower at the expense of the holder of the conditional use permit.

- (11) The committee may require that an applicant for a conditional use permit under this section provide information regarding the applicant's then current plans for future placement or construction of communication towers in Dane County in addition to the tower which is the subject of the application.

[History: cr., OA 57, 1996-97, pub. 09/02/97.]

B. Staff Report Pl 14-54, Towers

City Planner Abboud reviewed the staff report.

The Commission discussed information from provided from other municipalities and discussion points included:

- There will probably always be issues with most locations
- Should the city plan for locations that they can be allowed
- Tower location is generally dictated by where the coverage is needed
- We won't be able to get around having them in residential districts
- There are federal regulations that come into play that over rule other regulations, particularly for cellular towers
- Limiting tower height relating to property set backs
- Co-locating towers blending in with the building structure
- Everyone has cell phones and land lines are going away, and having cell phones is a matter of public safety
- It would be beneficial to hear from the wireless communication industry
- Determining at what point would a tower have to be approved by CUP

Commissioner Stead made the following suggestions:

- It has to meet all the FCC requirements with spectral analysis and location, also the coverage are they propose to have with the tower, including back scatter and side scatter, main load, and what they are trying hit on the path.
- Tell what the frequencies are and whether or not any other radio device in the area will be affected.
- Include alternate locations that can be considered.
- Relating to wind energy towers, there are transmission lines that incorporate wind harvesting capability in them, as well as on home generators that are not obtrusive. Those things may want to be considered relating to wind towers.
- Regulate by zoning district, regulate by height, structural safety maybe, setback differences yes, and in the CUP process ask about alternative considerations and spectral analysis according to the FCC to tell us if they are reasonable in the locations.
- The FCC will regulate and mandate in their broadband initiatives.

Staff will work with the information tonight and try to come up with suggestions on regulations.

Commissioner Erickson was excused and left the meeting.

### **New Business**

A. Staff Report PL 14-52, Creating the East End Residential Commercial Mixed Use District

The Commission began reviewing a list of uses to be considered in this district during the worksession. They resumed their review and went through the end of the list. They will look at dimensional requirements and guidelines on landscaping and concealment of certain things.



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

Planning  
491 East Pioneer Avenue  
Homer, Alaska 99603

Planning@ci.homer.ak.us  
(p) 907-235-3106  
(f) 907-235-3118

## Staff Report PL 14-54

TO: Homer Advisory Planning Commission  
THROUGH: Rick Abboud, City Planner  
FROM: Julie Engebretsen, Deputy City Planner  
DATE: June 4, 2014  
SUBJECT: Towers

---

### Introduction

Staff has begun researching communication tower ordinances. There is a lot of information available! The attachments are provided for staff and the Commission to begin familiarizing ourselves with the terms and types of regulations found in other parts of the state. Staff found the information from Juneau particularly helpful. Towers in Juneau and Mat-Su are contentious and draft regulations are regularly the subject of newspaper headlines.

In the Mat-Su Borough, a special task form was formed, and recently concluded their work. However, their recommendations were not adopted. So for the time being the Borough has some regulation, but they may not be addressing the concerns of citizens in that region. This issue has been ongoing for at least two years. The Juneau Assembly will be considering their draft ordinance in June. Staff is watching the process to see if they are more successful than the Mat-Su Borough with these new regulations.

Included in the attachments is code information from Kenai, Soldotna, Mat-Su Borough, and several attachments submitted by Kevin Dee, Bridge Creek Watershed PD land owner. Mr. Dee pointed out to staff that Juneau is undergoing a lengthy process to address towers. Staff has included the Juneau information as background material; there is great information on the history of the industry and changes in technology.

### Next Steps:

- Staff will try to boil down the types of regulations and the options for Homer. Some common themes appear to be: Regulate by zoning district, regulate by height, regulate for structural safety, and by setback distances.
- Staff will speak with other planning departments on their regulations and the outcome of that regulation.

- Staff will also speak with representatives of the wireless communication industry, and may try to arrange a guest speaker at a future work session.

**Attachments**

1. Soldotna code language
2. City of Kenai 14.20.255 communications towers and communications antenna's.
3. CityScape Consultants document, part of Juneau tower process underway
4. City and Borough of Juneau Draft Wireless Telecommunications Master Plan
5. Draft ordinance from Juneau
6. Mat-Su definitions and code for Tall Towers
7. Sample ordinance provided by Mr. Dee
8. Ordinance 14-18, Homer City Council and minutes of April 28<sup>th</sup> Council meeting
9. Staff report 14-47 and minutes of May 21<sup>st</sup> HAPC meeting

**Soldotna code language**

"Transmission Towers (Radio, Television, Other)" means a tall structure or tower situated to receive or transmit microwave impulses which carry radio, telephone or television messages.

Rural Residential zone language, CUP: **Transmission towers**, including radio, television, and other communication **towers**, provided a setback equal to the height of the **tower** or structure is maintained on all sides of the structure and no approach or other airspace zones of the airport are penetrated;

Towers are allowed by CUP in the following zones: Commercial, Parks and recreation, Institutional, Industrial.

**Kenai Municipal Code**

**Up Previous Next Main Search Print No Frames**

Title 14 PLANNING AND ZONING  
Chapter 14.20 KENAI ZONING CODE

*towers allowed outright or by CUP  
in all but one zone, citywide*

**14.20.255 Communications towers and communications antenna(s).**

(a) The purpose of this section is to establish a process, rules and standards for the construction of wireless telecommunication facilities to:

- (1) Protect and promote the public health, safety and welfare;
- (2) Provide guidelines for the siting and design of wireless communication facilities;
- (3) Protect the City’s environmental resources and to minimize adverse impacts on visual resources;
- (4) Ensure that wireless telecommunication facilities are compatible with adjacent land uses;
- (5) Minimize the number of towers by encouraging the joint use (co-location) of facilities and by maximizing the use of existing towers and structures;
- (6) Allow competition in telecommunications service; and
- (7) Enhance the ability to provide wireless telecommunication services to City residents, businesses and visitors.

(b) Definitions. For purpose of this section, the following definitions apply:

- (1) “Communications tower” means a tower, monopole, pole or similar structure which supports a telecommunications antenna operated above ground in a fixed location, free-standing, guyed, or on a building or other structure. An amateur radio tower is not a “communications tower” under this section.
- (2) “Communications antenna(s)” means any device used for the transmission or reception of radio, television, wireless telephone, pager, commercial mobile radio service or any other wireless communications signals, including without limitation omni-directional or whip antennas and directional or panel antennas, owned or operated by any person or entity required to be licensed by the Federal Communications Commission (FCC) to operate such device. This definition shall not include private residence mounted satellite dishes or television antennas or amateur radio equipment including without limitation ham or citizen band radio antennas.
- (3) “Carrier on wheels” or “cell on wheels (COW)” means a self-contained site that can be moved to a location and set up to provide personal wireless services on a temporary or emergency basis. A COW is normally vehicle-mounted and contains a telescoping boom as the antenna support structure.
- (4) “Height” of a communications tower is the distance from the base of the tower, including any foundation, to the top of the structure.
- (5) “Stealth communications facility” means any telecommunications tower/antenna that is integrated as an architectural feature of a structure so that the purpose of the facility for providing wireless services is not readily apparent to a casual observer.

(c) Permits.

(1) Administrative Permit.

(A) If allowed as a principal permitted use under KMC 14.22.010 a communications tower shall be permitted by the Planner upon a determination that all of the applicable conditions of this section have been met.

(B) **Permitted Height Above Structure.** In all zones, the Planner may issue a permit for a communications tower to be mounted on an existing building, or structure other than a freestanding or guyed communications tower, as long as it does not extend more than thirty feet (30') above the

highest part of the structure and the applicable conditions of this section have been met. For example, if a building was constructed to its maximum allowed height of thirty-five feet (35') in a zone, a communications tower/antenna may be placed on it provided that it is not more than thirty feet (30') above the highest part of the building.

(2) **Conditional Use Permit.** If allowed as a conditional use under KMC 14.22.010 and after notice and public hearing as set forth under KMC 14.20.280, a communications tower shall be permitted by the Planning and Zoning Commission upon a determination that all of the conditions of this section and KMC 14.20.150 have been met.

(3) **Application Requirements.** A written narrative shall be submitted with the application explaining why the proposed site has been chosen, why the proposed telecommunication facility is necessary, why the requested height was chosen, ability of the facility to accommodate other providers, and any other information requested. The applicant for a permit for construction of a communications tower must file with the Planning and Zoning Department an application accompanied by the following documents, if applicable:

(A) One (1) copy of specifications for proposed structures and communications antenna(s), including description of design characteristics and material;

(B) A site plan drawn to scale showing property boundaries, tower location, tower height, guy wires and anchors, existing structures, photographs or elevation drawing depicting typical design of proposed structures, parking fences, landscape plan, and existing land uses on adjacent property;

(C) A current map, or update for an existing map on file, showing locations of applicant's communications towers/antenna(s), facilities and proposed communications towers/antenna(s) which are reflected in public records, serving any property within the city;

(D) A report from a structural engineer registered under AS 08.48 in the State of Alaska showing the communications tower/antenna capacity by type and number, and a certification that the tower/antenna is designed to withstand winds in accordance with the latest revision of ASI/EIA/TIA/222 standards ("Structural standards for steel communications antenna towers and communications antenna supporting structures");

(E) Identification of the owners of the communications tower/antenna(s) and equipment to be located on the site;

(F) Written authorization from the site owner for the application;

(G) Evidence that a valid FCC license for the proposed activity has been issued;

(H) A line of sight analysis showing the potential visual and aesthetic impacts on adjacent residential districts including photo simulations of the proposed facility from each direction shall be provided showing the tower, all antennas, structures, and equipment facilities, demonstrating the true impact of the facility on the surrounding visual environment. The Planning Department will assist in specifying recommended vantage points and the requested number of photo simulations;

(I) A written agreement, on a form approved by the City Attorney, to remove the communications tower/antenna(s) within one hundred eighty (180) days after the communications tower/antenna(s) is substantially unused for a period of twelve (12) consecutive months. If a facility is unused or if a facility becomes obsolete due to changing

technology, it shall be the responsibility of the tower owner and/or property owner to remove the tower and to restore the site to its original condition within sixty (60) days. If the tower is not removed within this sixty (60) day period, the City of Kenai may notify the tower owner that it will contract for removal at the cost of the owner.

(J) A cell phone coverage map showing the applicant's cell phone coverage within the City of Kenai;

(K) Evidence that applicable conditions in subsection (b)(4) are met;

(L) Additional information required by the Planning and Zoning Department for determination that all applicable zoning laws are met.

(4) Conditions. For permits issued under subsections (b) and (c) of this section, the applicant must show that all applicable conditions are met as follows:

(A) Location and Visual Impact. The proposed communications tower/antenna or accessory structure will be placed in a reasonably available location which will minimize the visual impact on the surrounding area and allow the facility to function in accordance with minimum standards imposed by the applicable communications regulations and applicant's technical design requirements.

(B) Inability to Locate on an Existing Structure. The applicant must show that a proposed communications tower/antenna and equipment cannot be accommodated and function as required by applicable regulations and applicant's technical requirements without unreasonable modifications on any existing structure or tower under control of the applicant.

(C) Necessity for Location in a Residential District. Applicant for a permit in a residential district must show that the area cannot be adequately served by a facility placed in a nonresidential district for valid technical reasons.

(D) Location on public property or other private property not suitable. Prior to consideration for a permit for location on private property which must be acquired, applicant must show that available publicly owned sites, and available privately owned sites occupied by a compatible use, are unsuitable for operation of the facility under applicable communications regulations and applicant's technical design requirements.

(E) Design for Future Use. The applicant must show that a new communications tower is designed to accommodate additional communications antenna(s) equal in number to applicant's present and reasonable foreseeable future requirements.

(F) Safety Code Met. The applicant must meet all applicable health, nuisance, noise, fire building and safety code requirements.

(G) Paint. Towers and attached antennas must be painted or coated in a color that blends with the surrounding environment. Muted colors, earth tones, and subdued hues, such as gray, shall be used. All associated structures such as equipment buildings, including the roofs, shall be painted with earth tone colors unless otherwise required under KMC 14.20.150 or by State or Federal law or regulations.

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

(I) FCC Rules. The applicant must show by certificate from an engineer properly licensed in the State of Alaska that the proposed facility will contain only equipment meeting FCC rules.



(J) Application of Zoning Rules. Land development regulations, visibility, fencing, screening, landscaping, parking, access, lot size, exterior illumination, sign, storage, and all other general zoning district regulations except setback height, shall apply to the use. Setback and height conditions in this section shall apply.

(K) Setback. In all zones, a communications tower must be a minimum distance equal to the height of the communications tower from all lot lines. No variance from the setback requirements of this section may reduce the minimum setback distance to below a distance equal to fifty percent (50%) of the height of the tower from a lot line.

(L) No advertising is permitted of the communication tower with the exception of identification signage.

(M) No signs or lighting shall be mounted on a communications tower except those reasonably needed for safety purposes or as required by the Federal Communications Commission, Federal Aviation Administration or other government agency with jurisdiction.

(N) The communications towers shall be secured by a fence with a minimum height of eight feet (8') to limit accessibility to the public.

(d) Height.

(1) The height limitation on communications towers permitted or allowed by conditional use are as follows:

(A) In the RR-1, RS, RS1, RS2, RU, CC, LC CMU and TSH districts a freestanding communications tower with height not exceeding thirty-five feet (35') may be permitted; height exceeding thirty-five feet (35') requires a variance.

(B) In the CG, ED, R, IL and C Districts a freestanding or guyed communications tower with height not exceeding one hundred fifty feet (150') may be permitted; height exceeding one hundred fifty feet (150') requires a variance.

(C) In the IH District a freestanding or guyed communications tower with height not exceeding three hundred feet (300') may be permitted; height exceeding three hundred feet (300') requires a variance.

(D) In the RR district a freestanding or guyed communications tower with height not exceeding one hundred fifty feet (150') may be permitted on lots larger than ten (10) acres; height exceeding one hundred fifty feet (150') requires a variance.

(E) In the RR District a freestanding tower with height not exceeding thirty-five feet (35') may be permitted on lots of one (1) acre or less; height exceeding thirty-five feet (35') requires a variance.

(F) Height Limitation Near the Kenai Municipal Airport. Regardless of zone, all communications tower(s)/antenna(s) in aircraft-approach zones and within eight thousand feet (8,000') of the main runway shall be subject to height limitation on the basis of obstruction criteria as shown on the current FAA-approved Kenai Airport Master Plan drawings which are on file at Kenai City Hall. No variance may be granted under KMC 14.20.190 that deviates from this requirement.

(G) Height Variances. A freestanding or guyed communications tower/antenna exceeding height limitations may be permitted by the Planning and Zoning Commission as a variance under KMC 14.20.180. No height variance may be granted that exceeds one hundred fifty percent (150%) of the maximum height allowed under this section.

(e) Amateur Radio Towers. The Planner shall issue a permit for an amateur radio tower if the applicant meets the criteria of KMC Title 4 (Uniform Codes) and AS 29.35.141 (including height limitations).

(f) Antennas Located on Existing Structures.

(1) Antennas and accessory equipment are permitted in all zoning districts when located on any existing structure, including, but not limited to, buildings, water tanks, utility poles, broadcast towers or any existing support structure in accordance with the requirements of this section.

(2) Antennas and accessory equipment may exceed the maximum building height limitations, subject to the height limitation of this section and provided the antennas and accessory equipment are in compliance with the requirements of this section.

(3) Each antenna mounted on an existing structure and any accessory equipment shall meet the following standards:

(A) Omni-directional or whip antennas shall not exceed twenty feet (20') in length and not exceed seven inches (7") in diameter and shall be of a color that is identical or similar to the color of the supporting structure to make the antenna and related accessory equipment visually unobtrusive.

(B) Directional or panel antennas shall not exceed ten feet (10') in length and two feet (2') in width and shall be of a color that is identical or similar to the color of the supporting structure to make the antenna and related accessory equipment visually unobtrusive.

(C) Cylinder-type antennas shall not exceed ten feet (10') in length and not exceed twelve inches (12") in diameter and shall be of a color that is identical to or similar to the color of the supporting structure to make the antenna and related accessory equipment visually unobtrusive.

(D) Satellite and microwave dishes shall not exceed ten feet (10') in diameter. Dish antennas greater than three feet (3') in diameter shall be screened with an appropriate architectural treatment that is compatible with or integral to the architecture of the building to which they are attached. This screening requirement shall not apply to dishes located upon towers or monopoles.

(E) Other antenna types not specifically mentioned above shall be permitted if they are not significantly greater in size and will have a visual impact no greater than the antennas listed above. This provision is specifically included in this section to allow for future technological advancements in the development of antennas.

(g) Stealth Communications Facilities. It is the intent of this section that use of stealth communications facilities within the City of Kenai is encouraged.

(h) Variances. Variances from other general zoning district regulations, including setbacks, may be granted as allowed under KMC 14.20.180.

(i) Exemptions. Ordinary maintenance of existing telecommunications towers, antennas and support structures shall be exempt from the requirements of this section. In addition, the following facilities are not subject to the provisions of this section: (1) antennas used by residential households solely for noncommercial broadcast and radio reception; (2) satellite antennas used solely for residential and household purposes; (3) the Planner may issue an administrative permit for COWS to be used temporarily for testing purposes or emergency communications. "Temporary" shall mean the COW is removed within seventy-two (72) hours following the termination of testing or emergency communication needs.

(j) Decision. A decision to issue or deny a permit must be in writing and supported by substantial evidence in the record. No decision regulating the placement, construction or modification of a communications tower may be made on the basis of environmental (i.e., health) effects of radio frequency emission if the facility complies with Federal Communications Commission (FCC) regulations.

(k) Appeals. The applicant may appeal to the Board of Adjustment pursuant to KMC 14.20.290. Failure of the Planning and Zoning Commission to act on an application which is determined to be complete

under this section within forty-five (45) days, unless extended by agreement, may be considered by the applicant to be a denial of the permit which is subject to appeal to the Board of Adjustment.

(Ord. 2425-2009)



*From Juneau process*

### **Parameters of Local Jurisdiction over Wireless Infrastructure**

The development and deployment of wireless infrastructure (e.g. towers) has presented challenges to local government since the beginning of the wireless revolution in the early 1990's. Following the sale of spectrum by the US Government, the various wireless providers who paid millions wanted to deploy service and receive a return on their investment, but found they were being stymied by local government's regulations on construction of towers.

The industry went back to Congress for relief and as a result a portion of the 1996 Telecommunications Act (Section 704, codified at 47 USC §332(c)) contained the following provisions:

(A) the regulation of placement, construction, and modification of personal wireless services facilities by any state or local government shall not unreasonably discriminate among providers of functionally equivalent services;

(B) the regulation of the placement, construction, and modification of personal wireless service facilities by any state or local government shall not prohibit or have the effect of prohibiting the provision of personal wireless services;

(C) once an applicant files a request for authorization to place, construct, or modify a personal wireless service facility, the governmental entity shall act on the application "within a reasonable period of time after the request is duly filed";

(D) no state or local governmental entity may regulate the placement, construction, or modification of personal wireless service facilities on the basis of environmental effects of radio frequency emissions to the extent that such emissions comply with FCC regulations; and

(E) any decision by a state or local governmental entity to deny an application to place, construct, or modify a personal wireless service facility shall be in writing and supported by substantial evidence contained in a written record.

There's been plenty of court decisions since 1996 interpreting Section 704 and what constitutes "unreasonable discrimination" and prohibition of services, so that part of the law is fairly settled at this point as to what is permitted and what isn't. So the next issue that the wireless industry had with local government was with how long it took to process applications for wireless siting, since Section 704 required local government to act "within a reasonable period of time". The industry told the FCC that many local governments sat on their applications for extended periods of time and that services could not be deployed because of the delays. As a result of their desire to get speed into the process, the industry first went to the FCC, and had the FCC issue a Declaratory Ruling in 2009 requiring local government to

move along applications, in the case of co-locations requiring decisions in 90 days and for new locations in 150 days. This put an administrative burden on local government to make decisions which they may not be adequately informed upon in an expedited fashion, or otherwise they will be deemed approved.

Arlington and San Antonio Texas challenged the FCC's authority to impose those timelines on local government decisions, and the case went all the way to the Supreme Court, which in the 2013 session found that the FCC did in fact have authority to impose those timelines on local government, and thus (absent an intervening state law with different timelines) a local government is bound to make a decision on a wireless facility application in either 90 or 150 days, depending on the type of facility. The clock starts upon submission of a "complete" application and the local government must notify the applicant within 30 days of initial submission if the application is incomplete, otherwise the clock continues to run. If the local government fails to adjudicate an application within those timelines, the applicant can go to US District Court and file suit against the community, which the court is supposed to address on an "expedited basis". Presumptions will be made in favor of the applicant in the case of a community failing to act within the timeline, with the community being required to overcome those presumptions with evidence as to why a decision could not be reached within those parameters.

Still unsatisfied with local governments' efforts to regulate placement of wireless facilities, the wireless industry went back to Congress and got a small paragraph inserted in the Middle Class Tax Relief and Job Creation Act of 2012, known as Section 6409 (now codified at 47 USC §1455(a)), which says:

**SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.**

**(a) FACILITY MODIFICATIONS.**

(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.

Section 6409 mandates that local government **MUST** approve certain types of applications if they met the prescribed standards. Note however that Congress did not define what it meant by “substantially change the physical dimensions” or what was an “existing wireless tower or base station”. In the absence of any standards or definitions, the wireless industry expressed its opinions on Congressional intent as to those terms, which led to conflicting findings.

Into the void stepped the FCC in January 2013, issuing an “Informal Guidance” to assist local government in ascertaining Congressional intent. The “Informal Guidance” had no binding effect, but was useful in illustrating what the FCC thought was the intent of Congress in Section 6409. A full copy of the “Informal Guidance” is attached to this memo. In the Informal Guidance, the FCC adopted a previously developed definition of “substantially change” from other legislation to be the definition for purposes of Section 6409, involving increases in height, width, addition of equipment and expansion of compound size. The “Informal Guidance” also offered its interpretation of what an “existing wireless tower or base station” meant, finding that a wireless tower was “any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities...” and an existing base station was “a structure that *currently* supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station.” (emphasis added). As noted above, the FCC’s “Informal Guidance” had no binding effect however, and was merely a statement of what the FCC staff thought Congress intended. Nevertheless, the wireless industry adopted the “Informal Guidance” in part and lobbied for new state legislation in several jurisdictions which used parts of the “Informal Guidance” as standards to require local governments in those states to require approval of wireless infrastructure (see recent legislation in North Carolina and Georgia as examples<sup>1</sup>).

Unsatisfied with just the “Informal Guidance” and emboldened by the Supreme Court’s affirmation of their authority to impose certain conditions upon the local approval of wireless facilities in the 2013 “Shot Clock” ruling, the FCC issued a Notice of Proposed Rulemaking<sup>2</sup> in September 2013 soliciting comments from all interested parties on a variety of wireless siting issues, including:

- Streamlining the environmental and historic preservation review processes for newer technologies, including small cells and distributed antenna systems;
- Removing barriers to the deployment of temporary towers, that are used in cases of emergencies or to add capacity during short term events;
- The meaning of terms included in a provision of the Middle Class Tax Relief and Job Creation Act of 2012 which states “a State or local government may not deny, and

---

<sup>1</sup> North Carolina House Bill 664, S.L. 2013-185, Georgia House Bill 176

<sup>2</sup> *Acceleration of Broadband Deployment by Improving Wireless Facilities Siting Policies (FCC 13-122)*

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;” and

- Clarification of issues addressed in the Commission’s “shot clock” order which set time periods for state and local governments to complete review of wireless siting applications.

Well over 200 comments were filed by local government and industry representatives, as well as the general public, and the FCC has not yet issued a Report and Order arising from the Notice of Proposed Rulemaking, but it is anticipated that the Report and Order will adopt the 4 prong test for “substantially change” used in the “Informal Guidance” as the guidepost for determining if an application for collocation MUST be approved without public hearing. The greater question will be what the FCC decides happens IF a local government fails to meet the Shot Clock timelines on an application, as one option would be a “deemed approved” which would permit the applicant to just obtain a building permit and construct if the local government failed to act. A host of other issues covered by the NPRM will also be decided in the Report and Order, and local governments will likely have to adapt to those issues absent a successful judicial challenge to the FCC’s findings.

Based on the current state of federal regulation of wireless infrastructure, it is important for local government to balance their legitimate local planning and zoning requirements with the expressed federal preference for the deployment of wireless infrastructure to ensure the availability of a variety of wireless services to all Americans. It is anticipated with the forthcoming 2015 TV Spectrum auction (where TV stations will give up some of their spectrum for the FCC to auction off to wireless providers) that the demand for further infrastructure will only increase to permit the auction winners to recover their investments in that spectrum. It is therefore important to have regulations that accomplish your local objectives while still remaining compliant with the applicable federal rules, and having the ability to adjust those regulations as needed when further clarification of the federal rules becomes available.



# PUBLIC NOTICE

Federal Communications Commission  
445 12<sup>th</sup> St., S.W.  
Washington, D.C. 20554

News Media Information 202 / 418-0500  
Internet: <http://www.fcc.gov>  
TTY: 1-888-835-5322

---

## WIRELESS TELECOMMUNICATIONS BUREAU OFFERS GUIDANCE ON INTERPRETATION OF SECTION 6409(a) OF THE MIDDLE CLASS TAX RELIEF AND JOB CREATION ACT OF 2012

DA 12-2047  
January 25, 2013

On February 22, 2012, the Middle Class Tax Relief and Job Creation Act of 2012 (Tax Act)<sup>1</sup> became law. Section 6409(a) of the Tax Act provides that a state or local government “may not deny, and shall approve” any request for collocation, removal, or replacement of transmission equipment on an existing wireless tower or base station, provided this action does not substantially change the physical dimensions of the tower or base station.<sup>2</sup> The full text of Section 6409(a) is reproduced in the Appendix to this Public Notice.

To date, the Commission has not received any formal petition to interpret or apply the provisions of Section 6409(a). We also are unaware of any judicial precedent interpreting or applying its terms. The Wireless Telecommunications Bureau has, however, received informal inquiries from service providers, facilities owners, and state and local governments seeking guidance as to how Section 6409(a) should be applied. In order to assist interested parties, this Public Notice summarizes the Bureau’s understanding of Section 6409(a) in response to several of the most frequently asked questions.<sup>3</sup>

### What does it mean to “substantially change the physical dimensions” of a tower or base station?

Section 6409(a) does not define what constitutes a “substantial[] change” in the dimensions of a tower or base station. In a similar context, under the *Nationwide Collocation Agreement* with the Advisory Council on Historic Preservation and the National Conference of State Historic Preservation Officers, the Commission has applied a four-prong test to determine whether a collocation will effect a “substantial increase in the size of [a] tower.”<sup>4</sup> A proposed collocation that does not involve a substantial increase in

---

<sup>1</sup> Middle Class Tax Relief and Job Creation Act of 2012, Pub. L. 112-96, H.R. 3630, 126 Stat. 156 (enacted Feb. 22, 2012) (Tax Act).

<sup>2</sup> *Id.*, § 6409(a).

<sup>3</sup> Although we offer this interpretive guidance to assist parties in understanding their obligations under Section 6409(a), *see, e.g., Truckers United for Safety v. Federal Highway Administration*, 139 F.3d 934 (D.C.Cir. 1998), the Commission remains free to exercise its discretion to interpret Section 6409(a) either by exercising its rulemaking authority or through adjudication. With two exceptions not relevant here, the Tax Act expressly grants the Commission authority to “implement and enforce” this and other provisions of Title VI of that Act “as if this title is a part of the Communications Act of 1934 (47 U.S.C. 151 et seq.)” Tax Act § 6003.

<sup>4</sup> 47 C.F.R. Part 1, App. B, *Nationwide Programmatic Agreement for the Collocation of Wireless Antennas*, § I.C (*Nationwide Collocation Agreement*).



size is ordinarily excluded from the Commission's required historic preservation review under Section 106 of the National Historic Preservation Act (NHPA).<sup>5</sup> The Commission later adopted the same definition in the *2009 Declaratory Ruling* to determine whether an application will be treated as a collocation when applying Section 332(c)(7) of the Communications Act of 1934.<sup>6</sup> The Commission has also applied a similar definition to determine whether a modification of an existing registered tower requires public notice for purposes of environmental review.<sup>7</sup>

Under Section I.C of the *Nationwide Collocation Agreement*, a "substantial 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 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.

Although Congress did not adopt the Commission's terminology of "substantial increase in size" in Section 6409(a), we believe that the policy reasons for excluding from Section 6409(a) collocations that substantially change the physical dimensions of a structure are closely analogous to those that animated the Commission in the *Nationwide Collocation Agreement* and subsequent proceedings. In light of the Commission's prior findings, the Bureau believes it is appropriate to look to the existing definition of "substantial increase in size" to determine whether the collocation, removal, or replacement of equipment

---

<sup>5</sup> See 16 U.S.C. § 470f, see also 47 C.F.R. § 1.1307(a)(4) (requiring applicants to determine whether proposed facilities may affect properties that are listed, or are eligible for listing, in the National Register of Historic Places).

<sup>6</sup> See Petition for Declaratory Ruling to Clarify Provisions of Section 332(c)(7)(B) to Ensure Timely Siting Review and to Preempt Under Section 253 State and Local Ordinances that Classify All Wireless Siting Proposals as Requiring a Variance, WT Docket No. 08-165, *Declaratory Ruling*, 24 FCC Rcd. 13994, 14012, para. 46 & n.146 (2009) (*2009 Declaratory Ruling*), recon. denied, 25 FCC Rcd. 11157 (2010), pet. for review denied sub nom. *City of Arlington, Texas v. FCC*, 668 F.3d 229 (5<sup>th</sup> Cir.), cert. granted, 113 S.Ct. 524 (2012); 47 U.S.C. § 332(c)(7).

<sup>7</sup> See 47 C.F.R. § 17.4(c)(1)(B); National Environmental Policy Act Compliance for Proposed Tower Registrations, WT Docket No. 08-61, *Order on Remand*, 26 FCC Rcd. 16700, 16720-21, para. 53 (2011).

on a wireless tower or base station substantially changes the physical dimensions of the underlying structure within the meaning of Section 6409(a).

### **What is a “wireless tower or base station”?**

A “tower” is defined in the *Nationwide Collocation Agreement* as “any structure built for the sole or primary purpose of supporting FCC-licensed antennas and their associated facilities.”<sup>8</sup> The Commission has described a “base station” as consisting of “radio transceivers, antennas, coaxial cable, a regular and backup power supply, and other associated electronics.”<sup>9</sup> Section 6409(a) applies to the collocation, removal, or replacement of equipment on a wireless tower or base station. In this context, we believe it is reasonable to interpret a “base station” to include a structure that currently supports or houses an antenna, transceiver, or other associated equipment that constitutes part of a base station.<sup>10</sup> Moreover, given the absence of any limiting statutory language, we believe a “base station” encompasses such equipment in any technological configuration, including distributed antenna systems and small cells.

Section 6409(a) by its terms applies to any “wireless” tower or base station. By contrast, the scope of Section 332(c)(7) extends only to facilities used for “personal wireless services” as defined in that section.<sup>11</sup> Given Congress’s decision not to use the pre-existing definition from another statutory provision relating to wireless siting, we believe the scope of a “wireless” tower or base station under Section 6409(a) is not intended to be limited to facilities that support “personal wireless services” under Section 332(c)(7).

### **May a state or local government require an application for an action covered under Section 6409(a)?**

Section 6409(a) states that a state or local government “may not deny, and shall approve, any eligible facilities request....” It does not say that a state or local government may not require an application to be filed. The provision that a state or local government must approve and may not deny a request to take a covered action, in the Bureau’s view, implies that the relevant government entity may require the filing of an application for administrative approval.

---

<sup>8</sup> See *Nationwide Collocation Agreement*, § I.B.

<sup>9</sup> See Implementation of Section 6002(b) of the Omnibus Budget Reconciliation Act of 1993, WT Docket No. 10-133, *Annual Report and Analysis of Competitive Market Conditions With Respect to Mobile Wireless, Including Commercial Mobile Services, Fifteenth Report*, 26 FCC Rcd. 9664, 9481, para. 308 (2011).

<sup>10</sup> See also 47 C.F.R. Part 1, App. C, *Nationwide Programmatic Agreement Regarding the Section 106 National Historic Preservation Act Review Process*, § II.A.14 (defining “tower” to include “the on-site fencing, equipment, switches, wiring, cabling, power sources, shelters, or cabinets associated with that Tower but not installed as part of an Antenna as defined herein”).

<sup>11</sup> 47 U.S.C. § 332(c)(7)(A). “Personal wireless services” is in turn defined to mean “commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services.” *Id.* § 332(c)(7)(C)(1).

**Is there a time limit within which an application must be approved?**

Section 6409(a) does not specify any period of time for approving an application. However, the statute clearly contemplates an administrative process that invariably ends in approval of a covered application. We believe the time period for processing these applications should be commensurate with the nature of the review.

In the *2009 Declaratory Ruling*, the Commission found that 90 days is a presumptively reasonable period of time to process collocation applications.<sup>12</sup> In light of the requirement of Section 6409(a) that the reviewing authority “may not deny, and shall approve” a covered request, we believe that 90 days should be the maximum presumptively reasonable period of time for reviewing such applications, whether for “personal wireless services” or other wireless facilities.

Wireless Telecommunications Bureau contact: Maria Kirby at (202) 418-1476 or by email: [Maria.Kirby@fcc.gov](mailto:Maria.Kirby@fcc.gov).

-FCC-

For more news and information about the Federal Communications Commission please visit: [www.fcc.gov](http://www.fcc.gov)

---

<sup>12</sup> See *2009 Declaratory Ruling*, 24 FCC Rcd. at 14012-13, paras. 46-47.

## **APPENDIX**

### **SEC. 6409. WIRELESS FACILITIES DEPLOYMENT.**

#### **(a) FACILITY MODIFICATIONS.**

(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.

# **C i t y   a n d   B o r o u g h   o f   J u n e a u ,   A K**

## ***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](http://www.cityscapegov.com)

## Table of Contents

<b>Chapter 1 Wireless Telecommunications Master Plan</b>	<b>3</b>
<b>Chapter 2 The Telecommunications Industry</b>	<b>10</b>
Introduction	10
Wireless handsets	10
Wireless facilities	12
Wireless infrastructure	17
Antenna network capacity	17
Summary	19
<b>Chapter 3 Engineering Analysis</b>	<b>20</b>
Search area within proposed coverage areas	20
Search Area Radii	20
Tower height and antenna mounting elevation considerations	21
The industry and infrastructure	29
Theoretical coverage from existing antenna locations	32
Future tower site projections	37
<b>Chapter 4 Federal Telecommunications Act, Rulings and Policies</b>	<b>40</b>
Wireless infrastructure and local zoning	40
Federal Telecommunications Act of 1996	41
Federal Communications Commission Declaratory Ruling November 18, 2009	42
The Middle Class Tax Relief & Job Creation Act of 2012 – HR 3630	44
<b>Chapter 5 Inventory</b>	<b>47</b>
Purpose of the inventory	47
Procedure	47
Inventory catalog existing antenna(s) and towers	47
Structural evaluation	47
<b>Appendix A</b>	<b>79</b>

## 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.

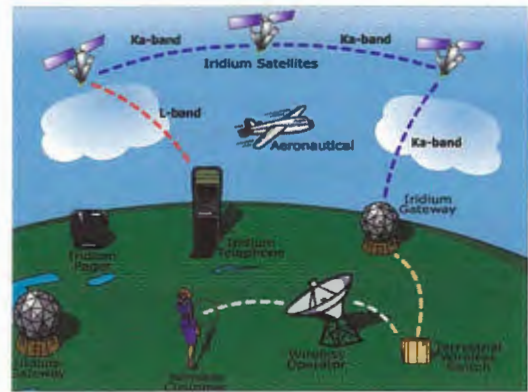
Unlike 1G and 2G (initial launch of cellular and PCS wireless service with the goal and objective of providing initial wireless coverage); 3G through 5G deployments will be focused on compressing more data in existing and future bandwidths. Fourth generation network technology (the platform for smartphones)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

### Wireless facilities

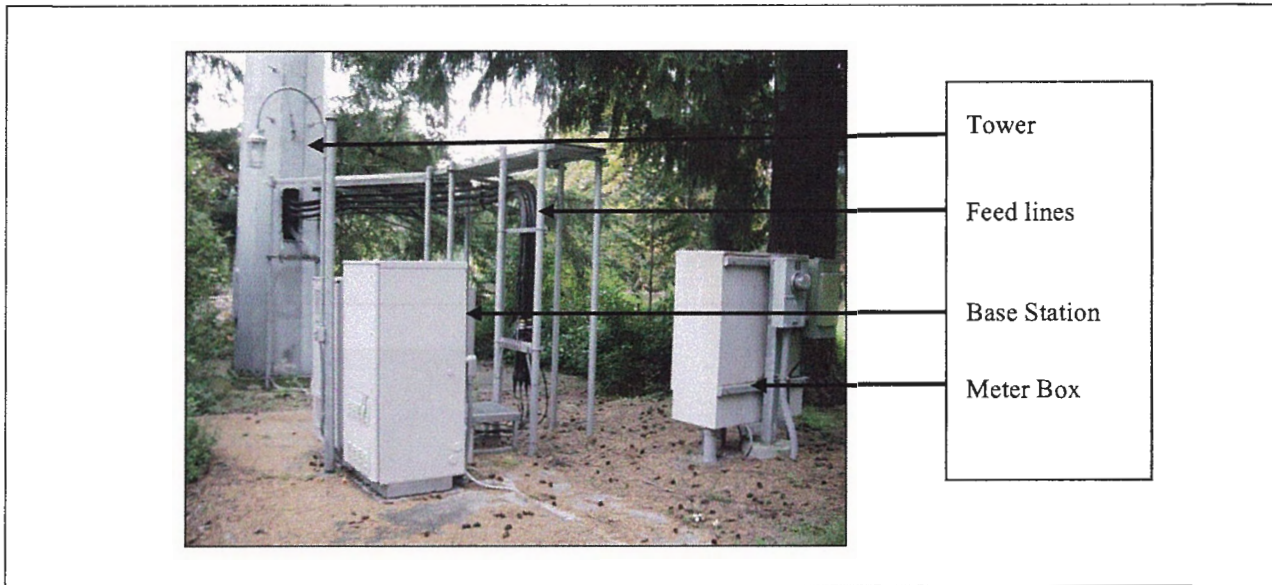
Wireless communication facilities are comprised of four main apparatuses: 1) an electronic base station; 2) feed lines; 3) antenna or antenna array; and 4) an antenna support facility.

#### 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**

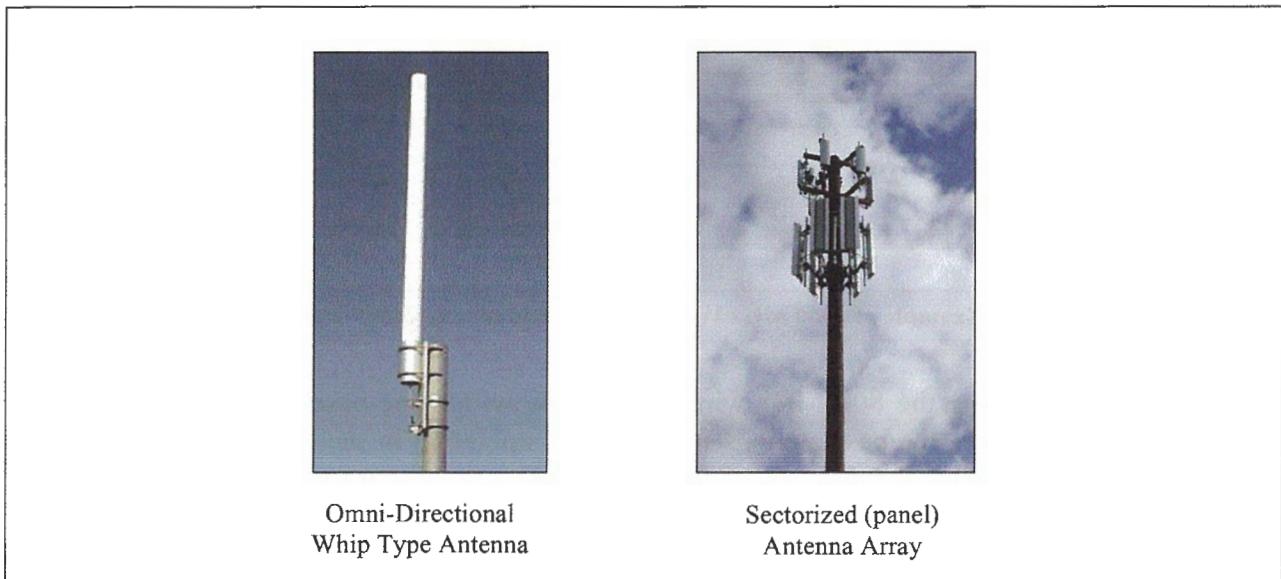
The electronics operating the 800 MHz wireless systems within the base station can generate substantial heat, therefore the base stations for providers operating in the 800 MHz frequencies are much larger and generally need an equipment cabinet a minimum of four hundred (400) square feet to house the 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.



**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.

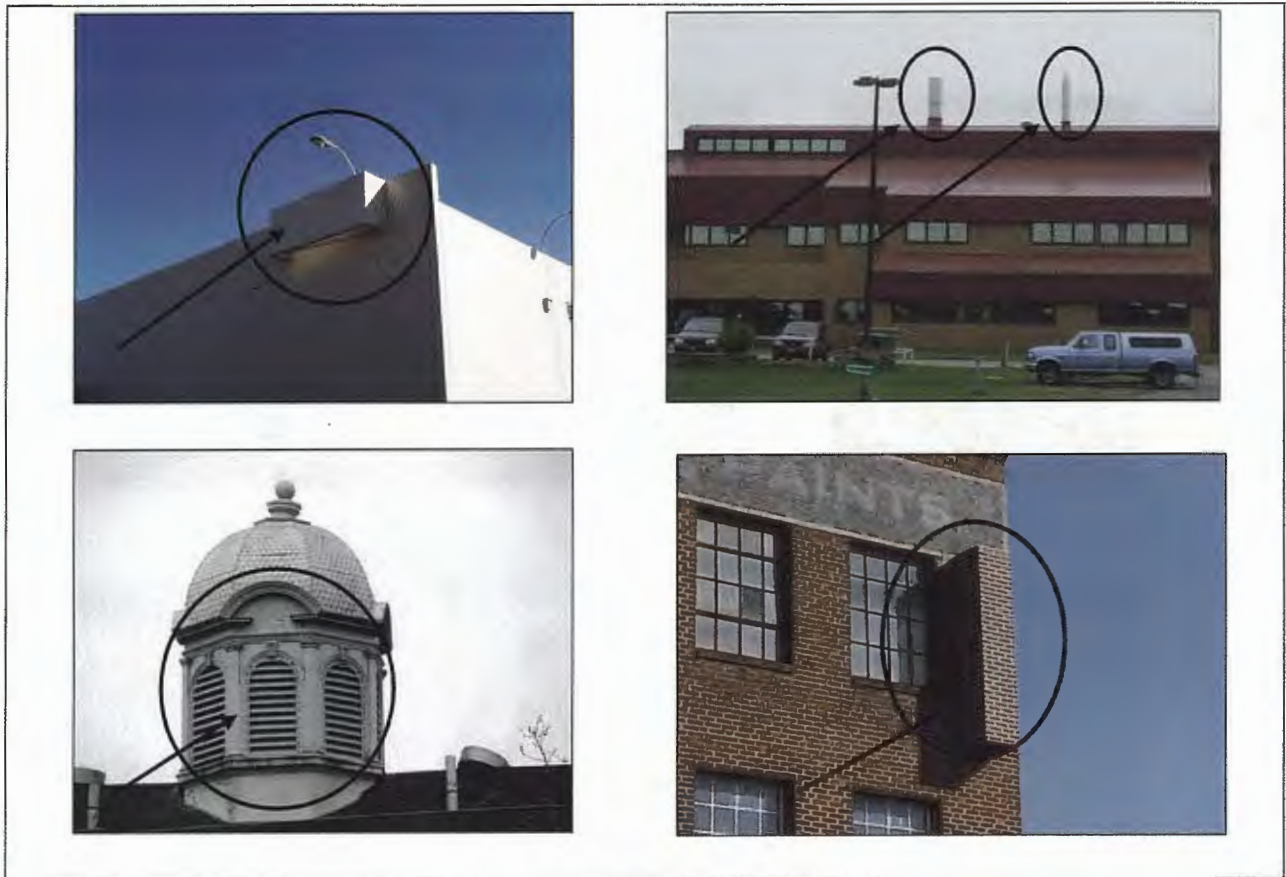


Figure 4: Examples of Concealment Techniques

#### *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.

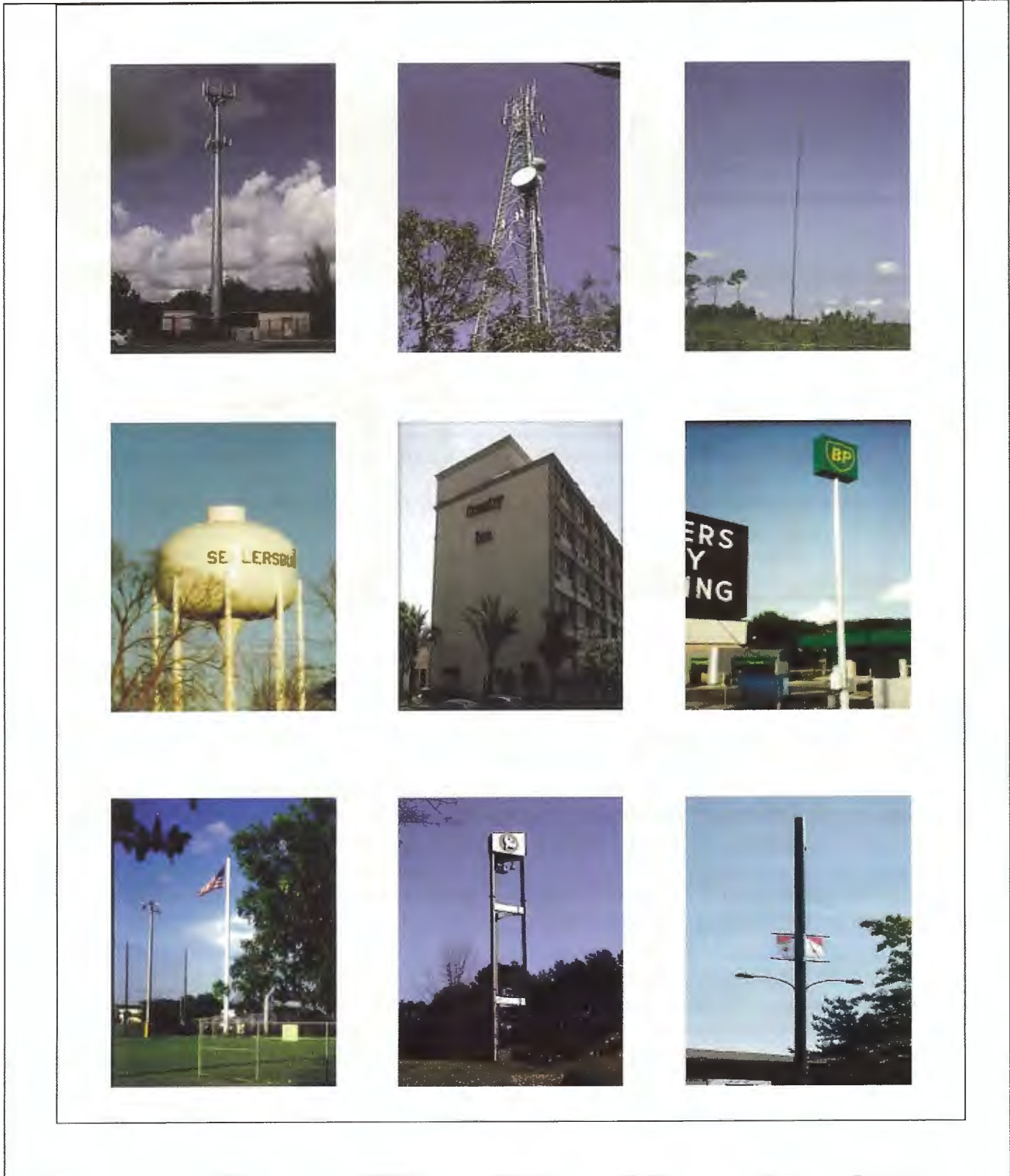
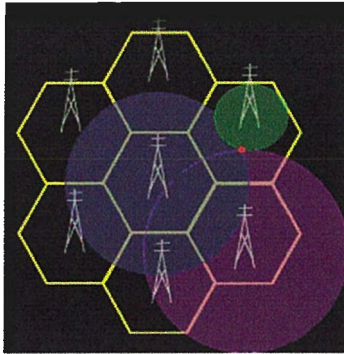


Figure 5: Examples of Antenna Support Facilities

## 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).



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

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.

## 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.*

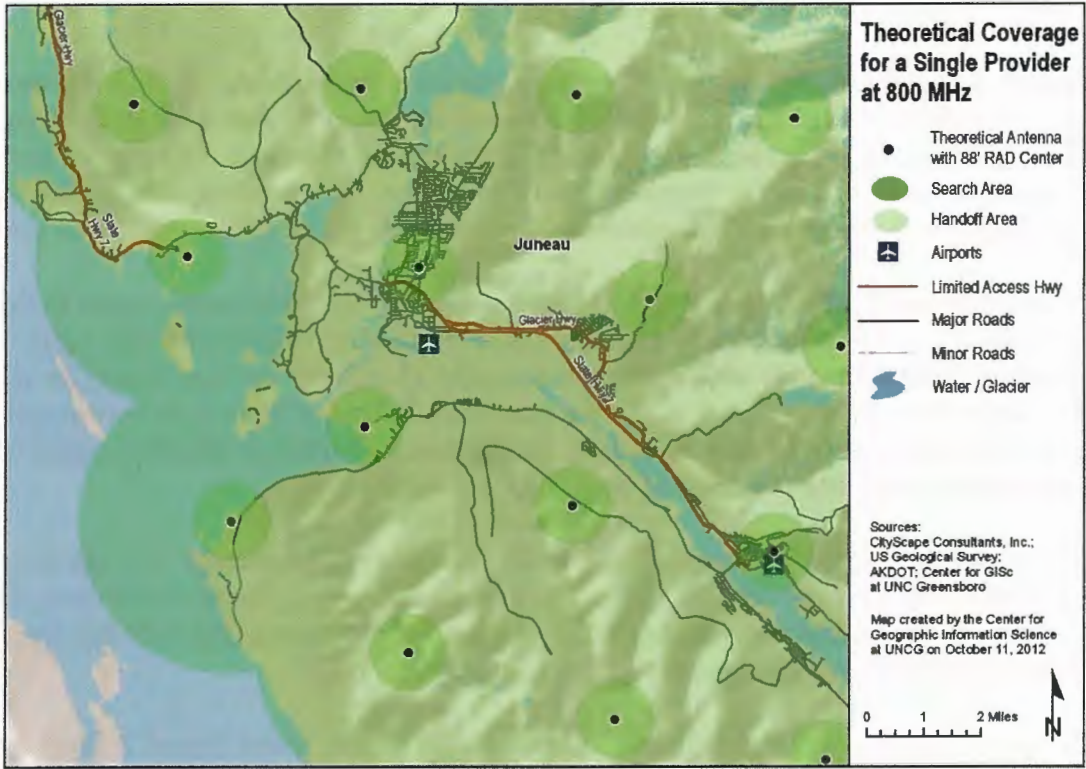


Figure 6: RMS 800 MHz Handoff and Search Areas at 88' Antenna Mounting Elevations

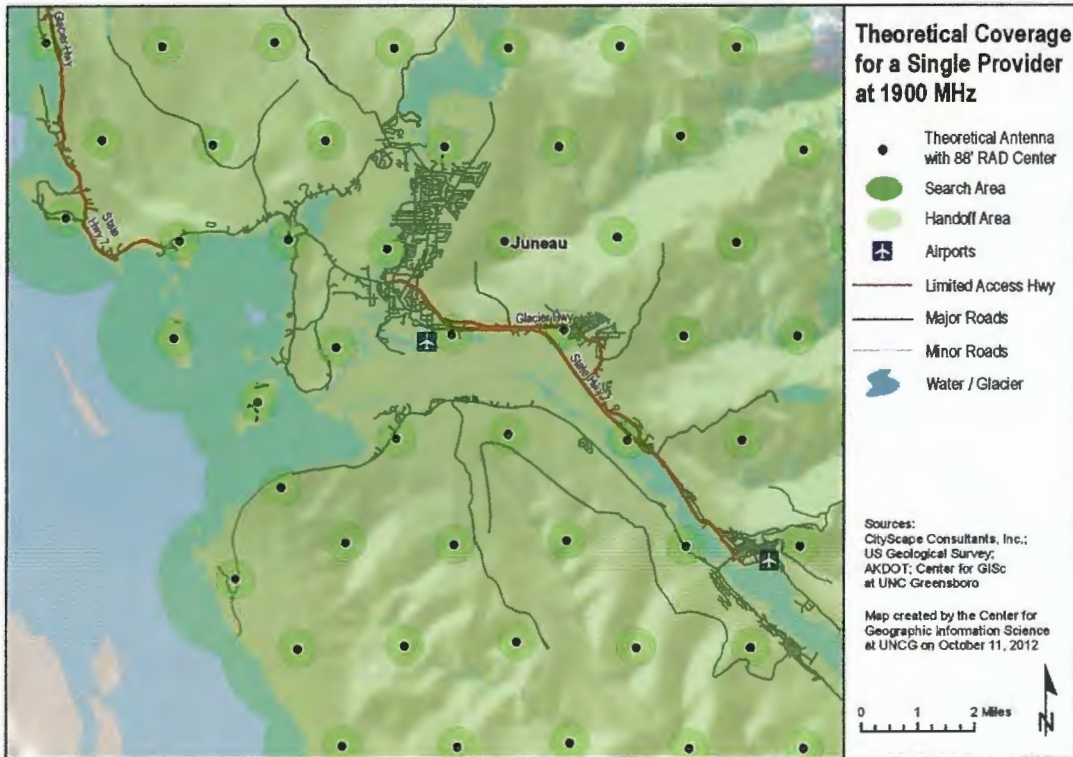


Figure 7: RMS 1900 MHz Handoff and Search Areas at 88' Antenna Mounting Elevations

### **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.

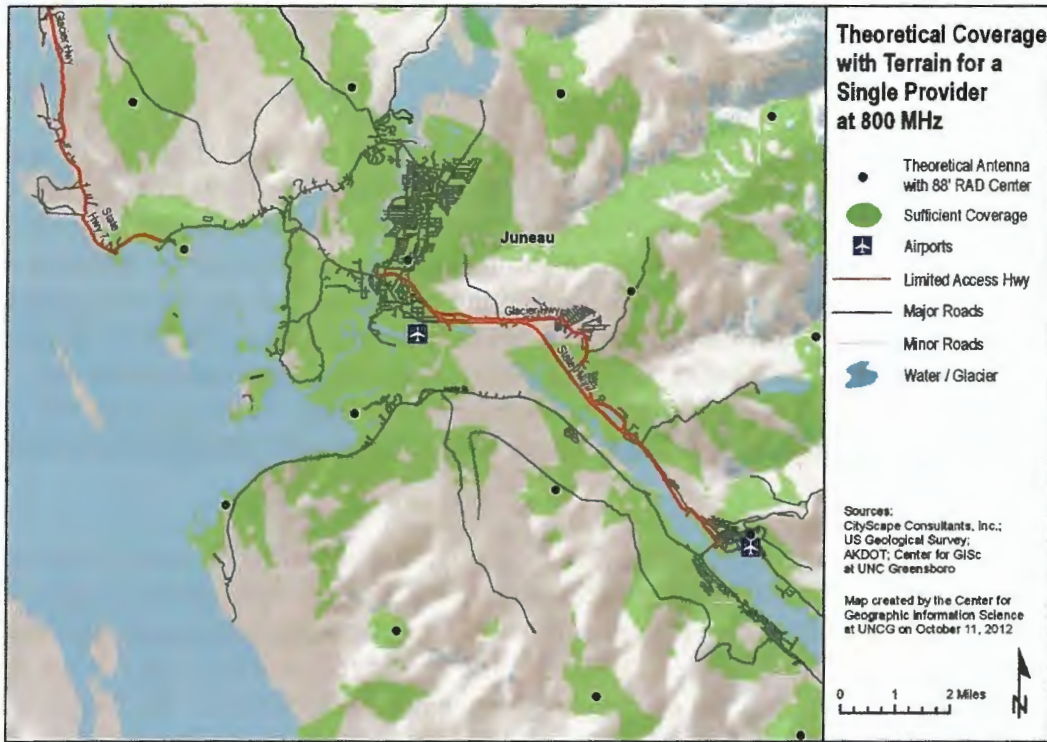


Figure 8: 800 MHz Handoff at 88' Antenna Mounting Elevations with Terrain

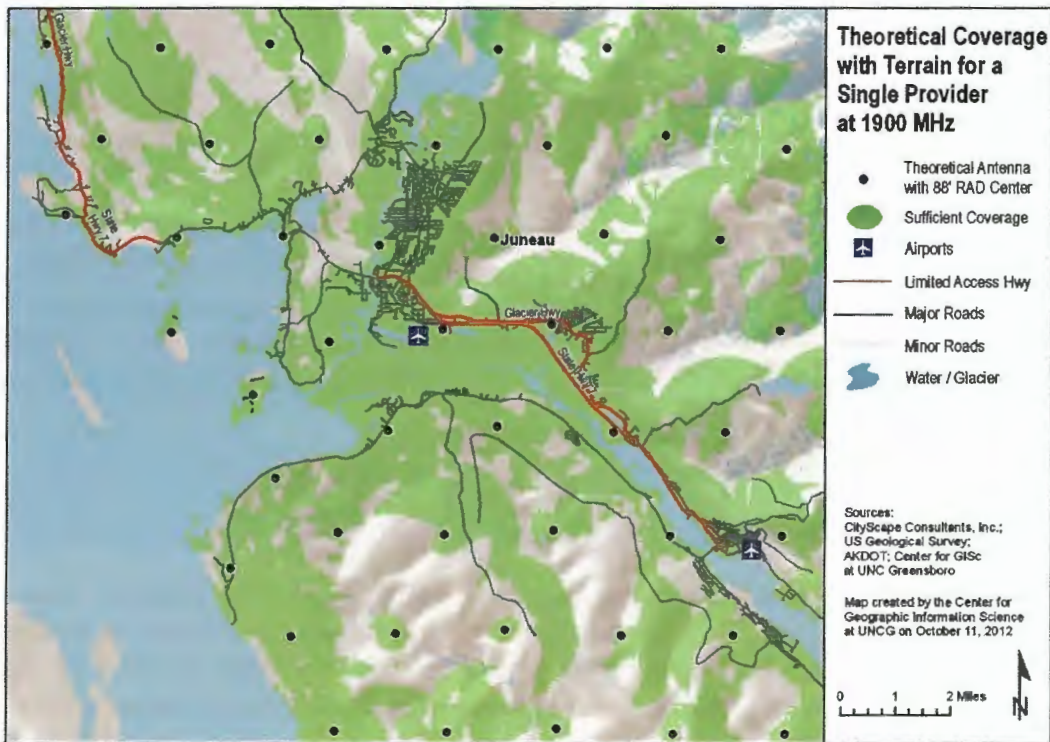


Figure 9: 1900 MHz Handoff with 88' Antenna Mounting Elevations with Terrain

**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.

<b>Signal Strength Color</b>	<b>Signal Strength Title</b>	<b>Signal Strength Description</b>
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 from these random locations.

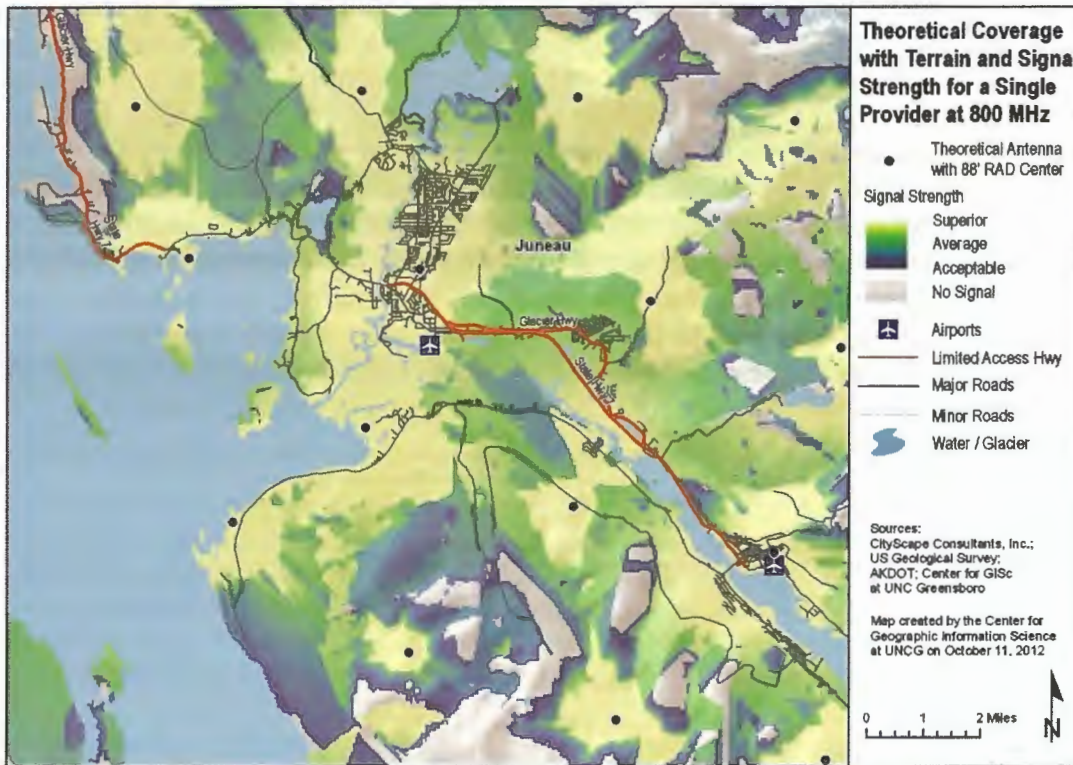


Figure 10: RMS Coverage and Signal Strength for a Single Theoretical 800 MHz Wireless Provider

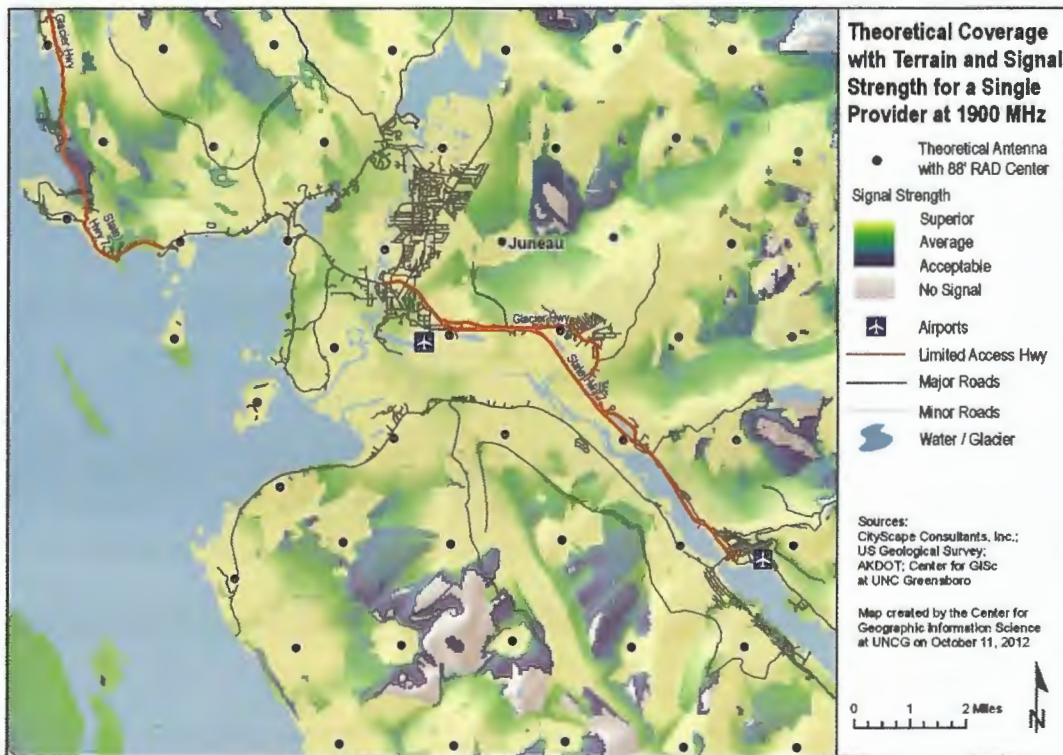


Figure 11: RMS Coverage and Signal Strength for a Single Theoretical 1900 MHz Wireless Provider



## **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 locator 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.

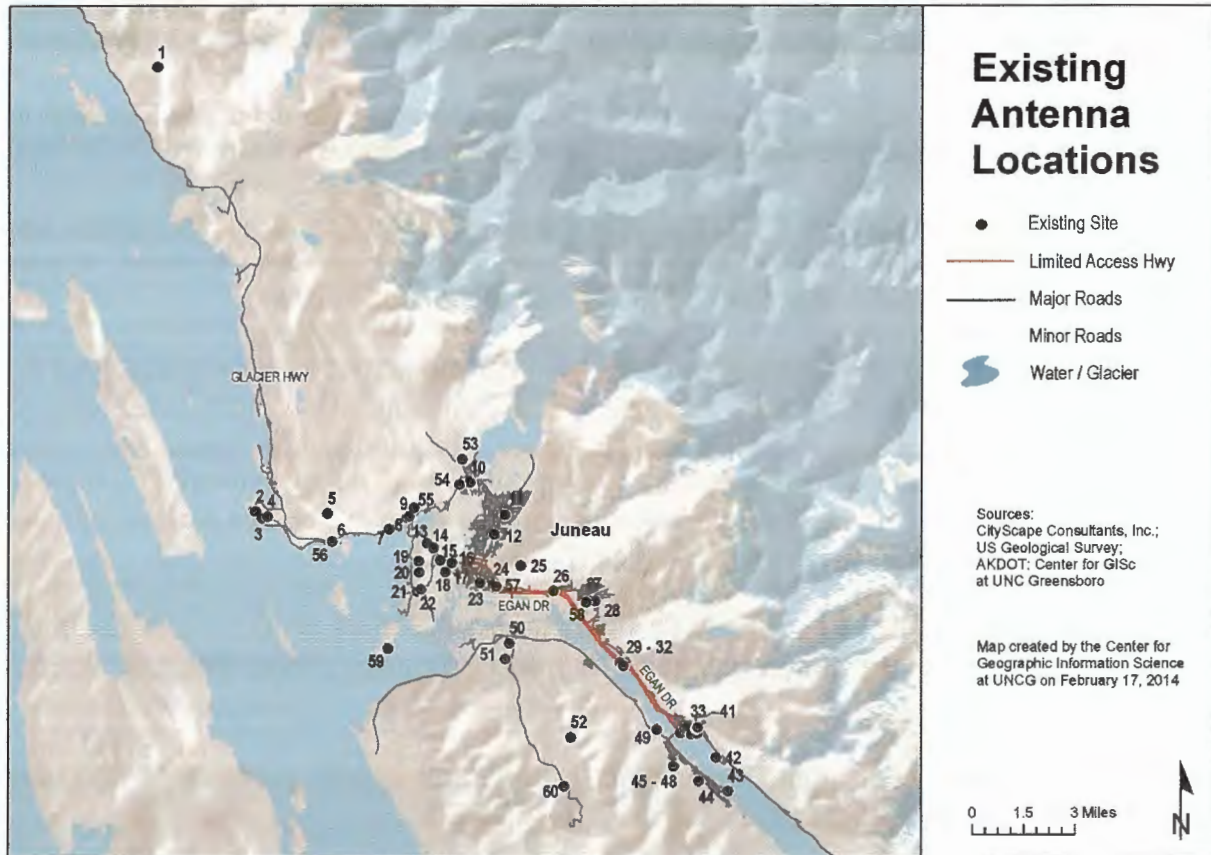


Figure 12: Existing Antenna Locations (large scale map)

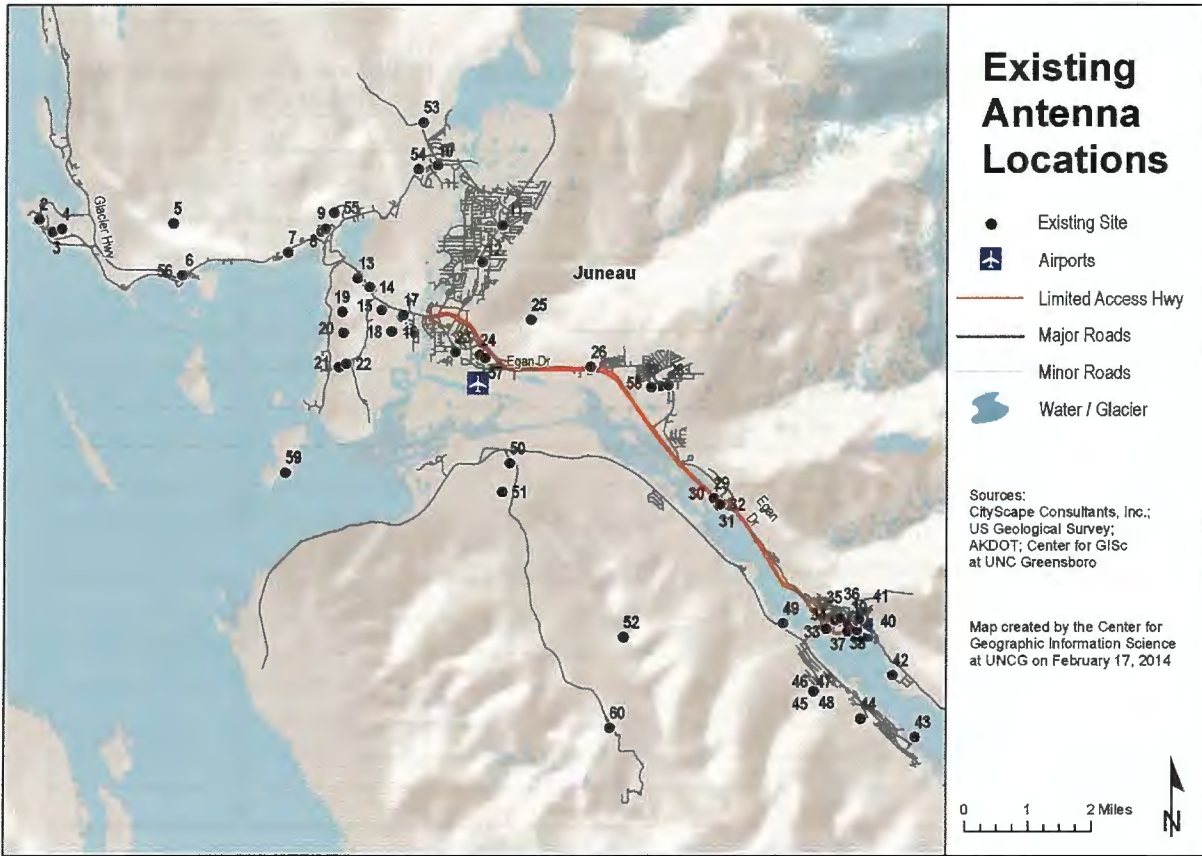


Figure 13: Existing Antenna Locations (small scale map)

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.

<b>60 Total Number of Existing Antenna Locations Identified within Study Area</b>	<b>60 Total Facilities Identified Within CBJ Study Area</b>
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
<b>Total</b>	<b>60</b>
<b>Heights of Infrastructure Identified within Study Area</b>	
> = 35' < 82'	18
> = 90 < = 110'	14
> = 130' < 160'	9
> = 175' < 199'	3
> = 200' < 350+'	4
Unknown	12
<b>Total</b>	<b>60</b>
<b>Ownership of Infrastructure Identified within Study Area</b>	
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 than CBJ (Federal/State)	12
Other	3
SBA (tower owner)	1
Unknown	10
<b>Total</b>	<b>60</b>

**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.

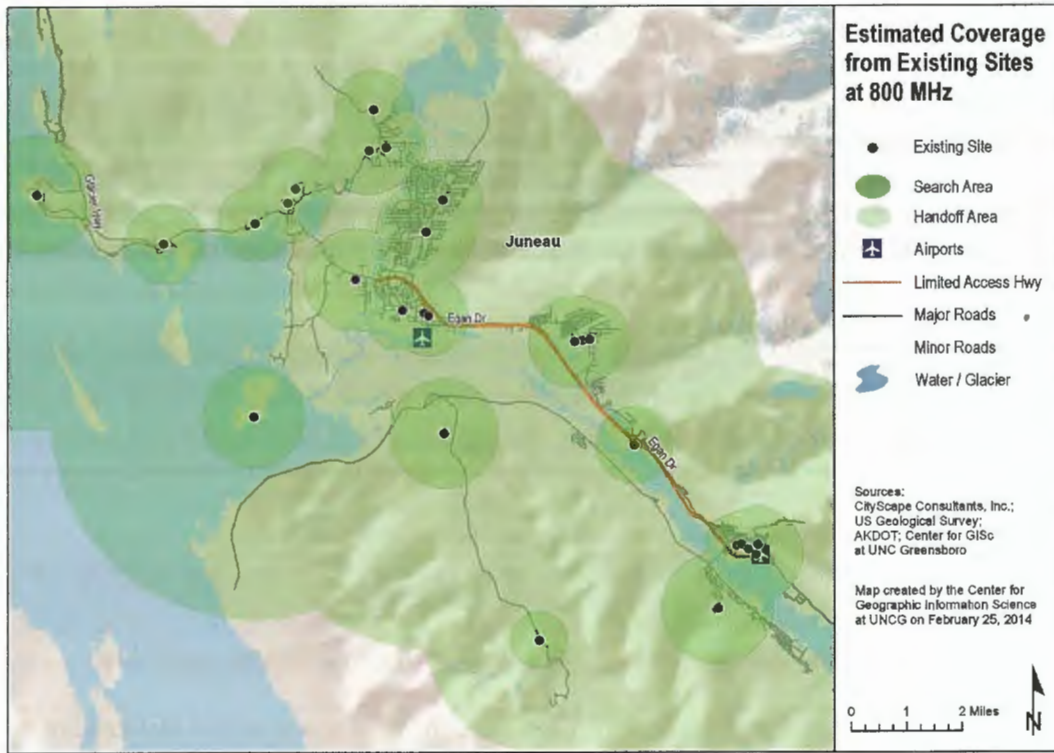


Figure 14: RMS Coverage for a Single Theoretical 800 MHz Wireless Provider without Terrain

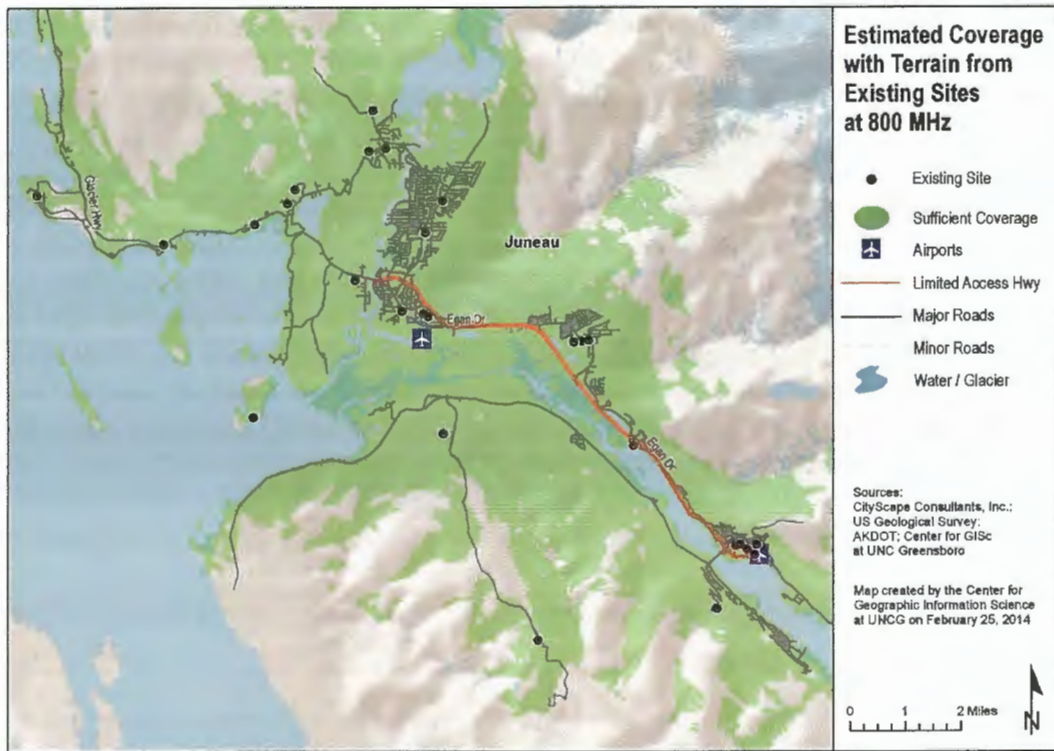


Figure 15: RMS Coverage for a Single Theoretical 800 MHz Wireless Provider with Terrain

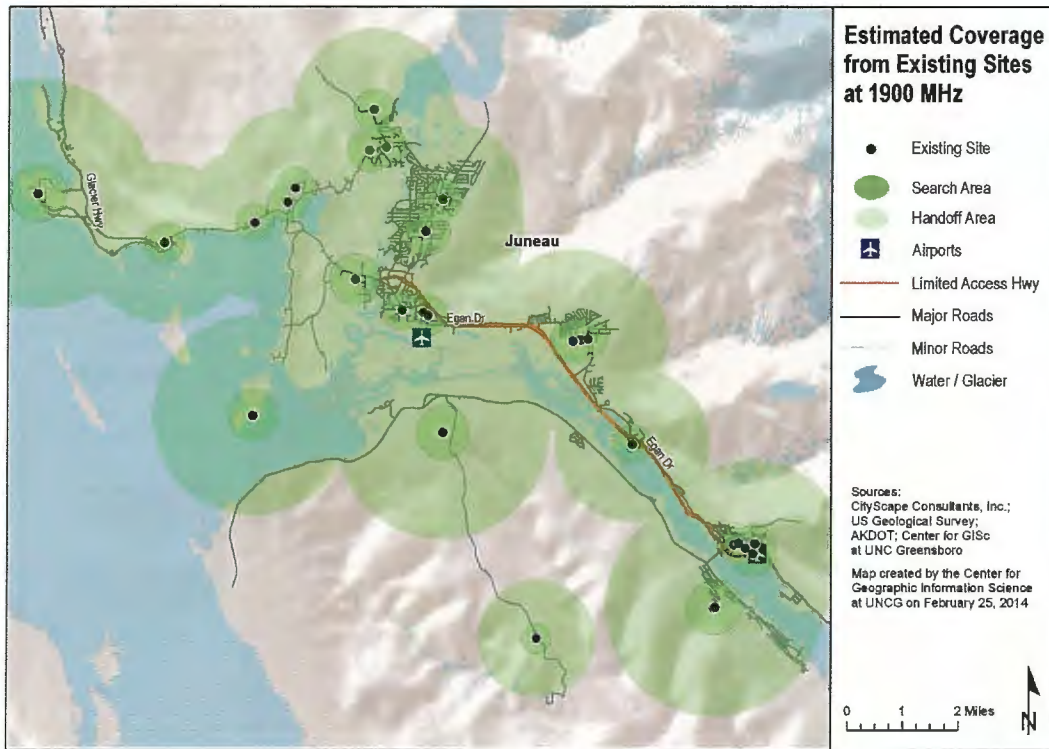


Figure 16: RMS Coverage for a Single Theoretical 1900 MHz Wireless Provider without Terrain

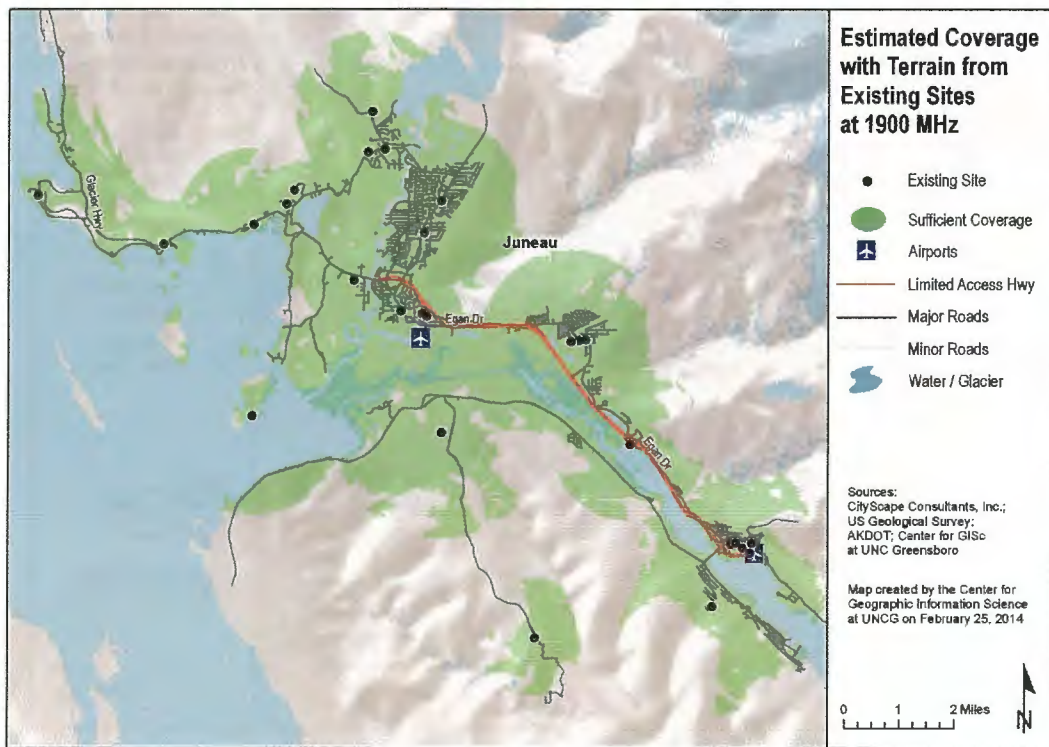
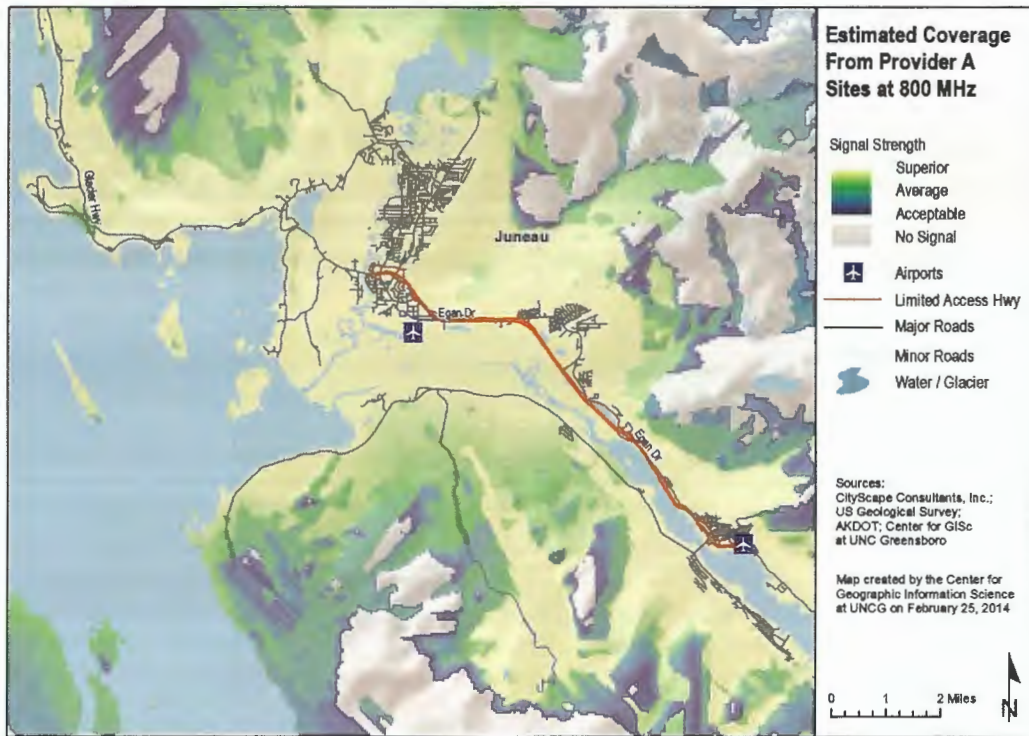
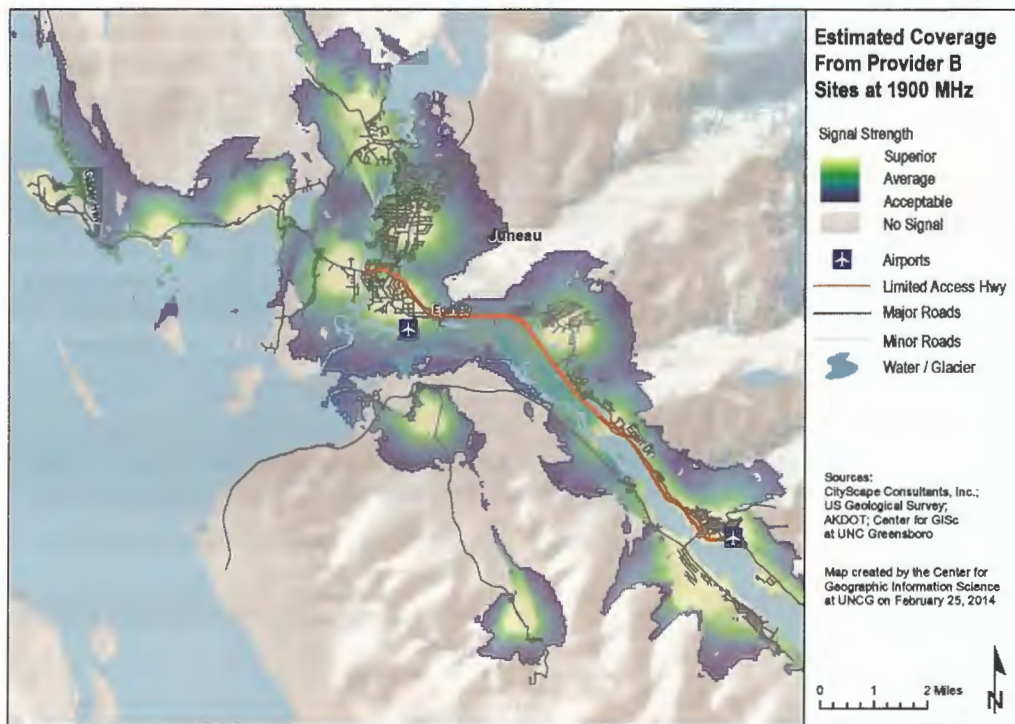


Figure 17: RMS Coverage for a Single Theoretical 1900 MHz Wireless Provider with Terrain



**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 evolution 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.

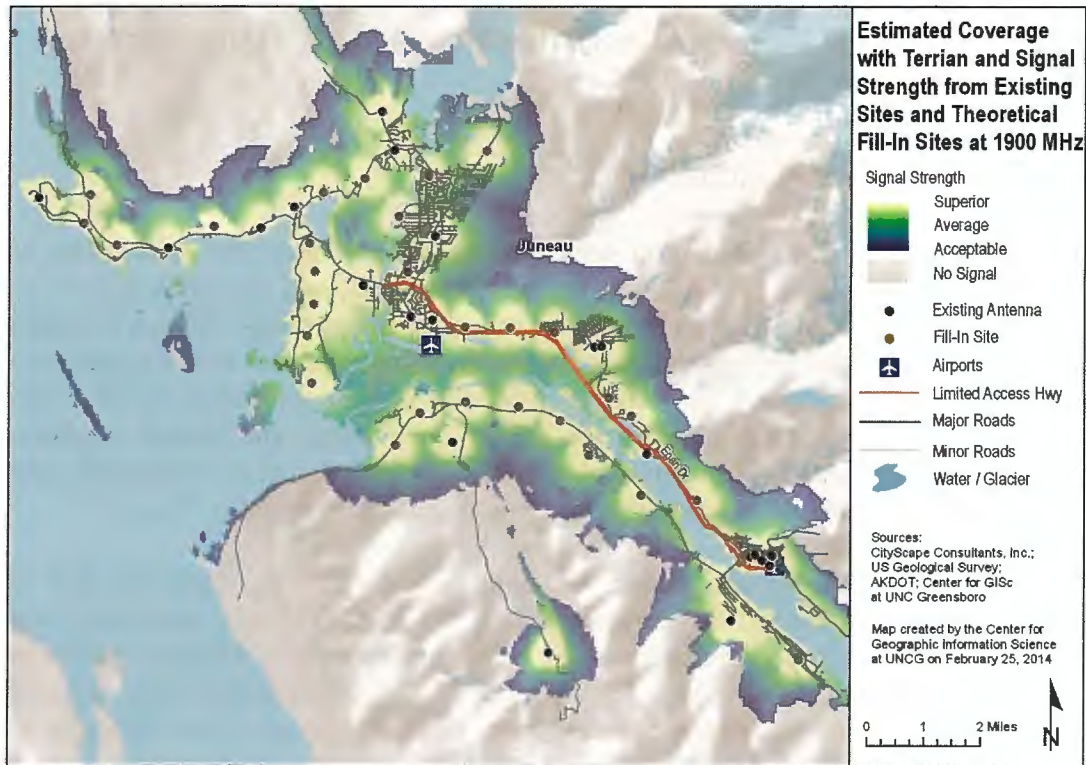


Figure 20: Projected New Infrastructure Infill Sites for Conventional Deployment

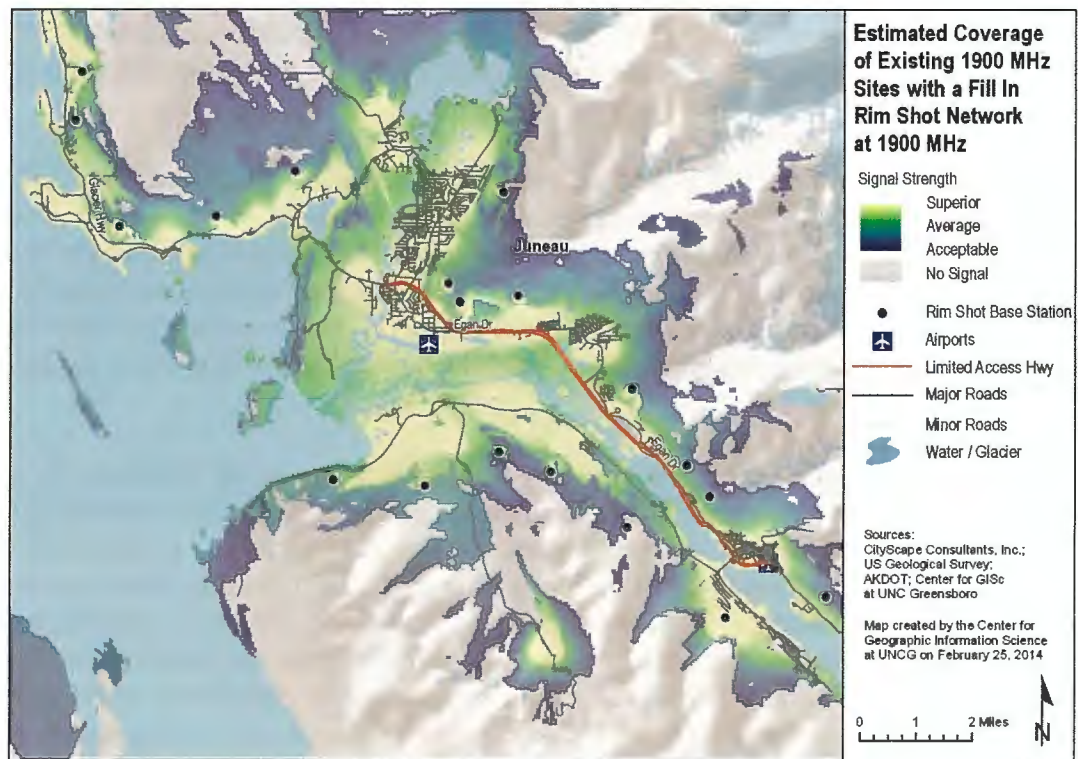


Figure 21: Projected New Infrastructure Infill Sites for Rim Shot Deployment

## 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.

Coincidentally, 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*<sup>1</sup> 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 (5<sup>th</sup> 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.<sup>2</sup>

---

<sup>1</sup> *Declaratory Ruling*, FCC 09-99 (Released November 18, 2009)

<sup>2</sup> . 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<sup>3</sup>, 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.—

---

<sup>3</sup> 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.

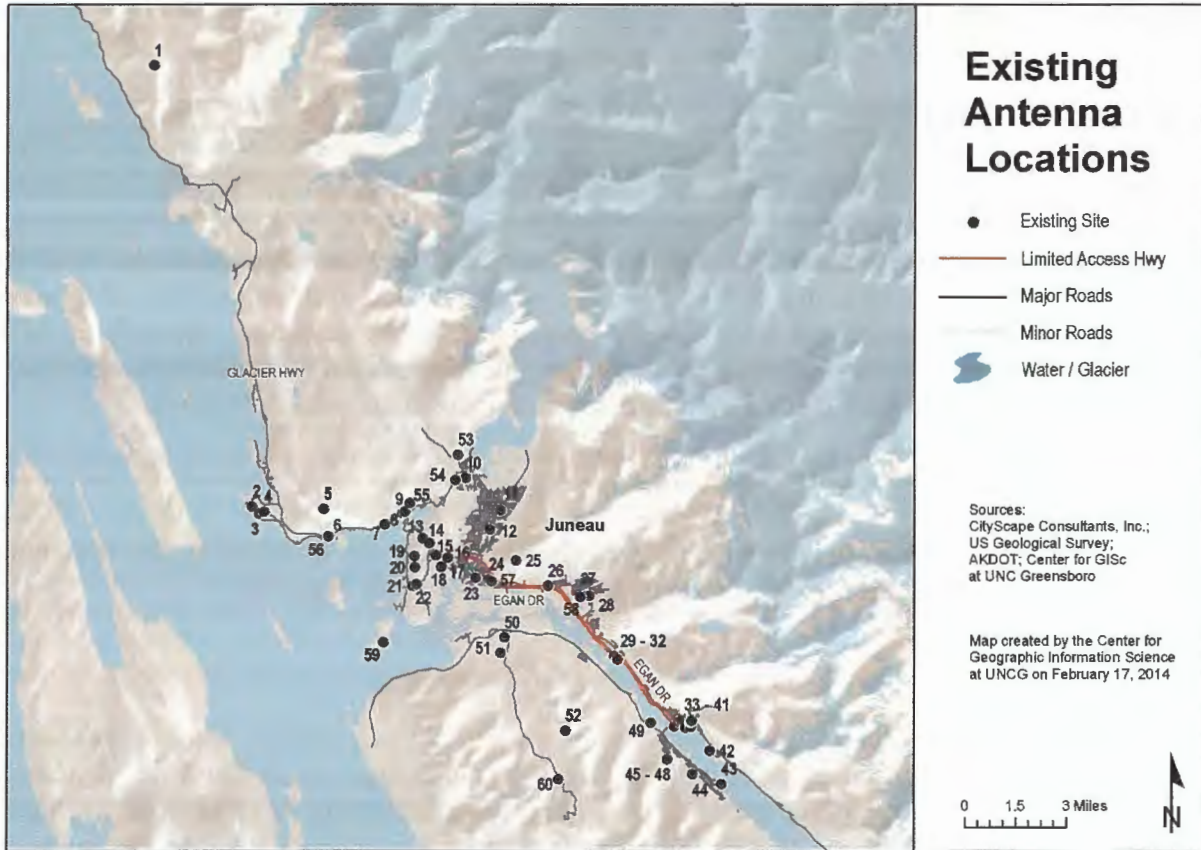
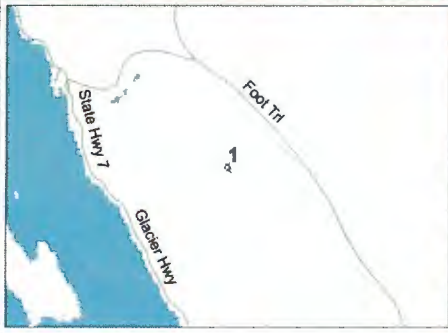

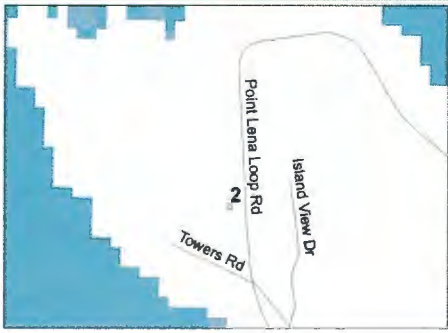




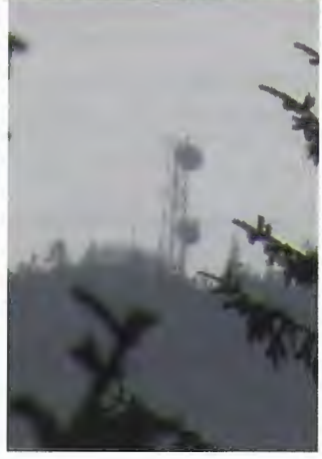
Figure 21: Existing Inventory



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 CityScope 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 A		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 B		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.		

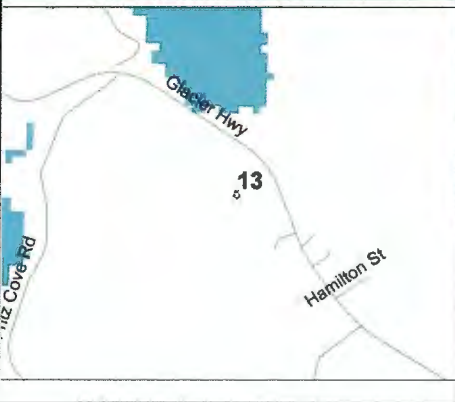
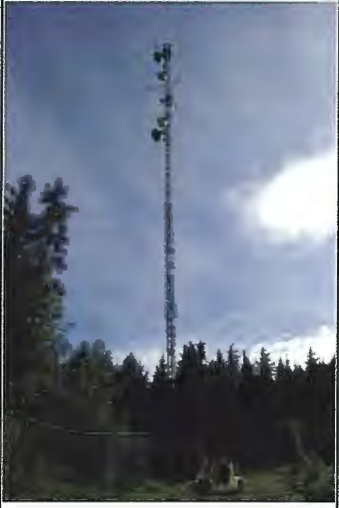


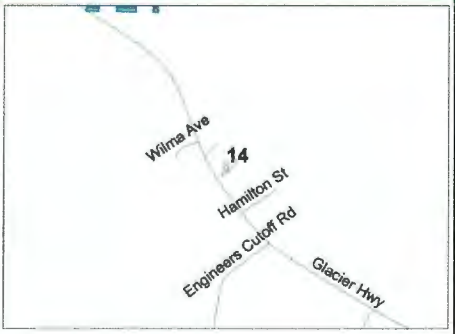

Site 9		Site Map	Site Photo
Owner:	GCI Communications Corp		
Identification:	FCC: 1263789		
Address:	12364 Glacier Highway		
Latitude:	58-23-23 N		
Longitude:	-134-38-39 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	100' per the CBJ		
Collocations:	Existing: Yes, 2	Future: 1	
Observations:	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		Location	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		Location	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.		

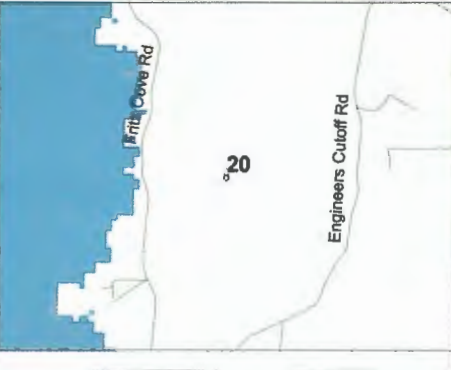

Site 15		Site Map	Site Photo
Owner:	State of Alaska		
Identification:	FCC: 1003201		
Address:	2760 Sherwood Lane		
Latitude:	58-22-17 N		
Longitude:	-134-37-8 W		
Access:	Vehicle		
Site Details			
Type:	Lattice used primarily for microwave backhaul		
Height:	142' per the FCC antenna structure registration.		
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		<p>Picture Unavailable</p>
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:	CityScope Consultants, Inc. was not able to assess this site.		
Comments:	Site information provided by the CBJ. The ridgeline photo shows three towers but CityScope 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 CityScope Consultants. The photo was provided by the CBJ.		

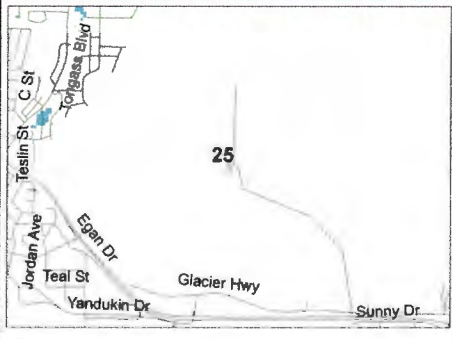
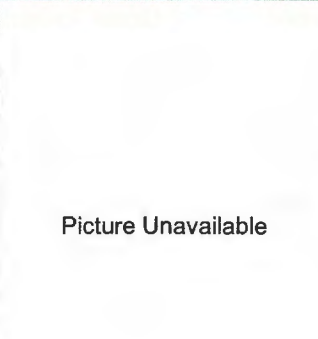
Site 21		Site Map	Site Photo
Owner:	Unsure		
Identification:	FAA Tower		
Address:	1600 Engineers Cut Off		
Latitude:	58-21-29.64 N		
Longitude:	-134-38-13.44 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	60' per the CBJ.		
Collocations:	Existing: No	Future: 0	
Observations:	Tower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

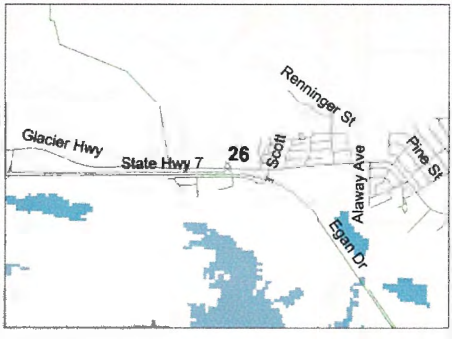

Site 22		Site Map	Site Photo
Owner:	Unsure		
Identification:	FAA Tower		
Address:	Engineers Cut Off		
Latitude:	58-21-32.51 N		
Longitude:	-134-38-2.22 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	FAA		
Collocations:	Existing: No	Future: 0	
Observations:	Tower is likely used exclusively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

Site ID		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 ID		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		
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 ID		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 ID		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.		

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.		

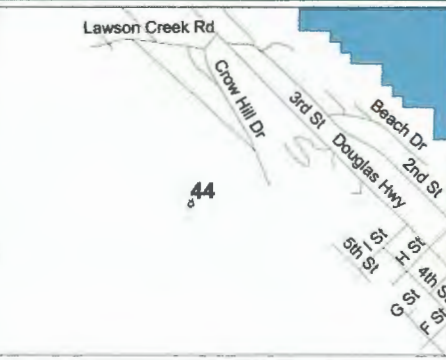

Site 40		Site Map	Site Photo
Owner:	Federal Government		
Identification:	District Courthouse		
Address:	Main Street & East 4th Street		
Latitude:	58-18-5.33 N		
Longitude:	-134-24-36.58 W		
Access:	Vehicle		
Site Details			
Type:	Guy Rooftop Mount		
Height:	Unknown		
Collocations:	Existing: No	Future: 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.		

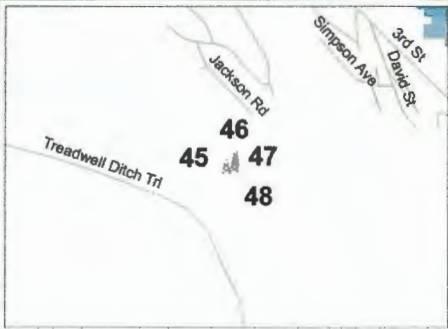

Site 42		Site Map	Site Photo
Owner:	SBA Towers III, LLC		
Identification:	FCC: 1278455		
Address:	1076 Jacobsen Drive		
Latitude:	58-17-22.2 N		
Longitude:	-134-23-40.1 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	130' per the FCC antenna structure registration.		
Collocations:	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.		

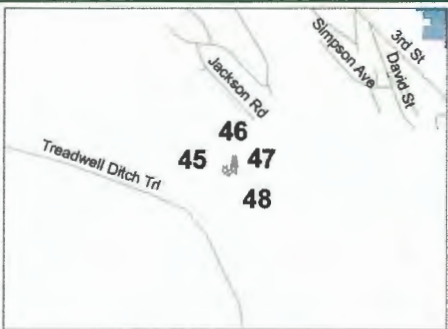

Site 43		Site Map	Site Photo
Owner:	US Coast Guard		
Identification:	Unknown		
Address:	Savikko Road		
Latitude:	58-16-31.44 N		
Longitude:	-134-23-3.91 W		
Access:	Vehicle		
Site Details			
Type:	Lattice Tower		
Height:	Unknown		
Collocations:	Existing: No	Future: 0	
Observations:	A good location for 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 48		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.		

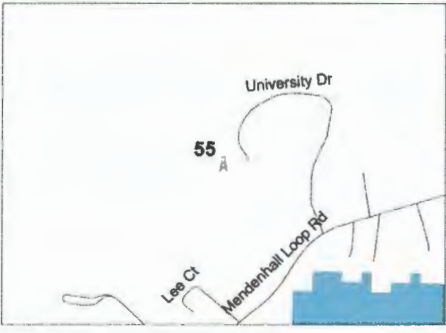

This is not a WCF Site.

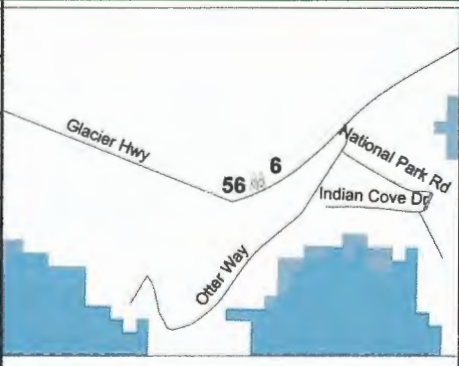

Site 51		Site Map	Site Photo
Owner:	Atlas Tower, LLC		
Identification:	FAA: 1284253		
Address:	Fish Creek Road		
Latitude:	58-19-50 N		
Longitude:	-134-33-54.9 W		
Access:	Vehicle		
Site Details			
Type:	Monopole painted green		
Height:	175' per the FAA.		
Collocations:	Existing: 1 tenant	Future: 3	
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: 1284234		
Address:	5600 Montana Creek Road		
Latitude:	58-24-51.74 N		
Longitude:	-134-36-7.59 W		
Access:	Vehicle		
Site Details			
Type:	Monopole painted green		
Height:	CBJ approved 100'; FCC approved 104' per the 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 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:	Global Tower, LLC		
Identification:	FCC: 1284964		
Address:	10200 Mendenhall Loop Road		
Latitude:	58-24-13.19 N		
Longitude:	-134-36-14.46 W		
Access:	Vehicle		
Site Details			
Type:	Monopole		
Height:	CBJ approved 119'; FCC approved 130' per the 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.		

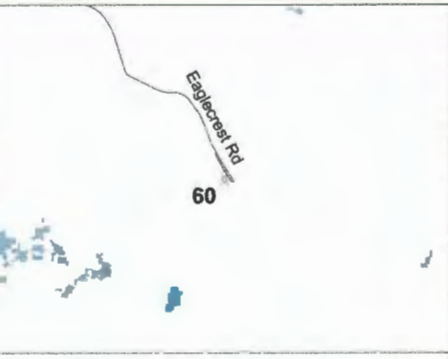

Site 56		Site Map	Site Photo
Owner:	Cellco Partnership		
Identification:	FCC: 1285072		
Address:	14080 Glacier Highway		
Latitude:	58-22-43.32 N		
Longitude:	-134-42-21.24 W		
Access:	Vehicle		
Site Details			
Type:	Painted Monopole		
Height:	CBJ approved 100'; FCC approved 69' per the FCC antenna structure 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 any 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-\_\_\_\_

**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;

1  
2 (b) Minimize the impacts of WCFs by establishing standards for siting, design  
3 and screening and by requiring consistency with the City and Borough's Wireless  
4 Telecommunications Master Plan;

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

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

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

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

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

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

19 **49.65.910 Applicability.**

20  
21 (a) This article shall apply to the development activities including installation,  
22 construction, or modification of all WCFs including, but not limited to, existing towers,  
23 proposed towers and collocated facilities on existing structures.

24 (b) All applications for WCF are subject to the standards in this article to the  
25 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

1  
2 services. This article shall not be applied in such a manner as to unreasonably discriminate  
3 between providers of functionally equivalent personal wireless services.

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

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

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

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

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

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

20 **49.65.920 Location Preference for new WCFs.**

21 (a) Locating a new antenna array or new tower shall be in accordance with the  
22 following location preferences, one being the highest priority and six being the lowest  
23 priority:  
24

25 (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 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 not technically feasible or is commercially impractical;
- (2) The reason or reasons why the application should be approved for the proposed location; and
- (3) The hardship that would be incurred by the applicant if the application is not 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.



1  
2 (2) Attached, concealed feed lines and antennas shall be designed to  
3 architecturally match the facade, roof, wall, or structure on which they are affixed so that  
4 they blend with the existing design, color, and texture of the structure.

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

7 (1) All antennas, towers and other supporting structures, including guy  
8 wires, shall be made inaccessible to individuals and constructed or shielded in such a  
9 manner that they cannot be climbed or accessed.

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

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

21 (d) *Lighting.* Notice is required to be provided to the FAA, on a form prescribed  
22 by the FAA, if the facility falls under notification requirements mentioned in 14 CFR Part  
23 77. The applicant is responsible for determining whether notification is required. Any  
24 lighting required by the FAA must be of the minimum intensity and number of flashes per  
25

1  
2 minute (i.e., the longest duration between flashes) allowable by the FAA. Dual lighting  
3 standards. Strobe lights at night are prohibited unless required by the FAA. The lights  
4 shall be oriented so as not to project directly onto surrounding property, consistent with  
5 FAA requirements.

6 (e) *Design criteria.*

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

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

19 (3) All appurtenant or associated facilities of a WCF shall maximize use of  
20 building materials, colors and textures designed to blend with the structure to which it may  
21 be affixed, or to harmonize with the natural surroundings, which shall include the  
22 utilization of concealed or concealment technology. If located in or abutting a Residential,  
23 Commercial or Mixed-Use district, the appurtenant or associated facility shall either be  
24  
25

1  
2 placed inside an enclosed structure, fenced, or screened with sight-obscuring foliage as tall  
3 as the structure.

4 (4) Use of ground or guy-wires shall only be permitted in the Rural  
5 Reserve (RR) and Industrial (I) zoning districts, and only on roof-tops in the Light  
6 Commercial (LC), General Commercial (GC), Waterfront Commercial (WC), and Waterfront  
7 Industrial (WI) districts.

8 (f) *Setbacks.*

9 (1) Unless otherwise provided, a WCF tower shall be setback from the  
10 nearest property line a distance equal to the height of the tower except that this setback  
11 may be reduced to one-half of the height of the tower if the applicant submits a report  
12 stamped by a professional engineer registered in the State of Alaska that certifies that the  
13 tower is designed and engineered to collapse upon failure within the distance from the tower  
14 to the property line. Other setback reductions, to the minimum required by the applicable  
15 zoning district, may be had by obtaining written agreement from the adjacent property  
16 owner(s).

17  
18 (2) Setbacks may be modified by the director to no less than 20 feet from a  
19 property line only if there is significant existing vegetation, topography, or some other land  
20 feature that will provide a higher level of screening of the WCF.

21  
22 (3) Any appurtenant structure shall be located so as to comply with the  
23 applicable minimum setback requirements for the property on which it is situated.

24 (4) With respect to collocation on an existing nonconforming building or  
25 structure, the existing permitted nonconforming setback shall prevail.

1  
2 (g) WCF shall not significantly affect the Natural Areas identified in the  
3 Comprehensive Plan of the City & Borough of Juneau.

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

6 (i) *Visibility.*

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

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

14 (j) *Structural assessment.* The owner of a freestanding WCF tower shall have a  
15 structural assessment of the tower by a professional engineer, licensed in the State of  
16 Alaska, if the tower is adjacent to a dwelling, parking lot, playground, or right-of way, and  
17 shall submit the structural assessment report, signed by the engineer who conducted the  
18 assessment, to the director by July 1 every fifth year from the date of issuance of the  
19 building permit.  
20

21 **49.65.940 Permit application process for all WCFs.**

22 (a) Applications, on a form specified by the director, and site plans for all WCFs  
23 shall be submitted to the director.  
24

25 (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

1  
2 Chapter 49.85.100. In addition to the application fee, the director may require a technical  
3 review by a third party expert, the actual costs of which shall be borne by the applicant. The  
4 technical expert review may address some or all of the following, at the discretion of the  
5 director:

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

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

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

11 (4) Whether the proposed WCF complies with applicable approval criteria  
12 set forth in this article; and  
13

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

16 (6) Based on the results of the technical review, the director may require  
17 changes or additional documentation before the application will be considered complete.

18 (c) *Permit types.*

19 (1) A special use permit, in addition to any applicable building permits,  
20 are required of all WCFs, unless otherwise provided. When a special use permit is  
21 required, an applicant must obtain the special use permit approval prior to issuance of a  
22 building permit.  
23

24 (2) Unless lighting of the completed WCF will be required by the FAA or  
25 FCC, applications for those WCF listed in Table 1, which meet the performance criteria  
identified in section 49.65.930, shall be approved or denied by the director.

**TABLE 1**

<u>WCF Type</u>	<u>Zoning Districts</u>	<u>Maximum Height</u>	<u>Min. Distance to D-1 – D-18 Districts</u>
Eligible Collocation, Removal or Replacement of Transmission Equipment as provided in CBJ 49.65.950	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 <sup>1</sup>	N/A
Non-concealed Attached	D-1 – D-18	≤ 5 Feet <sup>1</sup>	N/A
Non-concealed Attached	Non-Residential and Mixed Use	≤ 20 Feet <sup>1</sup>	N/A
New Concealed Tower	WI, WC, GC, LC, and RR	≤ 10 Feet above Max. Height of Zoning District	N/A
New Concealed Tower	I	≤ 90 Feet	> 500 Feet
New Concealed Tower	D-1 – D-18	Compliant with Max Height of Zoning District	N/A
New Non-Concealed Tower	RR & I	≤ 60 Feet	> 500 Feet

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

(d) *Director's decision.* Except for applications eligible for the streamlined process in section 49.65.950 or those 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

1 application is deemed complete. If rejected as incomplete, the director shall identify the  
2 deficiencies in the application, which if cured, would make the application complete.

3  
4 (2) The director shall review all completed applications for compliance  
5 with the requirements of section 49.65.930. The director may notify an applicant of a failure  
6 to comply with section 49.65.930 and may allow the applicant to resubmit a revised  
7 application. Any period of time from when the director notifies the applicant to the date the  
8 revised application is received shall not count for the purposes of calculating the 120 day  
9 deadline in subsection (3).

10  
11 (3) Applications not meeting the requirements of this article shall be  
12 rejected. The director's decision to approve or deny an application shall be in writing and  
13 supported by substantial evidence. The director's decision shall be postmarked to the  
14 applicant by the 120<sup>th</sup> calendar day from the date of receipt of the final application.

15 (4) If the director denies an application, the applicant may, within 20 days  
16 from the postmarked date of the notice of denial, appeal the director's denial in accordance  
17 with section 49.20.110.

18 **49.65.950 Collocations and other modifications to existing facilities pursuant to**  
19 **Section 6409 of the Middle Class Tax Relief and Job Creation Act of 2012.**

20 (a) Modifications to facilities that involve the collocation, removal or replacement  
21 of transmission equipment on an existing wireless tower or base station that do no  
22 substantially change the physical dimensions of the existing tower or base station, shall be  
23 eligible for a streamlined application process.

24 (b) For the purposes of this section, "substantial change" means:  
25

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

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

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

17 (4) The mounting of the proposed antenna would involve excavation  
18 outside the existing WCF site, defined as the current boundaries of the leased or owned  
19 property surrounding the WCF and any access or utility easements currently related to the  
20 site.  
21

22 (c) The following streamlined process shall be used for eligible applications:

23 (1) The director shall review the submitted application for completeness  
24 and shall notify the applicant within 30 days of receipt of the initial submission whether the  
25



1  
2 application is deemed complete. If rejected as incomplete, the director's shall identify the  
3 deficiencies in the application, which, if cured, would make the application complete.

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

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

14 (4) If the director does not respond in writing to the applicant within the  
15 specified timeframe, then the application shall be deemed approved.

16 (5) If the director denies an application, the applicant may, within 20 days  
17 from the postmarked date of the notice of denial, appeal the director's denial in accordance  
18 with section 49.20.110.

19 (d) Applications that are not eligible for the streamlined process shall be  
20 processed in accordance with 49.65.940(d).

21 **49.65.960 General application submittal requirements for all WCFs.**

22 An application for a special use permit for a WCF shall be signed on behalf of the  
23 applicant by the person preparing the same and with knowledge of the contents and  
24 representations made therein and attesting to the truth and completeness of the  
25

1  
2 information. The landowner, if different than the applicant, shall also sign the application.  
3 All information submitted in an application shall be provided by a person qualified to  
4 provide the information. All applications for the construction or installation of a new WCF  
5 shall be accompanied by the following documentation, except applications for collocation or  
6 modification under section 49.65.950 are exempt from providing the documentation required  
7 by subsections (o), (p), or (q):

8 (a) In addition to the information required by 49.65.920(b), an affidavit  
9 demonstrating compliance with 49.65.920. If a lower ranking alternative is proposed the  
10 affidavit must address why higher ranked options are not technically feasible or  
11 commercially impracticable given the location of the proposed wireless communications  
12 facility;

13  
14 (b) A signed statement from a qualified person, together with a statement of that  
15 person's professional qualifications, certifying that radio frequency emissions from the  
16 antenna array(s), both individually and cumulatively considering any other facilities located  
17 on or immediately adjacent to the proposed facility, complies with FCC standards;

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

20 (d) Name, address and phone number of the property owner, operator, and  
21 applicant;

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

23 (f) Zoning designation of the property on which the proposed WCF will be  
24 situated;  
25

1  
2 (g) Size of the property stated both in square feet and lot line dimensions, and a  
3 diagram showing the location of all lot lines;

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

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

8 (j) Location, size and height of all proposed and existing antennae and all  
9 appurtenant structures;

10 (k) Type, locations and dimensions of all proposed and existing landscaping and  
11 fencing;

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

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

17 (n) Certification that the applicant is in compliance with all applicable laws  
18 pertaining to the type of service offered;

19 (o) Certification that a geotechnical study has been conducted, and a statement  
20 that, taking into account the subsurface and substrata and the proposed drainage plan, the  
21 site is adequate to assure the stability of the proposed WCF on the proposed site;

22 (p) Propagation studies of the proposed site and all adjoining in-service or  
23 existing sites;  
24  
25

1  
2 (q) Applicant shall disclose in writing any agreement in existence prior to  
3 submission of the application that would limit or preclude the ability of the applicant to  
4 share any new WCF that it constructs;

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

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

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

17  
18 **49.65.970 Special use permit applications.**

19 No person shall be permitted to site, place, build, construct, modify, or prepare any site  
20 for the placement or use of WCF, except for those WCF identified in section 49.65.940, Table  
21 1, as of the effective date of this article without having first obtained a special use permit.  
22 All applicants for a special use permit and any modification of such facility shall comply  
23 with the requirements set forth in this section.

24 (a) *Pre-application meeting.* Prior to submission of an application, the applicant  
25 shall meet with the director for the purpose of discussing the site and development proposal,

1  
2 and to address any issues that will help to expedite the review and permitting process,  
3 including the scope of the visual assessment the applicant will be required to provide as part  
4 of the special use permit process. A pre-application meeting may also include a site visit, as  
5 determined by the director. No statement by either the applicant or director shall be  
6 regarding as binding or authoritative for purposes of this section.

7 (b) *Additional required application submittals.*

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

10 (2) In addition to the documentation required by section 49.65.960, the  
11 following additional documentation must be submitted with any special use permit  
12 application:  
13

14 (A) Certification of compliance with the design criteria listed in  
15 section 49.65.930;

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

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

22 (ii) An analysis demonstrating that the WCF will be sited so  
23 as to have the least adverse visual impact on the environment and its character, on existing  
24 vegetation, and on the properties in the area; and  
25

1  
2 (iii) Pictorial representations of "before and after" views from  
3 key viewpoints as may be appropriate, including but not limited to roadways, parks, public  
4 lands, historic districts, and any other location where the site is visible to a large number of  
5 visitors, travelers or residents. Guidance will be provided concerning the appropriate key  
6 sites at the pre-application meeting;

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

9 (v) The applicant shall demonstrate in writing and/or by  
10 drawing how it shall effectively screen from view the base of its proposed WCF tower and all  
11 related facilities and structures; and  
12

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

16 (c) *Director's Review.*

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

18 (2) Incomplete applications shall be rejected and the applicant notified in  
19 writing within 30 days of receipt of the initial submission. If rejected, the director's decision  
20 shall identify the deficiencies in the application, which, if cured, would make the application  
21 complete.  
22

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

1  
2 (d) *Public notice.* Public notice of planning commission consideration of a special  
3 use permit shall be provided as follows:

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

6 (2) Notice of the hearing and the agenda item shall be published in a  
7 newspaper of general circulation in the City and Borough a minimum of ten days prior to  
8 the date of the meeting.

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

16 (4) The director shall mail notice of the application and the public hearing  
17 to the owners of record of all property located within 500 feet of the site.  
18

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

22 (1) The planning commission may impose any conditions on a special use  
23 permit:  
24

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

1  
2 (B) That are consistent with the purposes of this article, which may  
3 include conditions related to the aesthetic effect of the WCF and compatibility with other  
4 WCFs. Factors relevant to aesthetic effects are: the protection of the view in sensitive or  
5 particularly scenic areas, scenic corridors/viewsheds identified in the Comprehensive Plan of  
6 the City and Borough of Juneau, and in historic sites; the concentration of WCFs in the  
7 proposed area; and whether the height, design, placement or other characteristics of the  
8 proposed facility could be modified to have a less intrusive visual impact.

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

- 11 (A) Conflict with safety and safety-related codes and requirements;  
12 (B) Conflict with traffic needs or traffic laws, or definitive plans for  
13 changes in traffic flow or traffic laws;  
14 (C) Conflict with the historic nature of a neighborhood;  
15 (D) The use or construction of a WCF that is contrary to an already  
16 stated purpose of a specific zoning or land use designation;  
17 (E) Presence of another approved WCF application within the  
18 geographic search area;  
19 (F) The proposed site is on, or eligible to be on, the National  
20 Register of Historic Places;  
21 (G) With respect a new concealed or non-concealed tower, the  
22 applicant fails to demonstrate that no existing structure or tower can accommodate the  
23 applicant's proposed use without increasing the height of the existing tower or structure or  
24 otherwise creating a greater visual impact; or that use of such existing facilities would  
25



1  
2 prohibit or have the effect of prohibiting personal wireless services in the search area to be  
3 served by the proposed tower; and

4 (H) Conflicts with the provisions of this article.

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

7 (A) State or local wildlife refuges;

8 (B) In any area designated as a public park, unless screened so as  
9 to minimize visual and noise impacts, and as long as public use will not be disrupted, as  
10 determined by the planning commission; and

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

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

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

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

22 (h) The planning commission's decision shall be in writing and mailed to the  
23 applicant, postmarked by the 150<sup>th</sup> day of receipt of a completed application. A decision to  
24  
25

1  
2 deny a request to place, construct or modify a WCF shall be supported by substantial  
3 evidence.

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

7 **49.65.980 Extent and parameters of special use permit for WCFs.**

8 (a) Special use permits may not be assigned or transferred without providing  
9 prior notice to the City and Borough, on a form acceptable to the director.

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

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

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

21 **49.65.990 Interference with public safety equipment.**

22 In order to facilitate the regulation, placement, and construction of antenna, and to  
23 ensure that all parties are complying to the fullest extent possible with the rules,  
24  
25

1  
2 regulations, and/or guidelines of the FCC, each owner of an antenna, antenna array or  
3 applicant for a collocation shall agree in a written statement to the following:

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

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

11  
12 (c) In the case of an application for collocated telecommunications facilities, the  
13 applicant, together with the owner of the subject site, shall use their best efforts to provide a  
14 composite analysis of all users of the site to determine that the applicant's proposed  
15 facilities will not cause radio frequency interference with the City and Borough's public  
16 safety communications equipment and will implement appropriate technical measures, as  
17 described in antenna element replacements, to attempt to prevent such interference; and

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

21 (1) The City and Borough shall provide notification to all wireless service  
22 providers operating in the City and Borough of possible interference with the public safety  
23 communications equipment, and upon such notifications, the owners shall use their best  
24 efforts to cooperate and coordinate with the City and Borough among themselves to  
25 investigate and mitigate the interference, if any, utilizing the procedures set forth in the

1  
2 joint wireless industry-public safety "Enhanced Best Practices Guide," released by the FCC  
3 in Appendix D of FCC 04-168 (released August 6, 2004), including the "Good Engineering  
4 Practices," as may be amended or revised by the FCC from time to time in any successor  
5 regulations.

6 (2) If any equipment owner fails to cooperate with the City and Borough in  
7 complying with the owner's obligations under this section or if the FCC makes a  
8 determination of radio frequency interference with the City and Borough public safety  
9 communications equipment, the owner who failed to cooperate and/or the owner of the  
10 equipment which caused the interference shall be responsible, upon FCC determination of  
11 radio frequency interference, for reimbursing the City and Borough for all costs associated  
12 with ascertaining and resolving the interference, including but not limited to any  
13 engineering studies obtained by the City and Borough to determine the source of the  
14 interference. For the purposes of this subsection, failure to cooperate shall include failure to  
15 initiate any response or action as described in the "Enhanced Best Practices Guide" within  
16 24 hours of the City and Borough's notification.

17  
18 **49.65.1000 Transfer of Ownership**

19 In the event a WCF provider or owner transfers ownership of a WCF to a different  
20 provider or owner, the previous and new service provider or owner shall notify the director  
21 no less than 10 days from the date of transfer. The new provider or owner shall include the  
22 name, address and phone number of the person to be responsible for the WCF.  
23  
24  
25

1  
2 **49.65.1010 Non-use and abandonment.**

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

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

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

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

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

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

23 (d) If the WCF is not removed or substantial progress has not been made to  
24 remove the WCF within 90 days after the permit holder has received notice, the City and  
25

1  
2 Borough may remove or cause to be removed the WCF at the sole expense of the owner or  
3 permit holder.

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

8 (f) Notwithstanding anything in this section to the contrary, the director may  
9 approve a temporary use permit/agreement for the WCF, for no more than 90 days, during  
10 which time a suitable plan for removal, conversion, or relocation of the affected WCF shall  
11 be developed by permit holder or owner, subject to the approval of the director. If such a  
12 plan is not developed, approved and executed within the 90-day time-period, then the City  
13 and Borough may take possession of and dispose of the affected WCF in the manner  
-14 provided in this section.  
15  
16

17 **49.65.1020 Conflict with other ordinances.**

18 Where this article differs or conflicts with other ordinances, unless the right to do so is  
19 preempted or prohibited by the state or federal government, the more restrictive or  
20 protective of the City and Borough and the public shall apply.  
21  
22  
23  
24  
25

1  
2 **49.65.1030 Violations**

3 Violations of this article or any special use permit obtained pursuant to this article  
4 shall be subject to the provisions of section 49.10.600 through 49.10.660.  
5

6 **Section 3. Amendment of Section.** CBJ 49.80.120 Definitions, is amended by  
7 the addition of the following definitions to be incorporated in alphabetical order:  
8

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

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

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

17 *Antenna support structure* means a structure that is primarily constructed for the purpose of  
18 holding antenna but on which one or more antennas may be mounted, including buildings,  
19 water tanks, pole signs, church steeples, and electric power transmission towers.

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

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

*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.

*Concealed* means a tower, ancillary structure, or equipment compound that is not readily  
identifiable as such, and is designed to be aesthetically compatible with existing and  
proposed building(s) and uses on a site. There are two (2) types of concealed facilities: 1)

1  
2 Antenna Attachments, including painted antenna and feed lines to match the color of a  
3 building or structure, faux windows, dormers or other architectural features that blend with  
4 an existing or proposed building or structure and 2) Freestanding. Freestanding concealed  
towers usually have a secondary, obvious function, which may include church steeple,  
windmill, bell tower, clock tower, light stanchion, flagpole with or without a flag, or tree.

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

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

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

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

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

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

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

25 *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



1  
2 communications or meteorological purposes, and usually consisting of an antenna or  
3 antenna array, transmission cables, equipment cabinets, and their associated facilities.

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

7 *Unipole* means a wireless communication structure in which antennas are mounted inside a  
8 RF transparent cylinder. This design may also be referred to as a concealed monopole,  
9 flagpole, light pole, free standing pole, or roof mounted pole on existing structures.

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

22 Specific types of WCFs include:

23 *Attached WCF* means an antenna or antenna array that is secured to an existing  
24 building or structure with any accompanying pole or device which attaches it to the  
25 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) 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.

1  
2 *Freestanding WCF* means any manned or unmanned location for the transmission  
3 and/or reception of radio frequency signals, or other wireless communications, and  
4 usually consisting of an antenna or group of antennas, feed lines, and equipment  
5 cabinets, and may include an antenna support structure. A freestanding WCF  
6 includes, but is not limited to the following: guyed, lattice, or monopole support  
7 structures.

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

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

12 (18) **Wireless Communication Facility Application Fees.**

- 13 (A) Application fees required by 49.65.940(b): \$350  
14 (B) Additional fee required for special use permit applications  
15 required by 49.65.970(b)(1): \$500  
16 (C) Technical expert review fee specified in 49.65.940(b): \$4000

17 **Section 5. Effective Date.** This ordinance shall be effective 30 days after its  
18 adoption.

19 Adopted this \_\_\_\_\_ day of \_\_\_\_\_, 2014.

20  
21  
22 \_\_\_\_\_  
Merrill Sanford, Mayor

23 Attest:

24 \_\_\_\_\_  
Laurie J. Sica, Municipal Clerk  
25

## **Matsu definitions and code for Tall Towers**

### **17.60.010 DEFINITIONS.**

(A) For the purpose of this chapter, the following definitions shall apply unless the context clearly indicates or requires a different meaning.

- “Alternative tower structure” means tall structures such as: clock towers, sculptures, steeples, light poles, buildings, artificial trees, and similar alternative-design structures and architectural features that support, conceal, or camouflage antennas or other uses requiring height.
- “Antenna” means a rod, wire, or set of wires used in sending and receiving electromagnetic waves.
- “Collocation” means the location of more than one use or attachment, such as an antenna, on the same structure or site; also the location of more than one structure on the same site.
- “Tall structure” means a structure that is high or tall, relative to its surroundings. The term includes, but is not limited to, flag poles, sculpture, buildings, elevators, storage or processing facilities, water tanks, derricks, cranes, signs, chimneys, area illumination poles, towers, supports for communication, and power transmission lines.
- “Tower” means a type of tall structure not intended for occupancy and includes, but is not limited to, antenna, monopoles, self-supporting lattice, guyed structures, and alternative type structures for uses including, but not limited to, telecommunication as in receiving or transmission of television, microwave, cellular telephone, common carrier, personal communications service (pcs), or other radio wave signals. A tower may be free standing or attached to a structure.
- “Tower farm” means a lot or contiguous group of lots used as a location for more than one tower.
- “Tower line route” means the route traversed by two or more towers supporting common service as in electrical power, communications, or lighting.
- “Tower service area grid” means the service area and locations of two or more towers providing common service as in a cellular telephone service area.
- “Width of a structure” means the horizontal distance measured from the outermost points of the structure including attachments and structural supports but excluding guy wires and transmission lines strung between towers as in the case of electrical power lines.

## **17.60.145 TALL STRUCTURES, INCLUDING BUT NOT LIMITED TO TOWERS, TOWER FARMS, TOWER ROUTES, AND TOWER SERVICE AREA GRIDS.**

(A) Tall structures, tower farms, tower routes, tower service area grids, and their uses are subject to regulation in order to protect the public health, safety, and welfare from the negative impacts of tall structures and their uses including but not limited to physical danger, electromagnetic variations, reduced light, air, and open space, reduced property values, glare, noise, vibration, damage due to collapse, odor, runoff, drainage, litter, and loss of quiet enjoyment of residential property. These standards are in addition to all other applicable laws.

(B) Exemptions. The following are exempt from the requirement for a conditional use permit under the provisions of this section:

- (1) church spires, religious icons, and flag poles displaying official government or religious flags;
- (2) minor customary and incidental fixtures and attachments located above 100 feet, or the maximum allowable height for the structure, placed upon other structures which are not otherwise regulated as tall structures, such as buildings less than the maximum height allowed in the district. Exempt minor fixtures shall not increase the maximum height of the structure to more than 135 feet or ten feet above the maximum allowable height for the structure, except that, a maximum of four “whip” or “pole” type antennas, less than six inches in diameter at the base each, may be placed to increase the height of the structure to a maximum of 145 feet or 20 feet above the maximum allowable height for the structure. Exempt minor fixtures shall not require safety lights or be illuminated. Exempt minor fixtures include but are not limited to: elevator shafts, cupolas, vent pipes, heating and air conditioning equipment, dish type antennas, and minor architectural features. Signs are not exempt under this section;
- (3) towers and antennas utilized for temporary emergency services of 180 days or less in response to a local disaster;
- (4) a temporary wireless communication facility shall be allowed for a maximum of 90 days during the construction of a permitted, permanent facility;
- (5) temporary tall structures, including but not limited to: drilling derricks and construction cranes, which are on site less than 120 consecutive days, or 180 days total within a consecutive 12-month period, and are not intended to routinely reoccur on the same site;
- (6) support structures less than 185 feet in height when used exclusively for illuminating major arterial highways;
- (7) routine maintenance and repair of legal nonconforming or permitted tall structures and related equipment may be performed without issuance or amendment of a conditional use permit. Equipment, including lines and antennas, may also be removed from, added to or reoriented

upon a legal tall structure. All work allowed under this subsection shall comply with the performance standards of this section, subject to the following guidelines:

- (a) allowed work shall not require additional air safety or strobe lighting and shall not substantially change the profile or other characteristics of the tall structure to increase the negative visibility or other impacts across lot lines as regulated by this chapter.
- (b) allowed work shall not increase the width of the tall structure by more than five feet at any point.
- (c) allowed work shall not increase the height of the tall structure by more than five feet, except that a maximum of four “whip” or “pole” antennas less than six inches in diameter, each, at the base may be placed to increase the height of the existing tall structure a maximum of 20 feet;
- (8) licensed amateur (ham) radio stations, except that, modification or use of such towers for commercial use shall require a conditional use permit in accordance with this section;
- (9) structures within the boundaries of the port district as defined in MSB 18.02.
- (C) Performance standards. The following standards shall apply to regulated structures and uses:
  - (1) The ability of utility services to efficiently provide such services to the community shall be protected to the extent feasible. The best balance between cost efficient service provided to the public by the use and protection of the public interest will be pursued by the planning commission in accordance with these standards.
  - (2) The planning commission may vary or waive one or more of the standards and requirements of this chapter based upon specific findings that the change will result in better overall implementation of the goals of this chapter and the comprehensive plan.
  - (3) The number of tall structures, tower line routes, tower service area grids, and antenna farms authorized by the borough shall be the minimum reasonably required to provide services.
  - (4) To the extent feasible, location of tall structures, tower line routes, and tower farms shall be in compatible areas where the adverse impact of the use is minimized. Tall structure location is generally more favored in industrial and agricultural districts designated by borough code, nonresidential areas, and areas where the tall structure will not unduly detract from land values or economic value related to tourism or cultural values.
  - (5) Tower line routes and tower service area grids subject to this chapter shall be reviewed for those areas where the regulated tall structures will have impact. The planning commission shall not unreasonably expand the permit review to areas or uses not specifically addressed by this chapter.

- (6) Tall structures may be principal or accessory structures on a lot. A different existing use or an existing structure on the same lot shall not preclude the installation of a tall structure on the lot.
- (7) Tall structures for telecommunications, lighting, and electrical transmission that are constructed and maintained in accordance with the provisions of a permit issued under this chapter shall not be deemed to constitute the expansion of a pre-existing nonconforming use or structure.
- (8) Conditions may be required for design, scheduling, fences, walls, warning signs, camouflage, vegetation, setbacks, collocation, use of existing and alternative structures, tower farms, and other mitigation.
- (9) Unless specifically provided for by code, signs intended for view across lot lines shall not be permitted on tall structures except for warning signs required to address safety issues on the site.
- (10) The proposed development shall not interfere with the approaches to any existing airport or airfield, including water bodies supporting aircraft use.
- (11) Tall structures shall be constructed, configured, and maintain color schemes to reduce adverse visual impact.
- (12) Tall structures shall use nonstrobe type red lights for night air safety illumination unless otherwise required by law. The negative impact across lot lines caused by tall structure lights and illumination on the site shall be minimized. Scenic and night sky views, traffic safety, enjoyment of residential and other lawful uses shall be protected. Conditions may be required for lighting: type, wattage, brightness, shrouds, direction, location, height, and other buffers.
- (13) Surrounding topography and development shall be used to reduce negative impacts. Height above nearby ridge lines, hills, trees, and buildings shall be the minimum needed to reasonably conduct the use.
- (14) Visibility of tall structures and aerial lines from public parks, trails, and water bodies will be minimized.
- (15) Aerial lines crossing parks, trails, and water bodies will be minimized.
- (16) For purposes of determining whether the installation of a tall structure or antenna complies with district development regulations including, but not limited to, setback requirements, lot size and coverage requirements, and other requirements, the dimensions of the entire lot shall control, even though the antennas or tall structures may be located on leased parcels within such lots.

(17) In residential districts designated by code, towers must be set back at least the minimum required distance for structures in the zoning district, and may be required to be set back a greater distance to a maximum distance equal to the height of the tower.

(18) In districts designated by code for commercial use, and public or institutional use, towers must be set back at least the minimum required distances for structures in the zoning district, and may be required to be set back a greater distance to a maximum of equal the height of the tower.

(19) In areas outside of special land use districts and in districts designated by code for agricultural and industrial use, towers must be set back at least the minimum required distances for structures in the zoning district.

(20) Guys, guy anchors, and accessory facilities must meet zoning district setback requirements.

(21) Towers over 100 feet in height shall not be located within one-quarter of a mile from another existing tower that is over 100 feet in height except as authorized in tower farms, tower service area grids, or tower line routes.

(22) Adequate vehicle parking shall be provided on the subject property, outside of public use easements and rights-of-way.

(D) Upon issuance of a permit under this chapter, the permittee shall provide all necessary documentation to maintain current information sufficient to demonstrate continued compliance with permit conditions.

(E) The property owner and the permittee shall be responsible for maintaining all aspects of the operation, improvements, development, and site in compliance with the terms and conditions of the permit and all applicable local, state, and federal requirements.

(F) Authorized representatives of the borough shall be allowed to inspect the site and related records at reasonable time for the purpose of monitoring compliance with all permit conditions. Upon reasonable notice from the borough, the permittee shall provide necessary assistance to facilitate authorized inspections.

(G) As part of the application for conditional use permit under this section, the applicant shall provide the following supporting information:

(1) Written confirmation from the applicable community council that a pre-application public meeting was held with the applicant to discuss issues related to the siting of the proposed tall structure.

(2) A plan of development and operations describing the proposed use in detail sufficient to demonstrate compliance with all applicable borough ordinances, standards, and conditions. At a minimum this submittal shall also include:

- (a) Name, title and contact telephone numbers for persons in charge of the operation and who will be responsible for compliance with the permit.
- (b) Legal description of the subject parcel and borough tax account number. A location by latitude and longitude may also be required at the discretion of the planning director if appropriate to implement the requirements of this chapter.
- (c) Current maps at appropriate scale, showing: the location of the proposed use, the locations of other tall structure facilities operated by the applicant, and those proposed by the applicant that are within the borough or outside of the borough but within one-half mile of the borough boundary, the designated residential districts and the existing residential uses within one-half mile of the proposed use.
- (d) Evidence of compliance with applicable local, state, and federal laws regarding the proposed use of the property.
- (e) An organization chart or description identifying the lines of responsibility and general function of the organization that will own and operate the facility.
- (f) A description of all major types of activities proposed to occur on the site including at a minimum the purpose, number, type, and general performance specifications of all tall structures and antennas, on-site staffing, accessory structures, equipment such as generators, and plans for collocation of other tall structures, and antennas on the site.
- (g) A general description of the security and safety measures proposed to protect the public safety.
- (h) A site plan, drawn to scale under the seal of a qualified Alaska registered surveyor, clearly indicating all site boundaries, location of existing and proposed tall structures, antennas, other structures, and other development on site, means of access, screening and fencing, topography, landscaping, drainage management, adjacent public easements, and rights-of-way.
- (i) Elevation drawings of the facilities depicting existing and proposed tall structures, other structures, landscaping, proposed color(s), method of camouflage, and illumination. Photo simulations may be used to provide required information.
- (j) Certification by a qualified Alaska licensed professional engineer that the structural integrity of the tall structure is in compliance with applicable safety standards.
- (k) Signed statements by the applicant containing the following information:
  - (i) confirmation the proposed use is not part of a larger network or explanation of the proposed facility's function in a network;
  - (ii) the feasibility of locating the facility in a district where the tall structure would be permitted as an administratively approved use;



- (iii) an explanation of why the proposed facility cannot be located on an existing facility;
- (iv) a description of how the tall structure will accommodate collocation of additional antennas and other compatible services for future users or why such collocation is not feasible;
- (v) agreement by the applicant and landlord to remove the facility within 90 days after abandonment, or termination of the permit; and
- (vi) assurance the proposed uses and structures shall comply with all Federal Aviation Administration, Federal Communications Commission, and other applicable federal, state, and local laws and regulations.

(Ord. 12-157(SUB), § 2, 2013)

---

**ORDINANCE No. \_\_\_\_\_**  
**AMENDING THE ZONING ORDINANCE**  
**TO PROVIDE REGULATIONS FOR**  
**PERMITTING COMMUNICATIONS TOWERS**

WHEREAS, communications technology has produced an increased need for installation of towers and antennae to serve areas within municipalities; and

WHEREAS, the Mayor and Council desire to enact zoning regulations which will permit the placement of communications towers and antennae in locations which will allow telecommunications services to be rendered in conformity with the authority in the federal Telecommunications Act of 1996, and the goals of the municipal comprehensive plan and zoning ordinance to serve and protect the public health, safety, convenience, order, appearance, prosperity, and general welfare pursuant to Title 6, Chapter 29, South Carolina Code of Laws (1976), as amended;

NOW, THEREFORE, BE IT ORDAINED by the Mayor and Council of the City/Town of \_\_\_\_\_, that the Zoning Ordinance is amended by adding the following provisions:

**Chapter/Article/Division \_\_\_\_\_**  
**COMMUNICATIONS TOWER and ANTENNA**

**Section \_\_\_\_\_ -1. Definitions.**

- a. "Communications tower" as used in this ordinance shall mean a tower, pole, or similar structure which supports a telecommunications antenna operated for commercial purposes above ground in a fixed location, free-standing, guyed, or on a building.
- b. "Telecommunications," as defined in the federal Telecommunications Act of 1996, means the transmission, between or among points specified by the user, of information of the user's choosing, without change in the form or content of the information as sent and received.
- c. "Antenna" means a device, dish or array used to transmit or receive telecommunications signals.
- d. "Height" of a communication tower is the distance from the base of the tower to the top of the structure.

**Section \_\_\_\_\_-2. Communications tower and antenna permitted as conditional use.**

A communications tower and/or antenna may be permitted by the Zoning Administrator without further review upon determination that all of the applicable conditions in this ordinance are met.

**a. Districts in which conditional uses are permitted; height limitations.**

DISTRICTS	PERMITTED HEIGHT - FREE-STANDING OR GUYED TOWER
Residential [list districts]	Free-standing tower with height not exceeding 100 feet is a permitted conditional use; height exceeding 100 feet requires special exception.
Commercial [list districts]	Free-standing or guyed tower with height not exceeding 180 feet is a permitted conditional use; height exceeding 180 feet requires special exception.
Industrial [list districts]	Free-standing or guyed tower with height not exceeding 360 feet is a permitted conditional use; height exceeding 360 feet requires special exception.
Development; Agricultural [list districts]	Free-standing or guyed tower with height not exceeding 500 feet is a permitted conditional use; height exceeding 500 feet requires special exception.
Planned Development	Tower with height specified in approved plan is permitted under conditions set forth in plan.
<b>PERMITTED HEIGHT ABOVE STRUCTURE</b>	
All districts	Tower and/or antenna mounted on building, water tank or structure other than a free-standing or guyed communications tower must not extend more than 30 feet above the highest part of the structure.
<b>SPECIAL EXCEPTIONS AND VARIANCES</b>	
All districts except planned development	Free-standing or guyed tower and/or antenna exceeding height limitations may be permitted by the Zoning Board of Appeals as a special exception. See requirements for special exceptions in Section _____-3.
All districts	Variations from conditions imposed by this section may not be granted by the Zoning Board of Appeals. Variations from other general district regulations may be granted under standards in S.C. Code § 6-29-800.

<p><b>b. Application requirements:</b></p> <p>specifications;</p> <p>site plan;</p> <p>tower location map;</p> <p>antenna capacity; wind load;</p> <p>antenna owners;</p> <p>owner authorization;</p> <p>FCC license;</p> <p>visual impact analysis;</p> <p>removal agreement;</p> <p>conditions met;</p> <p>additional information.</p>	<p>The applicant for a conditional use zoning permit for construction of a communications tower or placement of a commercial telecommunication antenna on an existing structure other than a tower previously permitted must file with the Zoning Administrator an application accompanied by a fee of \$_____ and the following documents, if applicable:</p> <ol style="list-style-type: none"> <li>1. One copy of typical specifications for proposed structures and antennae, including description of design characteristics &amp; material.</li> <li>2. A site plan drawn to scale showing property boundaries, tower location, tower height, guy wires and anchors, existing structures, photographs or elevation drawings depicting typical design of proposed structures, parking, fences, landscape plan, and existing land uses on adjacent property; [site plan not required if antenna is to be mounted on an approved existing structure];</li> <li>3. A current map, or update for an existing map on file, showing locations of applicant's antennae, facilities, existing towers, and proposed towers which are reflected in public records, serving any property within the city;</li> <li>4. A report from a structural engineer registered in South Carolina showing the tower antenna capacity by type and number, and a certification that the tower is designed to withstand winds in accordance with ANSI/EIA/TIA 222 (latest revision) standards.</li> <li>5. Identification of the owners of all antennae and equipment to be located on the site;</li> <li>6. Written authorization from the site owner for the application;</li> <li>7. Evidence that a valid FCC license for the proposed activity has been issued;</li> <li>8. A line of sight analysis showing the potential visual and aesthetic impacts on adjacent residential districts;</li> <li>9. A written agreement to remove the tower and/or antenna within 180 days after cessation of use;</li> <li>10. Evidence that applicable conditions in subsection c. are met; and</li> <li>11. Additional information required by the Zoning Administrator for determination that all applicable zoning regulations are met.</li> </ol>
--	---

<p><b>c. Conditions:</b></p>	<p>Applicant must show that all applicable conditions are met.</p>
<p>location, visual impact</p>	<p>1. The proposed communications tower, antenna or accessory structure will be placed in a reasonably available location which will minimize the visual impact on the surrounding area and allow the facility to function in accordance with minimum standards imposed by applicable communications regulations and applicant's technical design requirements.</p>
<p>Inability to locate on existing structure</p>	<p>2. Applicant must show that a proposed antenna and equipment cannot be accommodated and function as required by applicable regulations and applicant's technical design requirements without unreasonable modifications on any existing structure or tower under the control of applicant.</p>
<p>Necessity for location in residential district</p>	<p>3. Applicant for a permit in a residential district must show that the area cannot be adequately served by a facility placed in a non-residential district for valid technical reasons.</p>
<p>public property or other private property not suitable</p>	<p>4. Prior to consideration of a permit for location on private property which must be acquired, applicant must show that available publicly owned sites, and available privately owned sites occupied by a compatible use, are unsuitable for operation of the facility under applicable communications regulations and applicant's technical design requirements.</p>
<p>design for multiple use</p>	<p>5. Applicant must show that a new tower is designed to accommodate additional antennae equal in number to applicant's present and future requirements.</p>
<p>safety codes met</p>	<p>6. Applicant must show that all applicable health, nuisance, noise, fire, building and safety code requirements are met.</p>
<p>paint; illumination</p>	<p>7. A communications tower must not be painted or illuminated unless otherwise provided by state or federal regulations.</p>
<p>distance from existing tower</p>	<p>8. A permit for a proposed tower site within 1,000 feet of an existing tower shall not be issued unless the applicant certifies that the existing tower does not meet applicant's structural specifications and applicant's technical design requirements, or that a collocation agreement could not be obtained.</p>

<p><b>c. Conditions (cont.)</b></p>	<p>9. Applicant must show by certificate from a registered engineer that the proposed facility will contain only equipment meeting FCC rules, and must file with the Zoning Administrator a written indemnification of the municipality and proof of liability insurance or financial ability to respond to claims up to \$1,000,000.00 in the aggregate which may arise from operation of the facility during its life, at no cost to the municipality, in form approved by the municipal attorney.</p>
<p>indemnity; claim resolution</p>	
<p>application of zoning regulations</p>	<p>10. Land development regulations, visibility, fencing, screening, landscaping, parking, access, lot size, exterior illumination, sign, storage, and all other general zoning district regulations except setback and height, shall apply to the use. Setback and height conditions in this section apply.</p>
<p>minimum setbacks</p>	<p>11. A tower must be a minimum distance equal to one-half the height of the tower from property designated historic or architecturally significant, and must be set back from all lot lines distances equal to the district setback requirements or 25% of the tower height, whichever is greater.</p>

<p><b>d. Appeal to Board</b></p>	<p>Applicant may appeal to the Board of Zoning Appeals as follows:</p>
<p>time limit for action by zoning administrator on complete application</p>	<p>1. Failure of the Zoning Administrator to act on an application which is determined to be complete under this section within 45 days, unless extended by agreement, may be considered by applicant to be a denial of a permit which is subject to appeal to the Board of Zoning Appeals.</p>
<p>Variance</p>	<p>2. Applicant may appeal to the Board for a variance from general zoning district regulations and setback requirements in this section, but not from any other conditions in this section. Towers exceeding height limitations may be permitted only by special exception pursuant to Section _____-3.</p>
<p>Special exception</p>	<p>3. Applicant may apply directly to the Board for a permit for any tower as a special exception pursuant to Section _____-3.</p>

**Section \_\_\_\_\_-3. Special exceptions.**

A tower, pole, or antenna may be permitted by special exception granted by the Board of Zoning Appeals after public hearing and findings of fact based on the following criteria:

<p><b>Special exception criteria:</b></p> <p>application; conditions</p> <p>height limitations</p> <p>necessity for additional height</p> <p>setback requirements; additional conditions</p> <p>denial on substantial evidence</p> <p>variance prohibited</p>	<p>The Board of Zoning Appeals must find and conclude:</p> <ol style="list-style-type: none"> <li>1. All application requirements and conditions imposed by Section _____-2 of this ordinance for conditional uses are met except height limitations and setbacks.</li> <li>2. If additional tower height is requested, total tower height will not exceed 150% of the maximum height permitted in the district as a conditional use.</li> <li>3. Applicant has demonstrated that additional height above that permitted by conditional use regulations is necessary for service to occupants of an area within the municipality.</li> <li>4. Setback requirements and such additional conditions are established by the Board as it deems necessary to remove danger to health and safety, and to protect adjacent property.</li> <li>5. The Telecommunications Act of 1996 requires that a denial of a permit be supported by substantial evidence.</li> <li>6. The Board may not grant a variance from the standards imposed for a communications tower or antenna in connection with granting a special exception, except as permitted by Section _____-2d.</li> </ol>
---	--

**Resolution/Ordinance No. 29-13**

The County Board of Supervisors of the County of Polk does ordain as follows:

**TELECOMMUNICATION TOWERS, ANTENNAS & RELATED FACILITIES**

<b>Article I</b>	<b>Purpose and Intent .....</b>	<b>2</b>
<b>Article II</b>	<b>Definitions .....</b>	<b>2</b>
<b>Article III</b>	<b>Special Provisions: Pre-existing or Non-Conforming Transmission Facilities and Exceptions to this Ordinance .....</b>	<b>3</b>
<b>Article IV</b>	<b>General Requirements .....</b>	<b>4</b>
<b>Article V</b>	<b>Provisions for Non-Wireless Communication Service Facilities .....</b>	<b>5</b>
<b>Article VI</b>	<b>Prohibitions .....</b>	<b>6</b>
<b>Article VII</b>	<b>District Requirements .....</b>	<b>6</b>
<b>Article VIII</b>	<b>Performance Standards .....</b>	<b>7</b>
<b>Article IX</b>	<b>Permit Requirements and Conditional Use Application .....</b>	<b>8</b>
<b>Article X</b>	<b>Biennial Report .....</b>	<b>10</b>
<b>Article XI</b>	<b>Safety Inspection .....</b>	<b>10</b>
<b>Article XII</b>	<b>Appeal Procedures .....</b>	<b>10</b>
<b>Article XIII</b>	<b>Enforcement and Penalties .....</b>	<b>11</b>
<b>Article XIV</b>	<b>Severability .....</b>	<b>11</b>
<b>Article XV</b>	<b>Fee Schedules .....</b>	<b>11</b>
<b>Article XVI</b>	<b>County Zoning Ordinances .....</b>	<b>11</b>



## Article I Purpose and Intent

The purpose of the regulations and requirements of this Ordinance is to:

- A. Accommodate communication, radio, and television needs while protecting the public health, safety and general welfare;
- B. Minimize adverse visual impacts of wireless communication service and other transmission facilities through careful site and design standards;
- C. Avoid potential damage to adjacent properties from the construction, location and operation of wireless communication service and other transmission facilities through structural standards and setback requirements;
- D. Maximize the use of existing and approved towers, buildings or structures to accommodate new wireless communication service and other transmission antennas to minimize the number of towers needed to serve the county and adverse visual impacts; and
- E. Minimize hazards to birds.

## Article II Definitions

The following definitions apply to the provisions of this ordinance:

**“Abandoned Facility”** Any Transmission Facility that is unused for the purpose for which the permit was granted for 18 consecutive months shall be considered abandoned.

**“Antenna”** Any device or equipment used for the transmission or reception of electromagnetic waves, which may include omni-directional Antenna (rod), directional Antenna (panel) or parabolic Antenna (disc).

**“Co-location”** The location of more than one Antenna or set of Antennas on the same Tower or structure.

**“Committee”** A subcommittee of the Polk County Board known as the Revolving Loan Fund, Planning, Zoning, and Land Records Committee, and is the permitting authority under this ordinance where required.

**“Conditional Use Permit” or “CUP”** A Land Use Permit issued by the Committee after a public hearing.

**“Department”** The Polk County Zoning Department, and is the permitting authority under this ordinance where required.

**“FAA”** Federal Aviation Administration.

**“FCC”** Federal Communications Commission.

**“Guyed Tower”** A telecommunication Tower that is supported in whole or in part by guy wires and ground anchors or other means of support besides the superstructure of the Tower itself.

**“Height”** The distance measured from ground level to the highest point on a Tower or structure, including any antenna.

**“High Power Transmission Line”** A 69 kV or greater electric transmission line with Towers at least 75 feet in height.

**“Lattice Tower”** A telecommunication Tower that consists of vertical and horizontal supports and crossed metal braces.

**“Monopole”** A telecommunication Tower of a single pole design.

**“Non-Conforming”** Any pre-existing telecommunication facility that was in existence prior to January 26, 1999, and that has not been issued a Conditional Use Permit or was issued a Conditional Use Permit prior to January 26, 1999. This definition shall only apply to this ordinance and shall not apply to the Polk County Comprehensive Land Use Ordinance.

**“Pre-existing Transmission Facility”** Any Transmission Facility constructed prior to January 26, 1999.

**“St. Croix River Buffer Zone”** The St. Croix River Buffer Zone is the area located outside the St. Croix Riverway District and within two miles of the St. Croix River, measured from the ordinary high water mark.

**“Stealth Facility”** A Wireless Communication Service Facility or other Transmission Facility which appropriately models or mimics in size, shape, scale and color something which exists in the immediate landscape, which could legally be placed there or already exists there at the time an application is submitted, (e.g., a silo in farm settings or a tree in forested lands), and which is unrecognizable to a casual observer as a Transmission Facility.

**“Tower”** Any structure that is designed and constructed primarily for the purpose of supporting one or more Antennas including Guy Towers, Monopole towers and Lattice Towers.

**“Tower Accessory Structure”** Any structure located at the base of a Tower for housing base receiving or transmitting equipment.

**“Transmission Facility”** Any Wireless Communication Service Facility, radio or television Tower, or any WCSF equipment or accessory structure other than an electric transmission line.

**“Wireless Communication”** Any wireless telecommunication service as defined in the Telecommunications Act of 1996, including FCC licensed commercial wireless telecommunications services such as cellular, personal communication services (PCS), specialized mobile radio (SMR), enhanced specialized mobile radio (ESMR), paging and similar services that currently exist or may be developed.

**“Wireless Communication Service Facility (WCSF)”** All equipment, buildings, structures and Towers with which a Wireless Communication service carrier or provider broadcasts and receives the radio frequency waves that carry its services, and all locations of said equipment, buildings and structures.

### **Article III Special Provisions: Pre-existing or Non-Conforming Transmission Facilities and Exceptions to this Ordinance**

- A. Any Pre-existing or Non-Conforming Transmission Facility shall not be required to meet the requirements of this Ordinance, except for the provisions of Article X - Biennial Report.
- B. Any Pre-existing or Non-Conforming Transmission Facility shall comply with all FCC and FAA rules and regulations.
- C. Any addition or change to a Pre-existing or Non-Conforming Transmission Facility shall comply with all applicable requirements of this Ordinance, provided that such modifications that make the Transmission Facility less visible or add a Co-location Antenna without increasing the height of the Transmission Facility are exempt from requirements adopted after January 26, 1999.
- D. Exceptions from this Ordinance. The following are permitted without Committee approval (no permit required):

1. Television Antennas, satellite dishes, receive-only Antennas and free standing Antennas 45 feet or less in height; provided however, that the primary use of such equipment is not part of a Transmission Facility and that such equipment is only ancillary to the primary use of the site where located.
  2. Antenna and associated Towers, poles and masts that are owned or operated by federally licensed amateur radio operators, or citizen band radio operators.
  3. Antennas mounted on utility poles where the Antenna is 30 feet or less in height above the highest part of the utility pole.
- E. Any owner of a Pre-existing Transmission Facility shall accept all additional Co-location Antennas on reasonable terms, so long as adverse visual impacts do not result.
- F. Transmission Facilities approved by the Department with a Land Use Permit may be modified if the modification is in compliance with the provisions of this Ordinance. The Department may approve the modification only after the applicant submits a modified Land Use Permit application and the appropriate fee under the current fee schedule as adopted by the Polk County Board.
- G. Transmission Facilities approved by the Committee under a CUP may be modified only after a public hearing by the Committee. The Committee may approve the application and the Department may issue a Land Use Permit only after the applicant submits a modified CUP application and the appropriate fee under the current fee schedule as adopted by the Polk County Board.

#### **Article IV    General Requirements**

- A. Any Transmission Facility shall comply with all FCC and FAA rules and regulations.
- B. Design and installation of any Transmission Facility shall comply with the manufacturer's specifications. Plans shall be approved and certified by a registered professional engineer.
- C. Installation of any Transmission Facility shall comply with all applicable state and local building and electrical codes.
- D. For leased sites, written authorization for siting a Transmission Facility must be obtained from the property owner and indicate the duration of the lease term.
- E. Any Transmission Facility must be adequately insured against personal injury, wrongful death, and property damage claims.
- F. Any Abandoned Facility must be removed and site restored within a reasonable time, but not more than three months after removal is requested by the County. Upon removal, the site shall be restored to its original or an improved condition. Any below grade anchoring elements used to secure the structure, shall be removed to a depth of at least 8 feet below ground level. If removal or restoration is not completed, the County is authorized to complete the removal and site restoration and charge the cost to the performance bond.
- G. Proposals to erect a new Transmission Facility shall be accompanied by any required federal, state or local agency license or application for such license.
- H. Only one Tower is permitted on a parcel of land. Additional Towers may be permitted on a parcel of land with a CUP if the additional Tower is located within 200 feet of the existing Tower(s) and all other requirements of this Ordinance are met.
- I. The Monopole is the required Tower structure for non-Stealth Facilities. Guy or Lattice Towers are prohibited.
- J. Transmission Facility Height.
  1. All Transmission Facilities shall be built to the minimum Height required to meet the applicant's needs and are not to exceed a maximum Height of 200 feet.

2. District Height Limitations. The requirements set forth in this Ordinance shall govern the design and siting of a Transmission Facility that exceeds the Height limitations specified for the zoning district in which the Transmission Facility is located.
- K. Applications for Structures on Publicly-owned Lands.
1. The applicant must provide documentation to the permitting authority proof of acceptance (either by approved permit or other documentation) by the applicable governing authority that has jurisdiction over the publicly-owned land.
  2. For applications within the St Croix Riverway District, the permitting authority may allow location of a Stealth Facility on National Park Service-owned lands within the Riverway provided that the applicant is able to show by clear and convincing evidence that there is no viable location outside the Riverway Boundary for locating a Stealth Facility that can accommodate the applicant's requirements.
- L. Adequate parking for maintenance of Transmission Facilities must be available.

**Article V Provisions for Non-Wireless Communication Service Facilities**

In the event that an applicant has received a license from the FCC, has applied or intends to apply to the FCC for a license to build a Transmission Facility that does not meet the standards and requirements of this Ordinance, the Committee shall consider the application under the following conditions:

- A. The application shall meet all the requirements under Article IX (with respect to the content of the application), shall include a copy of the license granted by the FCC, a copy of the application pending or a copy of the application that the applicant intends to make to the FCC and shall include any further information that the Committee may reasonably deem necessary for its consideration.
- B. The applicant must show by clear and convincing evidence that:
  1. the public would be uniquely and materially benefited by the service that the applicant proposes to provide and that it is not one of the services defined as Wireless Communication; or,
  2. the public health or safety will be substantially and materially benefited should the application be permitted and that it is not one of the services defined as Wireless Communication.
- C. The applicant must show that there is no feasible alternative to the proposed non-Wireless Communication Service Facility that would meet all of the standards and requirements of this Ordinance.
- D. Any permit granted under the provisions of this Ordinance for a non-Wireless Communication Service Facility for which a license has not yet been issued by the FCC shall be conditioned upon the granting of such license on the same terms and conditions as are represented in the application made under this Ordinance within one year's time. A copy of the FCC license when granted shall be immediately delivered to the Committee for review and any substantial deviation from said terms and conditions shall invalidate the permit granted under this Ordinance.
- E. Permits for Non-Wireless Communication Service Facility shall not be granted without notice to the public in a legal newspaper of record and to owners of contiguous property by certified mail at least 60 days prior to the first public hearing on the application. The Committee shall hold no less than two public hearings on an application for a Non-Wireless Communication Service Facility permit.

## Article VI Prohibitions

- A. No Transmission Facility may be installed on a parcel within a major subdivision (as defined in the Polk County Subdivision Ordinance) created for residential purposes.
- B. No advertising message or sign shall be affixed to any Transmission Facility.
- C. No Transmission Facility shall be artificially illuminated unless required by FCC or FAA regulations.
- D. No part of any Transmission Facility shall extend across or over any right-of-way, public street, highway, sidewalk, or property line.
- E. A temporary mobile Transmission Facility site is not permitted except in the case of equipment failure, equipment testing, equipment replacement, or emergency, and provided that prior authorization is obtained from the Department. Use of a temporary site for testing purposes shall be limited to 24 hours, and the use of a temporary site for equipment failure, equipment replacement, or emergency shall be limited to 30 days, unless extended for good cause in writing by the Department.

## Article VII District Requirements

- A. A County Land Use Permit may be issued by the Department. The Department shall not issue such a county Land Use Permit prior to ten working days after mailing notice of the application to the town in which the Transmission Facility is proposed to be located. Any other Transmission Facility shall be regulated in accordance with the regulations applicable to the zoning district (as defined in the Polk County Comprehensive Land Use Ordinance) in which the facility is located. All requirements of the zoning district other than the standards provided in this Ordinance must be met. A Stealth Facility is permitted with a County Land Use Permit within any zoning district and any area not zoned by any County Zoning Ordinance. The following are the use standards for the various districts:
  - 1. Agricultural, Exclusive Agricultural, Commercial, Restricted Commercial, Industrial, Restricted Industrial Districts, and any area not zoned by a County Zoning Ordinance.
    - a. The following are permitted with a County Land Use Permit from the Department issued under this Ordinance:
      - (1) Any Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the total height of the addition would not increase the maximum height to over 200 feet.
      - (2) Any Transmission Facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.
      - (3) Any Stealth Facility.
    - b. The following may be permitted with a Conditional Use Permit issued by the Committee under the provisions of this Ordinance:
      - (1) Any Antennas attached to an existing Tower or structure extending more than 20 feet above the highest point of the tower or structure and where the height of the addition would not increase the total height to over 200 feet.
      - (2) Any Transmission Facility to a maximum height of 200 feet.

2. Residential District

a. The following are permitted with a County Land Use Permit issued by the Department under the provisions of this Ordinance:

- (1) Any Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the height of the addition would not increase the total height to over 200 feet.
- (2) Any Transmission Facility within the easement of a high power transmission line or within 50 feet of the transmission line easement on the same side of the road up to a maximum height of 200 feet.
- (3) Any Stealth Facility.

3. Shoreland, Floodplain, Forestry, Recreational, Conservancy, St. Croix River Buffer Zone and St. Croix Riverway Districts. No Transmission Facility except a Stealth Facility is allowed in these districts except:

- a. With a Conditional Use Permit issued by the Committee under the provisions of this Ordinance, an Antenna attached to an existing Tower or structure and not extending more than 20 feet above the highest point of the Tower or structure and where the height of the addition would not increase the total height to over 200 feet.
- b. With a County Land Use Permit issued by the Department under the provisions of this Ordinance, a Stealth Facility in the St. Croix Riverway District, only after Wisconsin Administrative Code Chapter NR 118 is amended to permit a Stealth Facility.

Chart of District Requirements

Facility Type	Agricultural, Exclusive Agricultural, Commercial, Restricted Commercial, Industrial, Restricted Industrial, and any area not under County Zoning		Residential		Shoreland, Floodplain, Forestry, Recreational, Conservancy, St. Croix River Buffer Zone, St. Croix Riverway	
	Allow	Permit	Allowed	Permit	Allowed	Permit
Monopole, 200' max. adjacent to transmission line	Yes	Land Use	Yes	Land Use	----	----
Stealth	Yes	Land Use	Yes	Land Use	Yes	Land Use
Co-locate antenna >20'	Yes	CUP	----	----	----	----
Co-Locate, antenna = or < 20'	Yes	Land Use	Yes	Land Use.	Yes	CUP
Monopole, 200' max.	Yes	CUP	----	----	----	----

**Article VIII Performance Standards**

A. Except as provided in this Ordinance, any Transmission Facility must meet the dimensional standards applicable to the parcel within the zoning district in which it is located. Where the Transmission Facility is the principal use on a parcel, the parcel shall meet the minimum lot size requirements of the zoning district in which the parcel is located. On a parcel of land that already has a principal use, the Transmission Facility shall be considered an accessory use and a smaller area of land may be leased for it, provided that all requirements of this Ordinance are met.

**B. Setbacks and Separation**

1. Generally, any Tower shall be set back from the nearest property line a distance equal to 125% of the Height of the Tower. This setback may be reduced up to one-half the Height of the tower if the applicant submits an engineering report from a registered professional engineer that certifies that the Tower is designed and engineered to collapse upon failure within the distance from the Tower to the property line.
2. No Tower shall be located within 500 feet of any residence unless the owner of the residence agrees in writing.

**C. Screening and Landscaping.** The Transmission Facility shall be located on the site so as to have the least visual impact. The site shall be landscaped and maintained with a buffer of plant materials that effectively screens the view of all Tower accessory structures, equipment and improvements at ground level from adjacent properties year around. Existing mature vegetation and natural landforms on the site shall be preserved to the maximum extent possible.

**D. Security Fencing and Lighting.**

1. Any Transmission Facility shall be reasonably protected against unauthorized access. The bottom of the Tower from ground level to 12 feet above ground shall be designed to prevent unauthorized climbing and shall be enclosed with a minimum of a 6 feet high chain link fence with a locked gate.
2. Security lighting for on-ground structures and equipment is permitted, as long as it is down-shielded to keep light within the boundaries of the site.

**E. Color and Materials.** Any Transmission Facility shall use building materials, colors, textures, screening, and landscaping that blend the Transmission Facility with the surrounding natural features and built environment to the greatest extent possible.

**Article IX Permit Requirements and Conditional Use Application**

The construction or installation of any Transmission Facility requires a County Land Use Permit or Conditional Use Permit under this ordinance. The permit will specify the use or uses allowed. Within ninety (90) days from the date of submittal of the Conditional Use Permit application, the Committee shall consider and decide upon the question of issuance of the Conditional Use Permit. Action by the Committee may be postponed past the 90-day limit by written agreement between the Committee and the applicant, or upon determination by the Committee that additional information is required. On behalf of the County, the Department or Committee will employ independent technical experts to review materials submitted by the applicant. The applicant shall pay the costs of such review and/or independent analysis. The Polk County Land Information Department may issue a Conditional Use Permit after review and a public hearing of the Committee, provided that the Committee has determined that such conditional use is in accordance with the purpose and intent of this Ordinance. Before a public hearing is scheduled, the applicant shall conduct an informational presentation to the Town Board in the Town in which the proposed Transmission Facility is to be located. Subsequent to the presentation, the Town Board shall provide the Department with notification of an advisory recommendation. The Town Board is encouraged to participate in an advisory role in the public hearing with the Committee to review material presented by the applicant and independent technical expert.

**A. Application Submittal Information**

1. A completed County Land Use Permit or Conditional Use Permit application and appropriate fee under the current fee schedule as adopted by the Polk County Board.

2. Applications. In addition to the application requirements of Section XVI of the Polk County Comprehensive Land Use Ordinance, all applications for County Land Use Permits or Conditional Use Permits for new Transmission Facilities shall include the following information: (applications for land use permits for Stealth Facilities may omit the requirements of section g., below)
  - a. A report from a registered professional engineer and other professionals which:
    1. describes the Transmission Facility's height and design, including a cross section and elevation;
    2. certifies the Transmission Facility's compliance with structural and electrical standards;
    3. describes the Transmission Facility's capacity, including the potential number and type of antennas that it can accommodate;
    4. describes the lighting to be placed on the Transmission Facility if required by the FCC or FAA;
    5. certifies that the Transmission Facility will not cause destructive interference with previously established public safety communications systems; and
    6. describes how the requirements of Articles IV, VI, VII, and VIII of this Ordinance will be met by the proposed Transmission Facility.
  - b. Each application shall include a facility plan containing the following information:
    1. Written description of the type of consumer services each applicant will provide to its customers (radio, television, cellular, PCS, SMR, ESMR, paging or other anticipated Wireless Communication services).
    2. A list of all of the applicant's existing sites, existing sites to be upgraded or replaced, and proposed sites within the County.
    3. Map of the County that shows the applicant's existing and proposed geographic service areas.
  - c. Landowner Acknowledgement. Written acknowledgement by the landowner and lessee of a leased site that they will abide by all applicable terms and conditions of the County Land Use Permit or Conditional Use Permit, including the restoration and reclamation requirements of Article IV F. of this Ordinance, and a copy of the lease.
  - d. A performance bond in a form acceptable to the Department in an amount sufficient to provide for removal of the Transmission Facility and restoration of the site.
  - e. Copies of letters informing each government unit (City, Village, Town or Township) in which the proposed site is located and the adjacent government units (in Wisconsin and Minnesota) of the application.
  - f. Copies of letters informing contiguous landowners by certified mail and class 2 publication of notice in the County's newspaper of record as appointed by the County Board.
  - g. Additional Information and Analysis: The Department or Committee may, at their discretion, require a visual analysis of the proposed Transmission Facility, including photo simulations of the view of the vicinity of the Transmission Facility before and after the proposed Transmission Facility is built. The photos shall be taken from approximately one mile north, south, east, and west from the proposed Transmission Facility. The simulation may include a photo montage, field mock-up, view-shed analysis, or other techniques, which identify the potential visual impacts of the proposed Transmission Facility. Consideration shall be given to views from public areas as well as from private residences. The analysis shall assess the cumulative impacts of the proposed Transmission Facility and other



existing transmission facilities in the area. The analysis shall identify and include all feasible mitigation measures consistent with the technological requirements of the proposed service.

3. Co-location/Sharing of Facilities. Prior to setting a public hearing, the applicant must review Co-location alternatives with the independent technical expert. No new Tower shall be permitted unless the applicant demonstrates to the reasonable satisfaction of the Committee and independent technical expert that no existing Tower or structure can accommodate the applicant's proposed Antenna. Examples of supporting evidence are:
  - a. No Tower or structure is located within the geographic area that meets the applicant's engineering requirements.
  - b. No existing Tower or structure is of sufficient Height to meet the applicant's engineering requirements.
  - c. No existing Tower or structure can be modified at reasonable cost to support applicant's proposed Antenna.
  - d. Electromagnetic interference would interfere with an existing or proposed system.
  - e. The fees, cost, or contractual provisions required by the applicant to share an existing Tower or structure or to adapt an existing Tower or structure for sharing are substantially more expensive than new construction considering factors such as, without limitation, depreciation, technical obsolescence, maintenance and land acquisition.
  - f. The applicant establishes other facts that render co-location unsuitable.

#### **Article X      Biennial Report**

Owners, providers or permittees shall submit each even numbered year on or before January 31, a Transmission Facility information report, on a County form provided by the County. The report shall detail the use, maintenance and condition of the Transmission Facility since the previous report, availability of the Transmission Facility for added co-location and other information reasonably deemed necessary by the Department. The report shall be accompanied by a two-year renewal of the performance bond in a form acceptable to the Department in an amount sufficient to provide for removal of the Transmission Facility and restoration of the site. Failure to submit the report, or a delay longer than sixty days after the County sends the Transmission Facilities Information Report form to the owner/provider or permittee shall result in a late fee of \$200.00 per week until received. Failure to submit the report by July 1 of each even-numbered year, shall result in the County taking Revocation Enforcement action under Article XIII.

#### **Article XI      Safety Inspection**

If the County has reason to believe that a Transmission Facility is a safety risk, it may require the permit holder to perform an inspection by a registered engineer and provide a copy of the inspection results to the Department within sixty days. The County shall provide the owner with information forming the basis for belief that the Transmission Facility is a safety risk before requiring inspection.

#### **Article XII      Appeal Procedures**

Any person aggrieved by any decision of the Committee regarding its evaluation of the appeal must, within 30 days after the filing of the decision of the Committee in the Office of the Department, commence an action in the circuit court seeking any remedy available by certiorari.

### **Article XIII Enforcement and Penalties**

- A. Revocation. Grounds for revocation of the Conditional Use Permit, or County Land Use Permit, shall be limited to one of the following findings as determined by the Department:
  - 1. The owner of such site, service provider and/or tower owner fails to comply with the requirements of this Ordinance as it existed at the time of the issuance of the permit.
  - 2. The permittee has failed to comply with the conditions of approval.
  - 3. The facility has not been properly maintained.
- B. Revocation Process.
  - 1. The owner of such site, service provider and/or tower owner shall be notified by certified mail of non-compliance by the Committee or Department.
  - 2. The owner may bring the site into compliance to the satisfaction of the Committee within thirty (30) days from the date the notice was mailed.
  - 3. If compliance is not obtained within thirty (30) days, the Department shall notify the Committee of non-compliance and request permission to proceed with the revocation process (this time period may be extended by staff to adjust for seasonal limitations).
  - 4. The Department shall petition the Committee for a public hearing before the Committee upon publication of a Class 2 notice in the legal newspaper of Polk County.
  - 5. A copy of hearing notice shall be mail by certified mail to the owner of record of the Transmission Facility site at least two weeks prior to the hearing date.
  - 6. A representative of the Department shall appear at the hearing before the Committee to present the evidence of non-compliance. All other interested parties may also give testimony to the Committee.
  - 7. A written decision of the Committee will be made within thirty (30) days of the hearing.

### **Article XIV Severability**

If any section, subsection, clause or phrase of this Ordinance is for any reason held to be unconstitutional or invalid, such a decision shall not affect the remaining portions of this Ordinance. The Polk County Board of Supervisors declares that it would have passed this Ordinance and each section, subsection, sentence, clause and phrase thereof irrespective of the fact that any one or more such provisions be declared unconstitutional or invalid.

### **Article XV Fee Schedules**

Upon recommendation of the Committee, the Polk County Board of Supervisors shall, from time to time, establish and review fees that are applicable to this Ordinance. No application shall be considered filed with the County unless and until said application is accompanied by the appropriate application fee.

### **Article XVI County Zoning Ordinances**

Any reference in this Ordinance to a Polk County Zoning Ordinance includes the Comprehensive Land Use Ordinance, Floodplain Zoning Ordinance, Lower St Croix Scenic Riverway Ordinance, Shoreland Protection Zoning Ordinance, and Subdivision Ordinance, as each existed at the time this

Ordinance went into effect and any amendments made subsequently to any of these Polk County Ordinances. Each said Ordinance is applicable and incorporated to the extent referenced herein.

HOMER ADVISORY PLANNING COMMISSION  
REGULAR MEETING MINUTES  
MAY 21, 2014

ERICKSON/ BOS MOVED TO REMOVE CONDITION NUMBER 4, PROVIDE DEDICATION FOR A ¼ CUL-DE-SAC AT THE END OF SEASCAPE DRIVE.

There was no discussion.

VOTE: (Amendment)NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

There was no further discussion on the main motion as amended.

VOTE (Main motion as amended): NON OBJECTION: UNANIMOUS CONSENT

Motion carried.

### **Pending Business**

A. Staff Report PL 14-46, Draft Ordinance on Heliports

The Commission reviewed and agreed that the graphs for heliports and helipads are as they had agreed on previously. The agreed by consensus that it could go forward for public hearing.

### **New Business**

A. Staff Report PL 14-47, Draft Ordinance on Towers

City Planner Abboud reviewed the staff report. He touched on options which include doing nothing, drafting something with the attorney, forming a task force, or working with a consultant.

The Commission talked briefly about the challenges of changing technology and the necessity of having towers where they are needed. There are many different designs for towers, as well as ways to work with topography and deal with line of sight across water. It was suggested that hearing from ACS and/or GCI about what their needs are could be helpful. There are federal regulations that need to be considered as well.

The consensus of the group was that they would like staff to research the regulations of other Alaskan communities and how they determined their regulations.

B. Staff Report PL 14-48, Ordinance 14-20 Farmer's Market/Open Air Business for CBD, GC1, and GC2 Districts

Chair Venuti noted for the record that the Commission heard from Farmers' Market representative and talked about this at the worksession. City Planner Abboud asked that they make a motion and recommendation on open air and what they may or may not modify. His goal is to have something



# City of Homer

[www.cityofhomer-ak.gov](http://www.cityofhomer-ak.gov)

## Planning

491 East Pioneer Avenue  
Homer, Alaska 99603

[Planning@ci.homer.ak.us](mailto:Planning@ci.homer.ak.us)

(p) 907-235-3106

(f) 907-235-3118

### Staff Report PL 14-47

TO: Homer Advisory Planning Commission  
THROUGH: Rick Abboud, City Planner  
FROM: Julie Engebretsen, Deputy City Planner  
DATE: May 21, 2014  
SUBJECT: Draft Ordinance on "Towers"

---

#### Introduction

Council referred Ordinance 14-18(A) to the HAPC on 4/28/14. The ordinance defines "Communications tower," and amended the Wind Energy System of code to include communication towers. Council further amended the ordinance to state "Towers" not just communication towers, however they may be defined.

#### Analysis

Staff has already begun receiving comment from the public about towers. This is a highly technical subject, and really needs the guidance of a professional qualified to discuss federal law, and tower construction standards. Fortunately, Homer is not the only Alaskan community grappling with this issue.

Staff recommends we outline the process of how this ordinance will be crafted. Usually, staff and the attorney draft an ordinance with HAPC oversight. For towers, this could take a really long time, and probably take a lot of attorney time (expense) because none of us has expertise in this field. I don't think this will result in a good ordinance for Homer.

Some options for a new ordinance:

1. Do nothing
2. Draft in house/with attorney
3. Form a task force
4. Hire a consultant to write it for us
5. Enter into a term contact with a consultant. The consultant provides the ordinance drafting for free, in exchange for a term contract to review all new tower applications in a time frame (like 3 years). This is similar to how we deal with traffic impact analysis, or term engineering contracts. We already have at least one consultant knocking on our door.
6. ???

## **Staff recommendation**

1. Staff research what regulations other Alaskan communities have, and how they arrived at those rules. What were the pros and cons of the process, and the resulting regulations? We can speak with those communities and see what works and what doesn't.
  - Kenai and Soldotna have cell tower regulations.
  - Mat-Su Borough recently had a task force.
  - Juneau has a tower moratorium and new ordinance in front of its assembly.
2. Present the information and options to the City Council and HAPC, via memo. Staff would provide a recommendation on how to proceed. The HAPC and CC could discuss this at a work session and provide staff direction. If the decision is to hire a consultant, the budget will need to be amended.
3. If the HAPC agrees with this approach, staff will start researching with the goal of a complete memo for the June 18<sup>th</sup> meeting.

Motion carried.

**ORDINANCE(S)**

- A. **Ordinance 14-18**, An Ordinance of the City Council of Homer, Alaska, Amending Homer City Code 21.03.04, Definitions Used in Zoning Code, the Title of Homer City Code 21.58 and Homer City Code 21.58.010, Purpose and Application; and Enacting Homer City Code 21.58.040, Communications Tower Requirements; to Define and Establish Standards for Communications Towers. Zak. Recommended dates: Introduction April 28, 2014, Refer to Planning Commission.

Mayor Wythe called for a motion for the adoption of Ordinance 14-18 for introduction and first reading by reading of title only.

ZAK/BURGESS - SO MOVED.

Council discussed expanding the definition of towers and sending the ordinance to the Planning Commission for review and recommendations. About 80% of the current towers may be noncompliant if they were held to the proposed standard.

VAN DYKE/ZAK - MOVED TO AMEND TO STRIKE THE WORD "COMMUNICATIONS" AND REPLACE WITH "ANY TOWERS" THROUGHOUT THE DOCUMENT.

Council discussed whether the amendment was needed before sending the ordinance to the Planning Commission.

VOTE: YES. LEWIS, BURGESS, ZAK, VAN DYKE

VOTE: NO. ROBERTS, HOWARD

Motion carried.

BURGESS/ROBERTS - MOVED THAT WE REFER THIS TO THE PLANNING COMMISSION.

There was no discussion.

VOTE: (refer) YES. NON OBJECTION. UNANIMOUS CONSENT.

Motion carried.

VOTE: (main motion as amended) YES. NON OBJECTION. UNANIMOUS CONSENT.